*Evaluation of the Oregon Medicaid Proposal*

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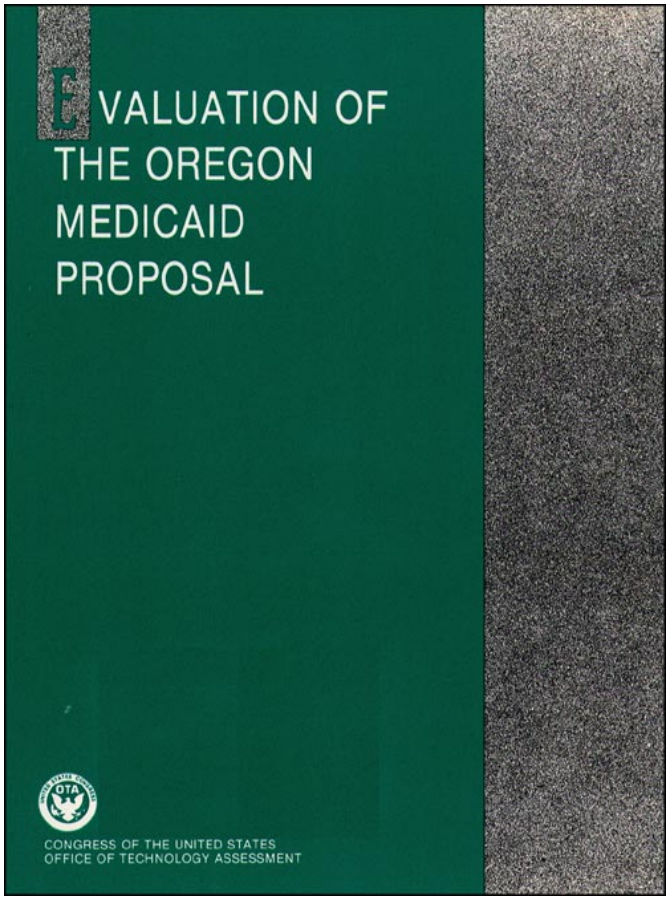

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# Foreword

As part of an eventual statewide set of health insurance reform measures, the State of Oregon has proposed implementing a demonstration program, with Federal cofunding, that would change the State's existing Medicaid program in three fundamental ways. It would: 1) expand coverage to include all persons with incomes up to 100 percent of the Federal poverty level; 2) enroll all covered persons in some form of managed care, such as with a health maintenance organization or a ''gatekeeper' primary care physician; and 3) determine acute and primary health care benefits according to a ranked list of services, with actual benefits dependent on the level of program funding.

Concern about the effects of Oregon's Medicaid proposal on program recipients, and the potential ramifications of the proposal for the ongoing national health care debate, prompted Congress to ask the Office of Technology Assessment to examine the proposal in detail. This report was prepared in response to a request from Representative John Dingell, chairman of the House Committee on Energy and Commerce, and Representative Henry Waxman, chairman of the House Subcommittee on Health and the Environment, The request for this study was endorsed by Senator Al Gore, Chairman of the Senate Subcommittee on Science, Technology, and Space, and by the Oregon delegation, including Senator Bob Packwood, Senator Mark Hatfield, Representative Les AuCoin, Representative Peter DeFazio, Representative Mike Kopetski, Representative Ron Wyden, and Representative Robert F. (Bob) Smith.

Many individuals-both in favor of and opposed to the Oregon proposal-have urged OTA to explicitly recommend whether the proposed demonstration should be approved or to explicitly conduct a political analysis on the need for rationing health care services. We felt that at least one organization examining the Oregon proposal should confine its examination to technical critique and evaluation of potential consequences—both positive and negative--of the proposed demonstration. This is the approach OTA took. We hope that the resulting report will therefore be not only useful to the Congress and others as they look at the Oregon plan but also relevant to States and other parties as they consider ways to reform the health care system.

This OTA assessment was greatly assisted by an advisory panel, chaired by Lincoln Moses, Professor of Statistics, Stanford University. In addition, a large number of individuals, including many from the State of Oregon, provided information and reviewed drafts of the report.

OTA gratefully acknowledges the contribution of each of these individuals. As with all OTA reports, the final responsibility for the content of the assessment rests with OTA.



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NOTE: OTA appreciates and is grateful for the valuable assistance and thoughtful critiques provided by the advisory panel members. The panel does not, however, necessarily approve, disapprove, or endorse this report. OTA assumes full responsibility for the report and the accuracy of its contents.

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# List of Acronyms

ADA — Age Discrimination Act of 1975
AFDC — Aid to Families with Dependent Children
AFDC-UP — Aid to Families with Dependent Children-Unemployed Parent
AHA — American Hospital Association
AIDS — acquired immune deficiency syndrome
ALS — amyotrophic lateral sclerosis
CABG — coronary artery bypass graft
CAD — coronary artery disease
CBO — Congressional Budget Office (U.S. Congress)
CHC — community health center
CHD — county health department
COBRA — Consolidated Omnibus Budget Reconciliation Act
CPT-4 — Current Procedural Terminology, 4th Edition
CT — condition-treatment (pair)
DCO — dental care organization
DHHS — U.S. Department of Health and Human Services
DRG — diagnosis-related group
DSH — disproportionate-share hospital
DTP — diptheria, tetanus, and pertussis (combination vaccine)
EPSDT — Early and Periodic Screening, Diagnosis, and Treatment
FCHP — fully capitated health plan
FDA — Food and Drug Administration (Public Health Service)
FFS — fee-for-service
FPL — Federal poverty level
FQHC — federally qualified health center
FY — fiscal year
GA — general assistance (State of Oregon)
GAO — General Accounting Office (U.S. Congress)
HCFA — Health Care Financing Administration (DHHS)
HIV — human immunodeficiency virus (AIDS virus)
HMO — health maintenance organization
HPV — human papillomavirus
HSC — (Oregon) Health Services Commission
ICD-9-CM — International Classification of Diseases, 9th Revision, Clinical Modification
IPA — independent practice association
IRB — institutional review board
MHC — migrant health center
NASBO — National Association of State Budget Officers
NGA — National Governors Association
NICU — neonatal intensive care unit
NMES — National Medical Expenditure Survey
NP — nurse practitioner
OAH — Oregon Association of Hospitals
OBRA — Omnibus Budget Reconciliation Act
OHD — Oregon Health Decisions
OHP — Office of Health Policy (State of Oregon)
OMA — Oregon Medical Association
OMAP — Office of Medical Assistance Programs (State of Oregon)
OMPRO — Oregon Medical Peer Review Organization
OPCA — Oregon Primary Care Association
OSIP — Oregon Supplemental Income Program
OTA — Office of Technology Assessment (U.S. Congress)
PCCM — primary care case manager
PCO — physician care organization
PHP — prepaid health plan
PLM — poverty level medical
PTCA — percutaneous transluminal coronary angioplasty
QMB — Qualified Medicare Beneficiaries
QWB — Quality of Well Being (scale)
RFA — request for application
RHC — rural health clinic
SB *27* — (Oregon) Senate Bill 27
SIPP — Survey of Income and Program Participation
SSA — Social Security Administration (DHHS)
SSI — Supplemental Security Income (program) (Social Security Administration)
USPSTF — United States Preventive Services Task Force

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Chapter 1

# Summary and Conclusions

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# Summary and Conclusions

## INTRODUCTION

On August 16, 1991, Oregon petitioned the Federal Government for permission to use Federal funds in a novel health care financing program. The proposed program is premised on two basic assumptions:

1. all uninsured poor people should have publicly funded health care coverage, and
2. coverage for this population can be made affordable to the taxpayers through a combination of two mechanisms: the explicit prioritization of health care services, and the delivery of covered services through managed care systems.

Oregon's plan to revamp its system of health care coverage was motivated by the steadily increasing costs of health care to the public treasury and the large number of Oregonians who have no health insurance. The State has estimated that between 400,000 and 450,000 Oregonians, or about 16 percent of the State's population, are uninsured (177).

To address this latter problem, the Oregon legislature passed the Oregon Basic Health Services Act in 1989, which established three mechanisms for increasing access to health insurance (box l-A). For individuals who could not qualify for private insurance due to a ''preexisting health condition, ' the State established a high-risk insurance pool with subsidized premiums. For individuals whose employers do not offer health insurance benefits, the State established a program that provides incentives for, and ultimately mandates, small businesses to provide such insurance to their employees. And for poor uninsured individuals, the Basic Health Services Act expanded the State Medicaid program to cover all residents with incomes up to 100 percent of the Federal poverty level (FPL).[1]

The last of these three measures has been the subject of particular controversy (25,28,47,55,70,94, 115,300,308). In part, the controversy stems from the need for the State to obtain permission from the Federal Government to implement its proposal as planned, since it wishes to receive Federal Medicaid matching funding for the program. The proposal is also controversial because of its explicit attention to determining how unfunded care should be denied, and because by design it encouraged public debate regarding the relative importance of different health care services (53,85,90,1 16,214,236,251).

Oregon's proposal is to make a sweeping change to its Medicaid program, the Federal/State funded, State-administered health care program for the poor. The proposed new program, if approved as it was submitted to the Federal Government, would continue for 5 years. The program was originally anticipated to begin by July 1, 1992, but the State now expects that implementation may be delayed because as of March 1992 the Federal Government had not yet decided whether to grant the waiver.

Under the proposed program, *the Medicaid-eligible population would be expanded to include all legal State residents*[2] *with incomes below the FPL. In* contrast, at present, most people in Oregon must fall into a federally specified need category (e.g., be eligible for the Aid to Families with Dependent Children (AFDC) program) to qualify for Medicaid. In addition, in most cases they must have incomes much lower than the FPL to qualify. Oregon residents who receive AFDC assistance, for example, generally must have incomes that are less than 50 percent of the FPL to be eligible for Medicaid.

According to the State of Oregon, the expansion in eligibility under the proposal would add approximately 120,600 people to the Medicaid rolls by the fifth year of the program. This number is predicted to be somewhat smaller (96,400) if the related employer-based health insurance mandate is in effect (table l-l) (177).

Certain groups currently covered by the Oregon Medicaid program would not initially be affected by the proposed changes in the program. The waiver proposal does not cover Medicaid eligibles who are elderly, disabled, in institutions, in foster care, or in the custody of the State, because these groups were exempt from Oregon Senate Bill (SB) 27, the bill

1 For 1992, the Federal poverty level is $11,570 per year for a family of three.

2 Undocumented aliens do not qualify as legal residents and would not be eligible for the program.

### *Box 1-A—The Oregon Basic Health Services Act*

The Oregon Basic Health Services Act of 1989 consists of three separate bills to expand access to health insurance in the State. Each of the three bills targets a specific segment of the uninsured population.

The first bill, Senate Bill (SB) 27, expands the Oregon Medicaid program to include all legal residents with incomes up to the Federal poverty level. It also changes dramatically the method of defining benefits for the Medicaid population, greatly expands the use of prepaid managed care for this group, and makes other changes to the State Medicaid plan. To implement these changes and continue receiving Federal Medicaid matching funds, the State has proposed that its new plan be a Medicaid demonstration project, and it seeks Federal approval to carry out this project.

The second bill of the act, SB 534, establishes a State high-risk insurance pool. This pool sells subsidized health insurance to persons who are unable to purchase insurance on the market due to preexisting health conditions and anticipated future high health care costs. The premium charge for policies from this insurance pool is not to exceed 150 percent of the cost of an average private health insurance premium. Program costs not covered by the collection of premiums are financed through general State funds and through mandatory contributions by private insurers.

SB 935, the third bill of the act, addresses the problem of persons who are employed but have no employer-based health insurance. This law encourages, and ultimately requires, employers to provide health insurance to their employees that covers at least the level of services covered for the Medicaid population under SB 27. Businesses receive tax credits for providing insurance. They have the option of choosing private insurance plans or purchasing insurance from a State fund created for that purpose. The minimum benefits that must be covered are linked to the Medicaid benefits package. Employers who do not provide health insurance after 1994 will be required to make mandatory contributions to the fired, but that provision is repealed if at least 150,000 previously uninsured persons receive employer-based health insurance by January 1994.

Legislation passed in 1991 made some significant additions and changes to this three-part program. One particularly significant statute (SB 44) requires that the Medicaid-eligible elderly, disabled, and individuals in foster care or in the custody of the State be subject to the provisions of SB 27. These groups, originally exempt from the sweeping changes in the Medicaid program, are now intended to be included in 1993. Because the waiver proposal as submitted in August 1991 does not accommodate them, the State must submit an amendment to the waiver to do so if the waiver is approved in its current form.

The Health Insurance Reform Act (SB 1076), also passed in 1991, establishes some limits and safeguards on employer-based insurance. These limits would apply to the basic benefits package required under SB 935. The act establishes rate categories and limits rate increases in small group plans, provides for guaranteed issue and renewability of policies, and controls such factors as preexisting condition exclusions.

Finally, the Health Resources Commission Act of 1991 (SB 1077) "establishes a data and cost review commission designed to contain statewide health care costs as the above insurance expansions occur."

SOURCE: Office of Technology Assessment, 1992. Based on Oregon's SB 27, SB 44, SB 534, SB 935, SB 1076, SB 1077; and Oregon waiver application% August 1991.

authorizing the program changes. For the first year of the new program, these groups would continue to be eligible for all Medicaid benefits under the current rules and would continue to receive the same services as they would if the demonstration program were not in place. However, the State plans to file an amendment to the waiver permitting these groups to be covered under the new program beginning in October 1993 (177).[3]

*Service deliver-y and payment would also change under the new plan.* Most of the population receiving services under the demonstration program would be enrolled in some form of managed care reimbursed on a prepaid, per capita basis; the remainder would receive services on a case-managed, fee-for-service (FFS) basis. Payment to prepaid providers would no longer be linked to Medicaid FFS payment rates. Instead, payment rates to these providers would be

[3] The projected date for folding these groups into the program is apparently unchanged by the possibility that the program, if approved, would probably begin sometime after July 1992.

**Table I-l—Demonstration Enrollment Projections**[a]

| Year of demonstration | Without employer mandate: Current eligibles | Without employer mandate: New eligibles | With employer mandate: Current eligibles | With employer mandate: New eligibles |
|---|---|---|---|---|
| Year 1 (FY1993)[b] | 150,700 | 46,800' | 150,700 | 46,800 |
| Year 2 (FY 1994) | 156,000 | 81,100 | 156,000 | 81,100 |
| Year 3 (FY 1995) | 160,600 | 105,400 | 160,600 | 105,400 |
| Year 4 (FY 1996) | 165,400 | 120,000 | 159,600 | 96,000 |
| Year 5 (FY 1997) | 170,300 | 120,600 | 164,400 | 96,400 |

[a]Enrollment is expressed as average monthly caseload. It is lower than the actual number of eligibles who have benefits for some period of time during the course of a year.
[b]The Oregon State fiscal year begins in July.
[c]Of these new eligibles, 2,700 are currently covered under a State-only General Assistance (GA) program that covers the medically unemployable (unemployed for more than 60 days due to a medical condition). Oregon's general assistance program only covers outpatient care.

SOURCE: Oregon Department of Human Resources, Office of Medical Assistance Programs, Salem, OR, *The Oregon Medicaid Demonstration Waiver Application*, submitted to the Health Care Financing Administration, Aug. 16, 1991.

based on the State's estimates of the average reasonable costs, across all providers, of rendering the given covered services.

Finally, *the covered services to which the Medicaid-eligible population is entitled would change.* For all Medicaid recipients subject to the program, the benefit package would be determined by a prioritized list of health services in which health conditions and their treatments are listed by importance from highest to lowest. The State legislature would then determine its budget for the program, and a line would be drawn where projected program costs equal the budgeted amount. All conditions and treatments at and above the line would then be covered; conditions and treatments below the line would not be covered. (Necessary diagnostic services are intended to be covered regardless of the condition and are not prioritized on the list.)

The prioritized list of services is limited to primary and acute health care services. Long-term care services would not be covered by the proposal and do not appear on the prioritized list; they would remain a separately covered set of Medicaid services. Mental health and chemical dependency services would initially be excluded from the prioritized list, but they are to be incorporated into the list in October 1993. Until that time, any of the group of Medicaid beneficiaries covered by the proposal, including newly eligible groups, would receive these services under current program rules.

Oregon has a 2-year budget cycle, and the State legislature would vote anew biennially on the threshold (i.e., the benefit package). An important provision of SB 27 is that if the Medicaid program should suffer a budget shortfall, the program may not cut people out of the program or reduce provider payments for covered services. Instead, the State must either allocate additional funds to the program or reduce covered services as necessary, with the lowest-ranked services being eliminated frost.

Thus, as the program is designed, the benefit package could either expand or contract every 2 years, depending on the budget. In addition, benefits could be reduced in the middle of the biennial cycle if funds prove inadequate to meet projected costs. The need for Federal approval may inhibit this intended flexibility. Oregon's waiver application states that it will seek an amendment to the waiver if in fact benefits would change "significantly" during the 5 years of the program. Exactly what the Federal Government would regard as ''significant' will not be known until (or unless) the waiver is approved.

Concern about the effects of Oregon's Medicaid proposal on program recipients, and the potential ramifications of the proposal for the ongoing national health care debate, prompted Congress to ask the Office of Technology Assessment to examine the proposal in detail.[4] The report was prepared in response to a request from Representative John Dingell, Chairman of the House Committee on Energy and Commerce, and Representative Henry Waxman, Chairman of the House Subcommittee on Health and the Environment. The request for the OTA study was endorsed by Senator Al Gore, Chairman of the Senate Subcommittee on Science, Technology, and Space, and by the Oregon delegation, including Senator Bob Packwood, Senator Mark Hatfield, Representative Les AuCoin, Representative Peter DeFazio, Representative Mike Ko-

'Unless indicated otherwise, details of the proposal discussed within this summary are based on Oregon's Office of Medical Assistance Programs' August 16, 1991 waiver application (177).

**petski,** Representative Ron Wyden, and Representative Robert F. (Bob) Smith.

The goals of this study are to describe and analyze the specifics of the proposed program and to discuss its most likely implications for the Federal Government, the State of Oregon, and Medicaid beneficiaries. The role of this report is not to critique the existing Medicaid program in detail. Rather, it is to examine the proposed program and especially its relevance to issues of particular interest to the Federal Government: the impact of the program on Medicaid beneficiaries, in whom the Federal Government (as a copayer) has a fiduciary interest; and the potential usefulness of Oregon's program if applied in other States and other contexts. The report is organized as follows.

- *Chapter 2* briefly describes the context in which the proposal was developed, particularly the dilemmas facing the Medicaid program and the barriers to providing health care coverage to the uninsured.
- *Chapter 3 examines the* method and assumptions used to derive the prioritized list of health services upon which the proposed packaged of covered services is based. It also describes some of the characteristics of the list. It addresses such questions as: What were the most important determinants of ranking on the final list? Do services for certain vulnerable groups (e.g., pregnant women) rank high or low? Is the list complete? Is it replicable by others?
- *Chapter 4 examines the* effects of the overall proposal on Oregon health care providers. Would particular kinds of providers be likely to be advantaged or disadvantaged under the program? Would providers be paid more or less? Would they participate in the program?
- *Chapter 5 analyzes the program's* effect on new and existing Medicaid program beneficiaries. Would each of these groups have better or worse access to health care services under the proposal? Who would gain eligibility for services under the program, and who would lose it? What benefits would existing Medicaid participants lose, and what would they gain?
- *Chapter 6* critiques the State's estimate of the costs of the proposed program? Are costs likely to have been over- or underestimated? If so, what are the implications for the Federal Government?
- *Chapter 7 examines* major legal issues that might arise if the proposal were implemented as planned. Does the proposal violate Federal constitutional principles? Is it likely to conflict with major existing Federal statutes enacted to ensure equal access to services?
- *Chapter 8* briefly outlines some basic evaluation issues regarding the proposed program. As a demonstration program, will it yield information valuable to other States and to the Federal Government?

The remainder of this chapter summarizes the findings of the report and draws overall conclusions regarding the technical merits of the proposal.

## SUMMARY OF FINDINGS

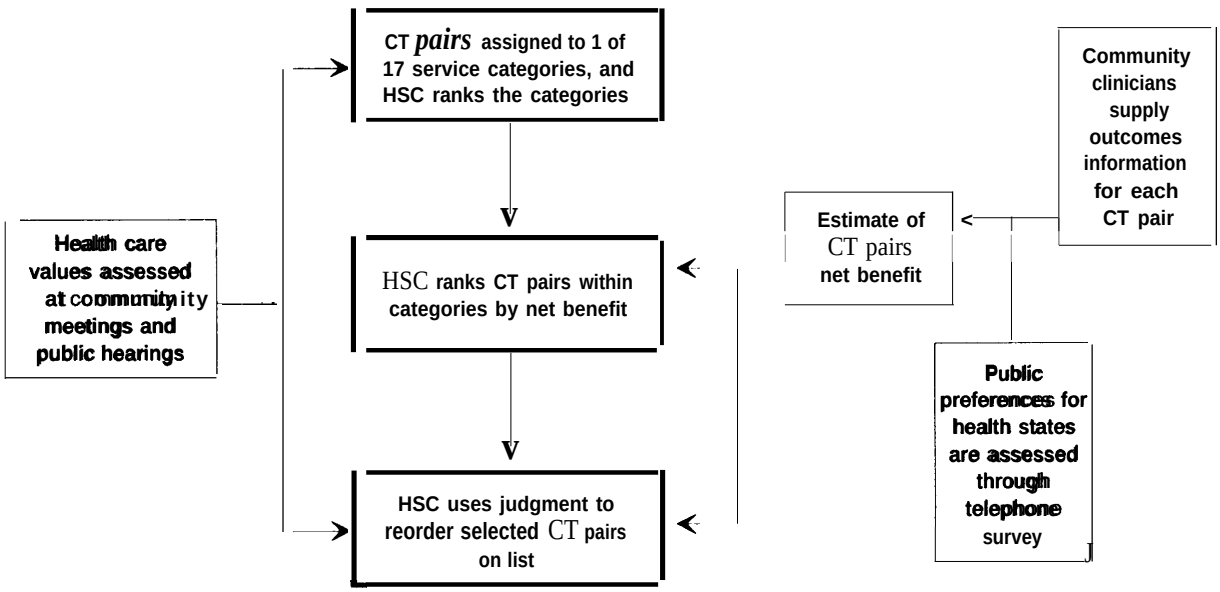
### *The Prioritized List*

Developing the List

The use of a prioritized list of health care services as the basis on which to build a benefits package is unique to Oregon's Medicaid proposal. Other States (e.g., Maine) have established priorities within existing Medicaid services to determine which optional categories of services shall be eliminated first in the event that tight State budgets require cuts. Only Oregon, however, has combined a detailed, comprehensive list of primary and acute medical care services with a public prioritization process to build a package of benefits in an entirely new way. Rather than eliminating types of services (e.g., prescription drugs, durable medical equipment) from coverage if the budget requires cuts, as some States have done, Oregon's prioritized list would eliminate specific treatments for specific conditions.

The building blocks of the list are *condition-treatment (CT)* pairs. Each medical condition (e.g., appendicitis) is paired with one or more therapies used to treat it (e.g., appendectomy). Many ''treatments" are very broad (e.g., any medical therapy used to treat the condition). Even so, some conditions appear more than once on the list paired with different treatments; for example, medical therapy for a particular condition might be located fairly high on the list, while surgical therapy for the same condition is ranked lower. The total prioritized list includes 709 CT pairs, of which only the first 587 would be covered at the time the proposed demonstration project begins.

**Figure 1-l-Oregon Health Services Commission's Prioritization Process**




SOURCE: Office of Technology Assessment, 1991.

The list was compiled and prioritized by an n-member Health Services Commission (HSC), authorized in the Oregon Basic Health Services Act and appointed by the Governor for this purpose. The HSC's charge was to compile "a list of health services ranked by priority, from the most important to the least important, representing the comparative benefits of each service to the population to be served" (Senate Bill 27). Other than the accompanying charge to ''actively solicit public involvement, ' the HSC was given little guidance on how to proceed.

An interim working list, using a formula to indicate the relative cost-effectiveness of services, was released in May 1990 but was ultimately rejected by the HSC. The final list, transmitted to the State legislature in May 1991, abandoned the more rigid and quantitative cost-effectiveness approach in favor of a three-stage process (see figure l-l):

1. Each CT pair was assigned to one of 17 general service categories (e.g., maternity services, services for acute conditions for which treatment prevents death) (box l-B). The HSC then ranked the categories using a group consensus method intended to reflect community health care values as expressed at a series of public hearings and meetings.
2. Within each category, CT pairs were ranked according to their ''net benefit, " a number intended to indicate the average improvement in quality of life associated with treatment for the specified condition. To derive this "net benefit" term, the HSC used data from two sources: health care providers' assessments of treatment outcomes (furnished by provider groups in the State), and Oregonians' opinions about being in various states of health, as elicited through a telephone survey.
3. Finally, the HSC undertook a line-by-line review of the preliminary ranked list and used its judgment to move selected individual CT pairs up or down the list.

The final list was sent to an actuarial firm, which estimated the cost of providing services at various thresholds on the list. The State legislature then decided to fund an initial benefits package consisting of all services included in CT pairs 1 through 587.

### Characteristics and Determinants of the List

In general, the prioritized list favors preventive services and services used primarily by women and children. Both maternity services and preventive services for children, for example, are categories of services that were ranked highly by the

### *Box 1-B--Categories of Services Used in the Prioritization Process and Examples of Condition-Treatment (CT) Pairs*

| Category | Description |
|---|---|
| "Essential" services | |
| 1. Acute fatal | Treatment prevents death with full recovery. ***Example:*** *Appendectomy for appendicitis.* |
| 2. Maternity care | Maternity and most newborn care. *Example: Obstetrical care for pregnancy.* |
| 3. Acute fatal | Treatment prevents death without full recovery. *Example: Medical therapy* ***for acute bacterial meningitis.*** |
| 4. Preventive care for children | ***Example: Immunizations.*** |
| 5. Chronic fatal | Treatment improves life span and quality of life. ***Example: Medical therapy for asthma.*** |
| 6. Reproductive services | Excludes maternity/infertility services. *Example: Contraceptive management.* |
| 7. Comfort care | Palliative therapy for conditions in which death is imminent. ***Example: Hospice care.*** |
| 8. Preventive dental care | Adults and children. *Example: Cleaning and fluoride applications.* |
| 9. Proven effective preventive care for adults | *Example: Mammograms.* |
| "Very important" services | |
| 10. Acute nonfatal | Treatment causes return to previous health state. ***Example: Medical therapy for vaginitis.*** |
| 11. Chronic nonfatal | One-time treatment improves quality of life. ***Example: Hip replacement.*** |
| 12. Acute nonfatal | Treatment without return to previous health state. ***Example: Arthroscopic repair of internal knee derangement.*** |
| 13. Chronic nonfatal | Repetitive treatment improves quality of life. ***Example: Medical therapy for chronic sinusitis.*** |
| Services that are "valuable to certain individuals" | |
| 14. Acute nonfatal | Treatment expedites recovery of self-limiting conditions. ***Example: Medical therapy for diaper rash.*** |
| 15. ***Infertility*** services | ***Example: In-vitro fertilization.*** |
| 16. ***Less*** effective preventive care for adults | ***Example: Screening of non-pregnant adults for diabetes.*** |
| 17. Fatal or nonfatal | Treatment causes minimal or no improvement in quality of life. ***Example: Medical therapy for viral warts.*** |

SOURCE: Oregon Department of Human Resources, Office of Medical Assistance Programs, Salem, OR, *The Oregon Medicaid Demonstration Waiver Application,* submitted to the Health Care Financing Administration, Aug. 16, 1991.

HSC. CT pairs in which treatment usually prevents death or restores the individual to a previous state of health also rank relatively high. Treatment for chronic conditions tends to rank slightly lower than similarly described treatment (e.g., "treatment that prevents death without full recovery") for acute conditions.

Cost is not a major determinant of CT ranking. For example, although several types of organ transplants rank low on the list and are uncovered, many other equally costly transplant procedures are ranked fairly high. In fact, more than one-half of CT pairs associated with high costs (as estimated by the HSC) are located in the top one-half of the list, while one-third of the lowest-cost CT pairs fall below line 587.[5]

The process used to derive the list was intended to rely heavily on quantitative data regarding the outcomes of treatment and individuals' preferences for various health states. Collecting these data was time-consuming, and they were given considerable weight by the HSC, as evidenced by their use to initially rank CT pairs within categories. Despite this emphasis on quantitative measures of net benefit, however, the net benefit term associated with a given CT pair ultimately had surprisingly little effect on the final ranking of that CT pair on the prioritized list. Although the net benefit term remained relevant, in the end the strongest determinants of final rank were those that depended on the judgments of the Commissioners: the category rankings and the final line-by-line adjustment of the list.

The importance of the line-by-line review in determining final ranking is especially notable. The HSC's perception was that this review was relatively minor in overall effect; staff members estimated that about one-fourth of CT pairs were moved in some way during this process (35,244). OTA analyses showed, however, that many CT pairs moved substantially during the course of this final review. Compared with their pre-review rankings (based on category assignment and net benefit), over one-half (53 percent) of CT pairs moved at least 25 lines from their original positions, and 24 percent of all CT pairs moved up or down at least 100 lines on the list.[6]

### Achievements of the Ranking Process and the List

Oregon has successfully defined a novel way of categorizing health care services. In doing so, it tested concepts such as the integration of outcomes estimation and public health preferences in a practical policy setting for the frost time.

The process of developing the prioritized list clearly involved both providers and consumers in Oregon in a public discussion of the relative value of different kinds of health care services. Whether or not the list is implemented in Oregon, it may prove to be a useful device in other States, and in the Federal arena, for stimulating a broader public discussion and enhancing political decisionmaking.

One useful outcome of the prioritization process is that by laying health coverage decisionmaking open to public input and debate, it highlighted some of the basic controversies underlying such decisionmaking. For example, there is no national consensus regarding whether average values regarding what health services are important are more relevant than the values of certain heavy users of health care (e.g., the disabled community). Oregon's process tended to emphasize the former (e.g., through the use of average public preferences from the health state preference survey), while the existing political process may often give more weight to the latter.

Finally, simply the process of trying to identify less important or effective services could affect the way providers make decisions. The process of developing the list-and, if implemented, the list itself-might stimulate providers to justify more clearly to themselves and their patients the effectiveness of a given treatment, and to question that treatment if they find justification difficult. These effects would probably be gradual and hard to identify explicitly. Nonetheless, in the long run they could be a valuable contribution of a comprehensive examination of the usefulness of health care services.

### Problems of the Process and the List

In its critique of the list, OTA identified three types of problems with the method chosen to prioritize health care services. The frost-level problems are those associated with the immaturity of the

5 "High cost" as used here means services costing $40,000 or more; the "lowest-cost' CT pairs are those costing less than $1,000.

6 A total of 60 CT pairs changed initial coverage status as a result of this adjustment (30 moved above line 587, and 30 moved below).

list and incomplete definition of CT pairs. These problems are relatively easy to solve once they are identified (although they would make the list difficult for providers to use if it were implemented before they were addressed). In fact, the HSC is currently considering technical corrections to the list, some of which are relevant to the issues below. These problems include:

- *Missing codes.* Each condition is represented on the list by its ICD-9-CM code.[7] Many codes were intentionally left off the list, either because they refer to conditions to be incorporated into the list later (e.g., mental health conditions), or because they were nonspecific codes. Eliminating nonspecific codes would probably require many providers to change the way they code services, since the use of many of these codes is widespread when there is no definitive diagnosis. In addition, some codes for significant conditions were left off the list and must be added to make the list complete.
- *Duplicate and illogically placed codes.* Although there are a number of CT pairs in which code duplication is intentional (e.g., because the condition appears with different treatments at two places on the list), other code duplications are logically inexplicable and probably represent mistakes. Still other codes do not apparently belong in the CT pair to which they have been assigned.
- *Apparently illogical relative rankings of CT pairs. Since the* ranking process depended heavily on clinician, public, and HSC judgment, any individual clinician would undoubtedly have improvements to suggest, and the opinion of any one clinician cannot condemn the final ranking. Nonetheless, in a few cases the relative ranking of two CT pairs appears questionable on reasonably objective grounds. Some CT pairs in which medical therapy (usually tried first) is ranked lower than surgical therapy (a secondary line of therapy) for the same condition fall into this category.

A second type of problem relates to the limitations of the different inputs to the ranking process. Eliminating these problems would not necessarily have changed the ranking of CT pairs in the list, given the way the list was derived. Nor does the existence of these problems suggest that decision-making under the current program is superior to that under the prioritization process. However, these limitations do suggest that the reproducibility of the inputs to the process is open to question. In particular:

- Despite the considerable efforts of organizers, the community meetings held to inform the HSC about public values were not representative of community residents. Most (about two-thirds) of those in attendance were health care workers.
- The provider groups that furnished the HSC with health outcomes information had difficulty with the charge to present average outcomes, since patients in some CT pairs are very diverse. The groups were not uniform in their methods for deriving the information (e.g., use of the published literature, use of Oregon-specific data) or in the way they handled factors affecting outcomes (e.g., comorbidities).
- The outcomes information was intended to be representative of the opinions of practicing providers, since data from published clinical studies are not available to provide information on treatments for most CT pairs. Nonetheless, where published evidence does exist, it is sometimes at odds with the opinions of Oregon providers.
- Provider outcomes information was weighted according to public preferences. The survey used to evaluate people's preferences for being in various health states had a high proportion (over one-third) of inconsistent responses. Average scores on the survey were used to represent preferences, but individuals' scores for some preferences varied significantly by factors such as age, sex, and whether the respondent had experienced the health state in question. These differences raise questions regarding the application of average public preferences to resource allocation decisions.

A third set of problems relates to the use of CT pairs to define health care services and the use of the 17 categories as a contributing structure for ranking them. These problems are relatively intractable, because they cannot be solved without changing the very tools used to define the prioritized list.

71~.9-CM refers t. the *International Classification of Diseases*, 9th Revision, Clinical Modification coding system for diagnoses (45).

- The 17 categories include a mix of service-specific (e.g., maternity services) and condition/outcome-specific (e.g., acute condition, treatment prevents death) categories. The service-specific categories ranked high can include poor-outcome CT pairs that happen to include those services. The condition-specific categories, on the other hand, overlap to the point where they can be clinically meaningless, making CT pair assignment to a given category problematic. A recurrent condition, for example, might be legitimately categorized as either acute or chronic. Which category it is assigned to, however, could substantially affect its final rank.
- The use of CT pairs involves combining patients with heterogeneous conditions, comorbidities, and expected outcomes into the same group with the same ranking. The treatments included in a given pair are also often very broadly defined; the treatment in over one-half (51 percent) of CT pairs is defined as ''medical therapy' or ''medical and surgical therapy. '

To avoid the latter problem entirely, CT pairs would have to be defined so specifically as to make them unworkable for any practical program purpose. Intermediate levels of definition might ameliorate this problem and still yield a workable list. Nonetheless, accepting the level of heterogeneity implied by only 709 CT pairs (or even many more pairs) means accepting that some patients with excellent expected outcomes with treatment must forego therapy, while other patients with patently worse treatment-specific prognoses receive it. This may be very difficult for both patients and clinicians to accept.

### *Program Implications for Providers*

Providers Under the Current Program

Oregon's Medicaid program currently operates under a Federal waiver that permits the State to make heavy use of prepaid managed care providers. About 68,000 AFDC enrollees in 10 counties, or about 31 percent of all Medicaid participants, are served by providers paid on a per capita basis. (Enrollment in prepaid plans is mandatory for these beneficiaries in nine counties and optional in a tenth.) Nearly 12,000 of these beneficiaries are enrolled with the Kaiser-Permanente health maintenance organization (HMO), which provides both inpatient and outpatient care (except dental care) to Medicaid enrollees on a prepaid basis. The remainder are served by 15 physician care organizations (PCOs), which are capitated for most outpatient, but no inpatient, services.[8]

The remainder of Oregon's current Medicaid population receives care that is reimbursed on an FFS basis (177). These participants include all Medicaid enrollees residing outside the 10-county managed care area, as well as non-AFDC enrollees within that area and some in-area AFDC enrollees that for various reasons (e.g., new eligibles who have not yet had time to enroll in a particular plan) are not receiving prepaid care. In addition, all PCO enrollees in the managed care counties receive their inpatient care and some outpatient services on an FFS basis.

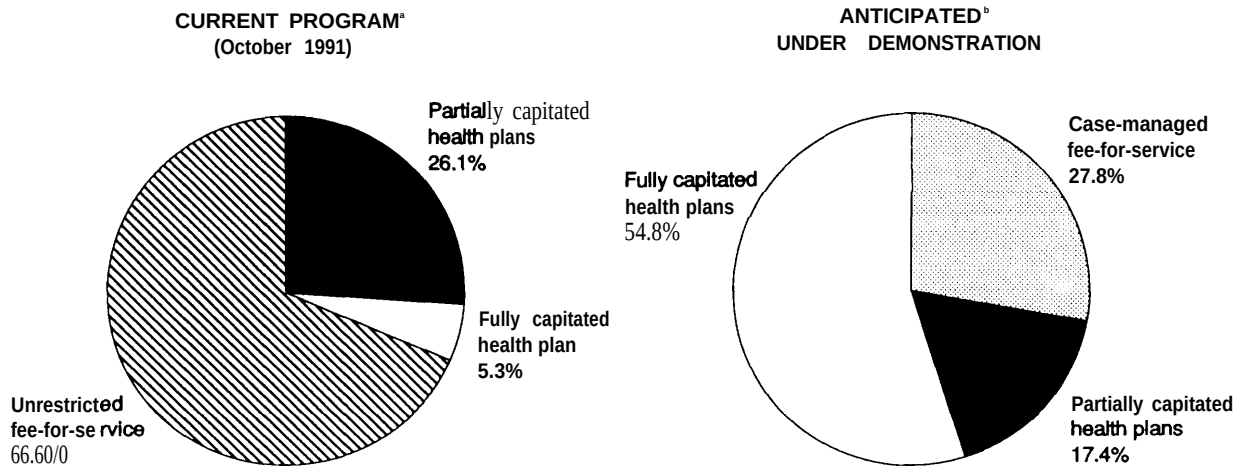
FFS hospital care for most Medicaid-covered inpatients is presently reimbursed according to diagnosis-related groups (DRGs) (similar to the way Medicare pays hospitals). Outpatient hospital services are paid on a percent-of-actual-costs basis (the current rate is 59 percent). Certain rural hospitals are exempt from these payment limits and receive 100 percent of costs for most services. Hospitals serving a disproportionate share of Medicaid patients receive an additional DRG-based payment.

Most primary care clinics are paid according to a fee schedule, but by Federal law federally qualified health centers (FQHCs) and federally certified rural health clinics (RHCs) are exempt from this rule and must receive their full incurred costs (Public Law 101-239; Public Law 95-210). Physician services are also paid according to a fee schedule; current Medicaid fees in Oregon are close to the average for this program across the Nation, but Medicaid physician fees generally are lower than fees paid by other insurers (e.g., Medicare) (203). Oregon's physician fees are frozen for the 1992-93 biennium.

Physicians are not required to accept Medicaid patients, and available evidence suggests that many do not. A 1988 survey of members of the Oregon Medical Association found that while 59 percent said they accepted any Medicaid patients who

[8] The U.S. General Accounting Office is studying the capabilities of Oregon's current Medicaid managed care system. This study will be completed in spring of 1992.

**Figure 1-2—Distribution of Oregon Medicaid Enrollees by Type of Delivery System: Current and Proposed Programs**




[a]Shows distribution of entire Medicaid enrollee population, including aged, blind, and disabled recipients. In the current system, only AFDC eligibles are enrolled in prepaid plans.
[b]Shows distribution of Medicaid eligibles subject to the demonstration. Excludes aged, blind, and disabled enrollees who may be included in demonstration during the second year. It has not been decided whether aged, blind, and disabled enrollees, once subject to the prioritized list, would be required to enroll in prepaid plans. This figure reflects the distribution *of* enrollees anticipated by the ninth month of the demonstration.

SOURCES: Oregon Department of Human Resources, Office of Medical Assistance Programs, Salem, OR, *The Oregon Medicaid Demonstration Waiver Application*, submitted to the Health Care Financing Administration, Aug. 16, 1991; B. Terhaar, Office of Medical Assistance Programs, Department of Human Resources, State of Oregon, Salem, OR, personal communication, Jan. 28, 1992.

sought their care, 33 percent said they restricted their Medicaid practice and the remaining 8 percent did not accept any Medicaid patients (195).

## Changes Under the Proposed Demonstration

Oregon's proposed demonstration includes three major provisions intended to affect the way care is provided to Medicaid recipients (177). First, it would greatly expand the Medicaid population to be covered by mandatory prepaid managed care to all enrollees except those in an unspecified number of rural counties (i.e., those where adequate prepaid contracts cannot be negotiated) (see figure 1-2).[9] Providers would be fully capitated for all services (inpatient as well as outpatient) in at least the nine current mandatory managed care counties, and partially capitated (i.e., PCOs) in as many as possible of the remaining 27 counties in the State. All recipients not living in mandatory prepaid care counties would be enrolled with a primary care case manager, who would provide primary care services on an FFS basis and authorize all referrals. These delivery system changes would be phased in during the first 2 years of the demonstration program.

The second major change alters the way payment rates to prepaid providers are calculated-a change the State hopes will be an incentive to participate in the program. Rather than calculating per capita rates that are based on rates for services in the FFS sector, the State would base the new prepaid rates on an actuarial estimate of the average reasonable costs, across all providers, of providing the covered services.[10] (This estimate of average reasonable costs assumes some savings from managed care.) The extent to which the new method of calculating rates would result in higher payment than under the current system is unclear, since the payment amount, the packages of services to be delivered, and the covered population are all different.

The change in payment would apply only to prepaid care contractors; FFS providers would not

[9] The State predicts that about 15 percent of enrollees in the mandatory prepaid care counties would be enrolled with a primary care case manager for various reasons (e.g., because their need for care was so intensive that they exceeded the stop-loss cost threshold for the prepaid plan).

[10] Note that although this method is frequently—and accurately—referred to as "cost-based" payment, it is not based on the actual costs incurred by anyone provider. A particular provider's payments would thus not necessarily bear any relationship to that provider's costs of rendering the services.

receive fee increases.[11] As under the current system, subcontractors to prepaid plans (e.g., hospitals, clinics) would receive payments that reflect their negotiating strength. Rural hospitals, FQHCs, and RHCs located in the mandatory prepaid counties would lose their special reimbursement protections under the demonstration as proposed; these providers would no longer be paid their actual costs unless they could negotiate such payment with the primary contractors (or unless they were themselves primary contractors, and their actual costs were lower than the per capita rates). The greatest payment boon to many hospitals, clinics, and physicians under the demonstration is presumed to come from a reduction in the number of patients who cannot pay for the services they receive. To the extent that poor patients who previously received uncompensated care would be covered by Medicaid, total provider income could increase.

The third major change for providers would be the need to work within the prioritized list. It is not at all clear how the list would affect provider practice in the prepaid sector, since payment to these providers does not depend directly on the actual services rendered. Presumably, administrators in prepaid plans would simply make below-the-line services one set of a range of services and practices that physicians would be discouraged from providing. Some physicians in such plans might counter by redefining below-the-line conditions into ‘ ‘covered’ CT pairs where possible to justify providing these services, but the balance of behaviors can only be a matter of speculation. FFS providers, on the other hand, would have a clear incentive to ensure that all services provided could be classified into above-the-line CT pairs, Their financial success under the new program would depend heavily on their ability to become intimately familiar with the list. Because different providers have different incentives and capabilities for dealing with the prioritized list, Medicaid recipients’ access to specific benefits could vary depending on where they live and who they see for care.

### Problems and Possibilities in the Proposed Delivery System

Managed care, and especially prepaid managed care, has been of intense interest to policymakers and insurers interested in gaining some control over health care costs. The number of people enrolled in HMOs nationally has grown from less than 2 million to almost 34 million over the past two decades (92). Over 1 million Medicare beneficiaries are enrolled in HMOs, and as of 1991 more than 1.6 million Medicaid beneficiaries were enrolled in risk-based prepaid health care plans (309). Another 1 million Medicaid participants were expected to be enrolled with primary care case managers by the end of 1991 (309).

Although Oregon is only one of many States that has experimented with using managed care to provide services to its Medicaid population, the little information that is available suggests that its program has avoided some of the pitfalls encountered by others (238). The State believes that its current Medicaid managed care program has reduced State spending (41). The U.S. General Accounting Office is currently evaluating Oregon’s existing Medicaid managed care program in depth to identify more precisely its problems and successes.

The great interest in managed care, coupled with the State’s past experience, implies that Oregon would be a logical choice for an experiment of comprehensive, statewide Medicaid managed care. (Arizona, the only other State in which all Medicaid care is delivered through managed care, has a very limited and unusual Medicaid program.) Still, there are a number of questions and potential problems that would deserve explicit attention (either at the planning or the evaluation stage) if the demonstration were to go into effect:

- *Implementation of the proposed managed care expansions—The* State maintains that managed care expansion is on schedule (26). If there should be any future delays or problems, however, the costs of the program and the effect of the prioritized list might be different than anticipated. For example, if the contract process with prepaid providers takes longer than expected, or if recruiting primary care case managers is difficult, traditional unrestricted FFS billing could be more widespread during the demonstration than anticipated.
- *Effects on ‘‘safety net’ providers—Managed care* is of concern to many of the public primary care clinics that currently serve large Medicaid and uninsured caseloads (37). FQHCs and

[11] Case managers would receive $3 per enrollee per month for the new case management services they would be required to provide.

RHCs would lose some key financial protections if they participate, and many of their actual-cost-reimbursed patients if they do not. Although they could expect to provide less uncompensated care, the financial benefits of this reduction to the clinics depend on whether it would be accompanied by a reduction in Federal subsidy funds and/or increases in Medicaid revenues. The State is encouraging public clinics to be capitated contractors themselves, but it is not clear that they have the expertise or the resources to assume the attendant financial risks. County health departments might similarly be unable to assume risk and be primary contractors due to lack of resources and the inability to meet other contractor requirements.

- *Ability to retain participating providers—The* State is counting heavily on the increased payment presumed possible through the new payment method to attract and retain participating Medicaid providers. The extent to which payments to prepaid providers would be-and would remain-high enough to keep providers in the program is an open question only answerable if the demonstration goes into effect. In the FFS sector, changes in initial and continued provider participation are similarly uncertain. The fact that fees would not change may mean that primary care provider participation would not increase. (Access to specialty care might increase, however, if case managers successfully negotiate referrals for their patients.)

## *Program Implications for Beneficiaries*

### Changes in Eligibility and Enrollment

If the waiver is approved, Oregon would be the first State in the Nation to guarantee federally cofunded Medicaid coverage to all legal residents with incomes below the FPL. The new income-only eligibility criteria for Medicaid would mean that projected enrollment in the program would increase by more than 20 percent in the frost year and 72 percent by the fifth year of the demonstration program. (The increase in the fifth year is projected to be 59 percent if the employer mandate is in place.)

Pregnant women and young children with family incomes up to 133 percent of the FPL are currently eligible for Medicaid, and they would remain eligible under Oregon's proposal. One aspect of the proposal intended to reduce program and applicant paperwork, however, might affect some of these currently eligible individuals. Under the demonstration, eligibility for non-AFDC applicants would be based solely on simple gross family income. In contrast, at present, near-poverty pregnant women and children under age 6 can exclude certain types of expenses (e.g., some work-related child care expenses) in order to meet income qualifications. Some applicants who thus would have been eligible under current rules might be ineligible under the new program.

The number of individuals who would be ineligible under the new rules is unknown. The State believes it to be very small (less than 1 percent of currently eligible pregnant women and young children) (253). On the other hand, one clinic estimates that over 9 percent of its patients who qualify because they are pregnant or are young children would be affected (see ch. 5) (1 14).

The demonstration would also eliminate the current 3-month retroactive eligibility for non-AFDC Medicaid enrollees and would guarantee 6-month periods of continuous Medicaid coverage for all new eligibles except those receiving AFDC. Average length of eligibility in the program would probably increase somewhat compared with the present. Non-AFDC beneficiaries would all remain eligible at least 6 months, and beneficiaries with AFDC-based eligibility could still be eligible for Medicaid under the demonstration even if their incomes increased somewhat.

### Changes in Coverage and Access for the Newly Eligible Population

For the people who would be newly eligible under the waiver—those who cannot qualify for Medicaid benefits under current rules—the implications of the new eligibility and coverage rules are unambiguously good. These individuals would lose no coverage at all, since they have none now. They would gain coverage for all services included in CT pairs 1 through 587, as well as coverage for diagnostic services.

The implications of the demonstration program for access to health care services for this population are likewise unambiguous. If medical care coverage has any relevance for access at all, people in this group would have access to a broad spectrum of care

not previously within their reach. At the least, they would have the right to demand care that currently depends on either their ability to pay for it out-of-pocket, or on the good will and generosity of individual providers.

### Changes in Coverage and Access for Current Beneficiaries

***Changes in*** Benefits-For current Medicaid eligibles, the changes in coverage are more complex. Certain benefits that lie above line 588 would be clearly new for adults: many preventive health services, dental services, and several types of organ transplants (adults are currently covered only for cornea and kidney transplants). Hospice care for the terminally ill would also be a new benefit for both adults and children.[12]

"Lost" benefits for current eligibles would include all services below line 587 that are now covered. For many below-the-line CT pairs, the real coverage lost would be negligible. In some instances, for example, the pair is ''empty' '—i.e., those services are already never or rarely provided (e.g., aggressive therapy for anencephalic babies)[13] (215). In other cases, the service is significant but is not covered under current Oregon Medicaid rules (e.g., breast reconstruction after mastectomy [285]).

Other below-the-line CT pairs, however, are for conditions whose treatment is now covered by Medicaid (if it is determined to be "medically necessary' '). At least five of these CT pairs include some life-threatening diagnoses for which clinicians believe some patients might be effectively treated.[14] Other uncovered CT pairs include painful, disabling conditions for which treatment can sometimes bring relief (e.g., trigeminal nerve disorders), and conditions for which treatment is believed to be sometimes curative (e.g., focal surgery for certain types of epilepsy) (10,67,294,31 1). One uncovered CT pair, removal of viral warts, can sometimes be a preventive measure against sexually transmitted disease and certain gynecological and anal cancers (317).[15]

***Implications for*** Access—For most persons currently eligible for Medicaid, access to care would probably be different under the demonstration, but it is not clear whether it would be better or worse for the population overall. On the one hand, if the managed care system is implemented as planned, all beneficiaries would be assured of a provider who has agreed to see them-something that may not always happen at present. In addition, adults in particular would have coverage for significant services not previously available. Even where services would ordinarily be uncovered, they might be provided in the FFS sector if they could be 'upcoded' to covered CT pairs, and they might be provided in either the FFS or the prepaid sector if the provider felt a professional responsibility to provide the care.

On the other hand, just as under the existing Medicaid program, coverage for services may not always mean receipt of those services. For example, if waiting time before getting an appointment for routine preventive services is long, some patients might not receive the services (or the followup treatment for detected conditions) before they became ineligible for Medicaid benefits. Long waiting times for appointments might also affect the ability of pregnant women to receive early prenatal care. In addition, the incentives of a prepaid, capitated payment system may mean that some managed care providers may be less willing to provide some covered services than their FFS counterparts.

The loss of previously covered benefits would certainly reduce access to these services. In some cases, the reduction may be desirable and even beneficial to the individual (e.g., if it reduces the provision of ineffective services). In other cases, however, it appears that some patients might lose access to useful and potentially effective services that are clearly utilized at present. Six of the most frequent diagnoses of Oregon Medicaid hospital

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12 Hyperbaric oxygen treatment and tissue expanders would also be new benefits under the proposed program.

13 In anencephalic babies, the brain is undeveloped and absent at birth.

14 The five potentially fatal diagnoses that are currently covered and can be effectively treated include impetigo herpetiformis, my asthenia gravis, Schmidt's syndrome, viral pneumonia, and bone marrow transplants for non-Hodgkin's lymphoma in children (3,17,21,38,44). (Transplants for non-Hodgkins lymphoma in adults and liver transplants for alcoholic cirrhosis are also low-ranked CT pairs in which treatment is sometimes lifesaving, but bone marrow and liver transplants are only covered for children under Oregon's current Medicaid program.) Myasthenia gravis may ultimately be reclassified into a CT pair higher on the prioritized list as a result of changes currently being considered by the Health Services Commission (23).

15 Genital viral wart removal is under consideration by the HSC, which may relabel a covered CT pair to clarify that it can include this service for men as well as women (23).

inpatients in 1989, for example, related to CT pairs that are below the line.[16]

Thus, current Medicaid beneficiaries would both gain and lose something under the proposed plan. It seems likely that both the gains and losses are less extreme for access than for benefits. Gaining a benefit does not always imply access (e.g., if waiting times were to inhibit access to covered preventive services), and losing a benefit is not accompanied by a complete loss of access, either (e.g., because charity care would still exist).

Three aspects of Oregon's proposal that Oregon's Medicaid program has not yet addressed in detail could have substantial implications for access to services:

- *CT/DRG incongruities.* It is not yet clear how hospital inpatients would receive coverage for diagnostic services related to uncovered conditions, because current hospital billing and payment practices do not separate diagnostic from treatment services. Under the proposed program, many hospitals would still be paid on an FFS basis (even within the prepaid care system), which means that reimbursement would be made on the basis of DRGs. But DRGs and CT pairs, on which coverage is based, are entirely unrelated to one another. There are many fewer DRGs, for example, and unlike CT pairs they include diagnostic as well as treatment services. The State intends to develop a mechanism to recognize inpatient diagnostic services specifically (212), but if it cannot do so promptly and adequately, beneficiaries' access to these services could be compromised.
- *Utilization review,* To a large extent, access to services under the proposed demonstration program would be determined not by the prioritized list itself but by the as yet unknown or unspecified policies and practices of the Oregon Medicaid administrators and by individual providers. The extent to which the Medicaid office would conduct CT-pair-level utilization review under the new program, for example, is still unclear. Even where review criteria exist, the State may not be able to detect some practices of interest. In particular, some treatments for CT pairs below the line (e.g., durable medical equipment, prescription drugs) cannot easily be linked administratively with the conditions for which they were prescribed, since the bills do not include diagnoses.
- *Guidelines and instructions for providers. The* codes on the prioritized list itself are not sufficient to enable a provider to reliably determin e where a patient's condition and treatment is most appropriately classified. For example, the only criteria for how to determine that a cancer patient is "terminally ill" (and therefore ineligible for treatment of the cancer) is that the patient has less than a 10 percent chance of surviving 5 years. Making this determin ation is up to the physician. Although it intends to do so, the State has not yet established detailed instructions or guidelines for providers using the list to determine which services are covered and under what circumstances.

### *Program Costs*

Oregon **estimates that the costs** of the proposed demonstration (over and above the projected normal costs of the State's Medicaid program) would be about $25 million during the first year and about $238 million over the 5 years of the waiver (table 1-2). Of this, the State would spend about $95 million, while the Federal Government would be responsible for the remaining $143 million (177). (The State estimates that the Federal Government would save $34 million in the Medicare program as an indirect effect of the Medicaid waiver, for a net Federal cost over 5 years of $109.6 million.)

Costs specific to the demonstration project include the costs of increasing program enrollment and offering some new services, extra administrative costs, and other factors. Although the State predicts that the use of the prioritized list to reduce certain benefits and the use of managed care to control utilization would result in some offsetting savings, the demonstration is nonetheless expected to require a net increase in expenditures.

OTA finds that the State of Oregon and its actuarial contractors have used a reasonable approach for the difficult task of estimating the costs of the proposed demonstration program. Nonetheless, the State may have underestimated

16 These diagnoses include: asthma, unspecified; unspecified viral infection; intestinal infection due to other organism, not elsewhere classified; acute upper respiratory infection; displacement of lumbar intervertebral disc, without myelopathy; and viral pneumonia.

**Table 1-2—Summary of Oregon's Demonstration Cost Estimate (in millions of dollars)**

| | Year 1 FY 1993 | Year 5[a] FY 1997 | 5-year total |
|---|---|---|---|
| Projected cost of current program | $925.9 | $1,546.7 | $6,041.8 |
| Total program cost under demonstration[b] | 950.8 | 1,581.7 | 6,280.1 |
| Incremental Medicaid cost due to demonstration | 24.9 | 35.0 | 238.3[d] |
| State Medicaid share | 10.1 | 14.5 | 95.0 |
| Federal costs (Medicaid only)[c] | 14.8 | 20.5 | 143.3 |
| Change in Medicare due to employer mandate | 0.0 | (17.6) | (33.7) |
| Total change in Federal Medicaid/Medicare costs | 14.8 | 2.9 | 109.6 |

NOTE: Oregon's cost estimates as presented here are based on the original anticipated startup date of July 1, 1992. Estimates may change because implementation has been delayed on a month-to-month basis pending HCFA approval of Oregon's waiver request.

[a]The employer mandate is to take full effect by the fourth year of the demonstration, resulting in a presumed drop in Medicaid (and Medicare) costs in years 4 and 5 of the demonstration due to beneficiary coverage through employers, rather than public programs.

[b]Total costs of Oregon Medicaid program, including services and populations not currently included under the demonstration.

[c]Incremental costs of the demonstration presented here do not include the costs of including mental health/chemical dependency services or the costs of services provided to elderly and disabled Medicaid beneficiaries. These services were not included in the original waiver application and their costs would be separately calculated at the time they would be included under the demonstration,

[d]Incremental Medicaid costs are assumed to increase through year 3, reaching $60 million that year, then decrease in years 4 and 5 due to the full implementation of the employer mandate.

[e]Does not include Federal research costs of demonstration evaluation.

SOURCE: Data from Oregon Department of Human Resources, Office of Medical Assistance Programs, Salem, OR, *The Oregon Medicaid Demonstration Waiver Application,* submitted to the Health Care Financing Administration, Aug. 16, 1991.

program costs, since crucial assumptions would tend to raise costs or reduce savings if the estimates used prove incorrect.

Any delay in fully implementing the planned managed care system, for example, would reduce the expected program savings due to the use of managed care. Any inabilities of new managed care providers to actually meet savings expectations would have a similar effect. In addition, the administrative difficulties of determining below-the-line use of certain products and services (e.g., durable medical equipment, prescription drugs) means that if the use of these services is higher than accounted for in the cost estimate, overall patient care costs could be likewise somewhat higher than expected. Program costs could also be higher than expected if some ''technical fixes' to the program are necessary to avoid unintentional consequences of the initial list. For example, some effective services appear to be grouped in CT pairs with ineffective ones and ranked low; if this were "freed" by reassigning the codes for the effective services to higher ranked CT pairs, program costs would increase slightly.

**Table 1-3-Examples of Condition-Treatment (CT) Pairs Excluded If Costs Were Underestimated by 5 Percent[a]**

*Baseline threshold: CT pair 587*
*Per capita monthly cost: $129.44*

*New threshold: CT pair 503*
*New per capita month/y cost: $122.98*

Examples of CT pairs excluded

| | | |
|---|---|---|
| 504 | Hernia (unobstructed) | Repair |
| 506 | Muscular dystrophy | Medical therapy |
| 514 | Acute poliomyelitis | Medical therapy |
| 515 | Pituitary dwarfism | Medical therapy |
| 525 | Gallbladder anomalies | Medical and surgical treatment |
| 531 | Spontaneous and missed abortion | Medical and surgical treatment |
| 533 | Minor burns | Medical therapy |
| 534 | Allergic rhinitis and conjunctivitis | Medical therapy |
| 544 | Spine deformities | Repair and/or reconstruction |
| 546 | Disorders of bladder | Medical and surgical treatment |
| 552 | Foreign body in eye | Foreign body removal |
| 554 | Closed fracture of epiphysis of upper extremities | Reduction |
| 555 | Congenital dislocation of hip | Repair and/or reconstruction |
| 569 | Fractures of ribs and sternum | Medical therapy |
| 572 | Chronic sinusitis | Medical therapy |
| 573 | Lumbago | Medical therapy |
| 586 | Spondylosis and other chronic disorders of back | Medical and surgical treatment |
| 567 | Esophagitis | Medical therapy |

[a]Assumes all cost savings to balance out the cost overrun would be achieved solely through reducing benefits.

SOURCE: Office of Technology Assessment. Calculated from information in Oregon Department of Human Resources, Office of Medical Assistance Programs, Salem, OR, *The Oregon Medicaid Demonstration Waiver Application,* submitted to the Health Care Financing Administration, Aug. 16, 1991.

Although many factors that might increase costs would probably have fairly small effects, even small cost overruns could have significant implications for benefits. If all cost savings to balance out only a 5 percent cost overrun had to be achieved solely through reducing benefits, for example, more than 80 CT pairs would have to be eliminated from coverage (table 1-3).

Some costs external to the program, but relevant to Federal fiscal concerns, may also have been underestimated. In particular, the Congressional Budget Office (CBO) has predicted a loss of Federal tax revenues if the State implements the associated mandate requiring small businesses to provide health insurance. (This revenue loss was not accounted for in the cost analysis, although savings predicted from this mandate were included. The

### *Box 1-C--Medicaid Waivers Requested by the State of Oregon*

To implement its proposed 5-year Medicaid demonstration program, the State of Oregon is requesting that the Federal Government waive 15 rules that it normally requires States to follow in order to qualify for Federal matching funds (33). Four of these waivers would be continuations of waivers already in effect in Oregon that enable the State to carry on its existing managed care demonstration program.[1] The other 11 waivers must be newly granted They are:

1. ***Amount, duration, and scope of services--Generally,*** all Medicaid recipients must have equivalent service coverage, with coverage unconnected to the patient's condition or other circumstances. In the demonstration, some services (i.e., those below the line) would be denied based on a patient's diagnosis. In addition, until the elderly and disabled populations are added to the program, covered services for these populations would differ from coverage for other recipients.
2. Uniformity--Federal rules require that a State's Medicaid plan apply uniformly throughout all geographic areas of a State. Under Oregon's demonstration, managed care plans and access to providers may vary between urban and rural regions and even within these regions.
3. ***Medically needy eligibility--States with*** medically needy programs must ordinarily make them available to at least children and pregnant women. Oregon proposes to eliminate the program for all populations enrolled in the demonstration program.
4. ***Income limitations--Federal rules*** prohibit Medicaid coverage for families with incomes greater than 1331/3 percent of the State's Aid to Families with Dependent Children (AFDC) standard and for disabled persons whose incomes exceed 300 percent of the Supplemental Security Income (SSI) income standard (unless they qualify as medically needy). Oregon's proposed coverage of all persons with incomes up to 100 percent of the Federal poverty level would include some persons who would not be eligible under the usual Federal rules.
5. ***Eligibility standards--Persons*** who are categorically eligible for cash assistance through AFDC, SSI, and other qualifying programs but who are not receiving this assistance are subject to resource as well as income standards to determine their financial eligibility for Medicaid. Oregon, however, proposes to eliminate the resource standard and permit individuals and families to qualify for Medicaid solely on their

[1] The four relevant waivers already in effect in Oregon that would need to continue under the proposed demonstration program waive Federal Medicaid rules regarding: 1) a patient's freedom to choose any qualified provider, 2) leek-b 3) sharing with providers any cost savings generated by decreased health service utilization, and 4) ease management.

State maintains that Federal revenue loss from this source would be negligible due to such factors as increased tax revenues from providers.) Also, if Oregon's passage of Ballot Measure 5[17] decreases the State funds available to the Medicaid program, as it is predicted to do, the State may be unable to furnish its full share of demonstration funding even if program costs have been correctly estimated.

## *Other Issues*

### Federal Legal Issues

Oregon has applied to the U.S. Health Care Financing Administration (HCFA) for permission to waive provisions of the Medicaid statute that conflict with its proposed demonstration project (box l-C). OTA assessed whether Oregon's proposal might be in conflict with provisions of other Federal statutes, which only Congress can waive, or might come in conflict with the U.S. Constitution, a barrier to its implementation that could be overcome only with a constitutional amendment.

With one possible exception, Oregon's Medicaid proposal appears not to conflict 'with the U.S. Constitution. This exception concerns provisions of the Oregon plan that would change the State's common law in such a way as to prohibit most legal recourse when a provider refuses to provide medically necessary care that is not covered by Medicaid. This could be interpreted by the courts as permitting a different level of legal protection against sub-

[17] Ballot Measure 5 is a statewide referendum passed in November 1990 which phases in a rollback of local property @x&i over 5 years and requires the State to replace billions of dollars lost by local counties for school funds from the State's general fund.

household income. The State would also change the rules regarding which household members' incomes are countable for eligibility purposes.

6. *Eligibility* procedures--States are generally required to have Medicaid eligibility procedures no more restrictive than under the State's AFDC plan. In addition, States are required to provide retroactive eligibility to certain categories of individuals (i.e., medical assistance applies retroactively for up to 3 months before the person actually applied for Medicaid). Under the demonstration, however, Oregon proposes to implement different eligibility rules and procedures for those persons receiving cash assistance (under AFDC, etc.) and those who are not. The latter group of persons would not qualify for retroactive eligibility, and their eligibility would be based only on gross income.
7. *Freedom of choice*—Under the demonstration, most recipients would not be able to change providers at will but would be ''locked in" to their chosen prepaid managed care provider, which could be changed only every 6 months.
8. *Cavitation contract requirements-The* Federal Government requires that prepaid health plans (PHPs) contracting to serve Medicaid patients meet specific requirements, including that the PHP's patient population beat least 25 percent non-Medicare and non-Medicaid patients. Oregon is requesting that the PHPs participating in the demonstration not be required to meet these standards. The State is also requesting waivers that would eliminate the need for the Health Care Financing Administration (HCFA) to approve large contracts with PHPs (i.e., those where payment may exceed $100,000).
9. *Upper payment limits for cavitation contract requirements*—Federal rules prohibit PHP payments that exceed estimated equivalent fee-for-service payments. Oregon requests a waiver of this requirement to enable incentive payments to certain PHI%.
10. *Payment to Federally QualifiedHealth Centers* (FQHCs)--State Medicaid programs must cover services provided in FQHCs, and they must provide facility-specific, cost-based reimbursement for these services. Under the demonstration program, however, some FQHCs might be part of PHPs and thus paid differently (and their services not uniformly available).
11. ***Early*** *and Periodic Screening, Diagnosis, and Treatment (EPSDT) service* mandate--States are usually required to pay for medical services when the need for that service is determined at an EPSDT visit (even if the State would not otherwise cover the service). This requirement must be waived if the demonstration is to proceed as planned, because some identified services might lie below the funded line (initially line 587 on the prioritized list).

Finally, in addition to the specific waiver requests, Oregon "requests that HCFA grant any other waiver that HCFA deems to be required in order to implement the demonstration" as it is described in the proposal document.

standard care-and possibly a different legal standard of care-for Medicaid beneficiaries than is permitted for the remainder of the State's population. Such a difference might possibly be interpreted as a violation of the Equal Protection Clause of the 14th Amendment of the U.S. Constitution (or of similar provisions of the Oregon State constitution).

Several Federal statutes are relevant to Oregon's proposal, including those requiring protections for human research subjects and those that prohibit discrimination on the basis of race, disability, or age. The proposal appears to fall within the exceptions allowed by the human research subject protection statute for social demonstration programs (although one advocate suggests that language in a 1992 appropriations bill suggests otherwise) (222).

The effects of the anti-discrimination statutes are not entirely clear-cut, but the proposal is probably not very vulnerable to a challenge on the basis of these statutes unless in its implementation the denial of benefits falls disproportionately on protected groups (e.g., because the services they use tend to appear below the cutoff point on the list). Based on OTA's analysis of the list, this type of disparate impact is unlikely to occur with the line drawn at 587. If the line were to move upward due to funding shortfalls, the potential for such a challenge would increase. Some advocates have argued that, in its implementation, the proposal may also be vulnerable to challenge on the basis of the Americans with Disabilities Act of 1990 (Public Law 101-336) (150). The lack of case law involving this statute, however, makes it impossible to predict how future courts would react.

The provision of SB 27 that exempts providers from liability if they refuse to provide uncovered but

medically necessary services to Medicaid beneficiaries[18] also conflicts with existing Federal statutes that require most hospitals to provide basic emergency care to anyone in need. Thus, it is possible that hospitals (and possibly emergency room physicians) could be prosecuted under Federal statute for not providing some services even if they were exempted from liability under State law.

### Evaluation Issues

Oregon's demonstration proposal is ostensibly a health services research proposal. As such, a justification for funding the proposal would be to draw information useful to other States and to the Federal Government.

In this context, the program has some significant drawbacks. Many of the potential applications of the information gleaned from the project relate to its components rather than its overall effects (e.g., Does the use of a prioritized list to define benefits reduce costs without harming the existing Medicaid population?). An evaluation of the project, however, is unlikely to have the power to disassociate the independent effects of service prioritization from the effects of managed care expansion and broader insurance coverage for the poor.

In fact, a likely outcome is that no separate effect of the list on health status would be distinguishable at the current benefit threshold (even if one exists). If the threshold moves up the list to accommodate higher-than-expected program expenditures, the strongest detectable effect could well be a negative one for access, quality, and health status of current program beneficiaries. Given the limits of comparative data, it may not even be possible to detect the effect of the combination of these changes on many outcomes of interest.

There are two other potential experimental contexts in which the demonstration might be viewed. First, the proposal can be viewed as a simple experiment designed to answer a single question: Is it possible, using the mechanisms Oregon would implement, to provide acceptable health care coverage to the poor, uninsured population without significantly raising costs to the taxpayer and to the health care system? Evaluating this question in the aggregate requires much less detailed data than evaluating the components and intermediate effects of the program, and the answer would be of interest to many researchers and policymakers. The danger of this approach is that as a research demonstration, its results could only be appropriately extrapolated in the aggregate. Other States could apply the results only if they, too, were willing to implement the total package that Oregon proposes.

A second question is even further from the traditional bounds of health services research: Is health care coverage based on prioritization of health care services, with open public input, politically sustainable? If, for example, program costs were higher than expected, would the legislature actually be able to reduce benefits or increase revenues to fund it? Or would the plan evolve over time into simply another version of the current system, in which neither eliminating specific treatments nor raising taxes becomes politically feasible, and the State must resort once again to limiting eligibility and provider payment? If these questions could be answered, implementation of the proposal maybe of interest to some policymakers despite its potential drawbacks as a health services research project.

## CONCLUSIONS

In designing its proposed Medicaid demonstration program and related changes to its health care system, the State of Oregon has achieved what few others have: a dramatic and comprehensive proposal to change the way health care is delivered that appears to be generally accepted by its residents and providers. The State has invested considerable resources into its unique Medicaid proposal. Many of the proposed changes have stimulated open public debate, and the lessons learned from the effort to develop a categorization of treatments and conditions are valuable ones. The State's explicit attempt to integrate and incorporate outcomes information and broad public input is especially notable.

The State believes that despite possible problems, the gains it anticipates from the proposal make the program worth trying. The immediate issue for the Federal Government, however, is not only whether the proposed changes should take place but whether Federal revenues should be used to fund them. Unlike the State, which is legitimately con-

18 Interestingly, this Provision has been codified in such a way as to imply that it might continue to apply to Medicaid providers even if the demonstration project does not go forward.

cerned primarily with the effects within Oregon, the Federal Government must consider the ways in which the information from the proposal might be useful to others. It must also consider the opportunity costs of funding Oregon's proposal relative to other possible uses for those funds.

Certain aspects of Oregon's proposal hold promise as a potential demonstration of ways that health care costs might be constrained or health care access improved. The proposal to include all Medicaid enrollees in some form of managed care, with an emphasis on various forms of prepaid care that grade the degree of financial risk to the size and experience of the provider, is intriguing. Many health care payers have looked to managed care to reduce costs without endangering health, and there would probably be considerable interest in the results of an experiment that tested comprehensive managed care for Medicaid beneficiaries. Oregon's past experience with managed care suggests that this State would be a reasonable location for such an experiment. The effect on provider participation of a changed method of payment likewise is of interest.

Expanding coverage to all poor persons is clearly a benefit of the proposal. This component of the proposal is both the most expensive and the most likely to yield positive results. Aside from the simple benefit to those involved, there are some solid reasons to test coverage expansion as an experiment; for example, such a study might shed additional light on the links between health insurance, health care access, and health status.

The move to simplify eligibility rules in conjunction with coverage expansion is also attractive, since it would be expected to increase program participation and reduce program expenditures relating to reviewing applications. However, the possibility that some pregnant women and young children might be ineligible for benefits under the new rules is a significant drawback of the demonstration as proposed, since it would almost certainly harm those affected. A simple remedy for this problem might be to increase the gross income eligibility level for pregnant women and children under age 6 applying to the program (e.g., to 150 or 185 percent of the Federal poverty level).

Despite the many positive aspects of these components of the program, OTA has some serious reservations about the overall demonstration project as proposed. The most troublesome aspects are the prioritized list and the lack of any minimum level below which benefits may not fall.

OTA has made no attempt to decide whether open ''rationing' of health care services is desirable, or unnecessary, or inevitable. However, OTA's analysis of Oregon's prioritization process and the resultant list of services suggests that if such a prioritization mechanism is adopted, classifying health care by general service categories and CT pairs in order to prioritize services is not an especially promising approach. The level of aggregation required by the CT pairs on Oregon's list means that treatments effective or ineffective for specific patients still cannot be adequately discriminated.

The prioritized list, while a potentially useful source of public opinion information to policymakers, would probably not be an effective internal cost-containment tool. The ranked list does enable overall program expenditures to be controlled by increasing or decreasing benefits. But the list itself does not necessarily encourage cost-efficient health care decisions to be made at the individual level. Diagnostic services, for example, are not prioritized; only existing review or management mechanisms (e.g., management practices of prepaid care providers) would limit their use. And despite the State's attempt to rank aggressive therapies for some diagnoses (e.g., cancer) low when patients are terminally ill, paradoxically the list does not preclude heroic procedures for these patients. A terminally ill patient would still be covered for last-minute life-saving therapies such as treatment for respiratory or cardiac arrest. This option would probably be desired by many patients, but it could not be expected to lower costs. In fact, assuming Oregon's estimates of the cost savings that could be expected from managed care are correct, managed care might have a much larger effect on internal cost control than the prioritized list.

A contribution of Oregon's extensive efforts is its demonstration that outcomes and cost-effectiveness data, while extremely valuable for certain purposes, are inadequate for use as the building-blocks of a ranking system of all services. More and better information on the outcomes of more health services would improve its usefulness, but it is unlikely that such information will ever be sufficiently comprehensive to enable all health care services to be objectively ranked. The value of such information lies in comparing the usefulness of

particular sets of services on the margin--e.g., for use in guidelines, quality-of-care screens, or deciding whether specific individual services should be covered and under what circumstances.

In fact, any comprehensive ranking system would, like Oregon's, need to rely on judgment- and value-based decisionmaking. Because such a list cannot be derived from scientific evidence on effectiveness, outcomes, and cost, and because the replicability of the public meeting and survey information is still open to question, Oregon's list would probably not be exactly reproducible in another State even if the identical process was undertaken. Agreement between two ranked lists might be similar at the bottom (since many people would agree that certain services are ineffective or futile), but differences might be much more substantial further up the list.

Oregon's intensive efforts to make public input a basis for detailed priority-setting demonstrate both the possibilities and the limitations of this process. The State successfully involved providers and consumers in a process to inform public decisionmaking regarding health care priorities. However, the validity of public input in any quantitative ranking is still subject to challenge. The use of public preference data to weight health outcomes has promise, but Oregon's experience suggests that this method is not sufficiently developed to use as the basis for a detailed ranking system ready for implementation.

The information from hearings and public meetings was clearly informative and useful in a ranking process that proved to be unavoidably subjective, but the meetings were not representative of the community despite the efforts of organizers. In fact, the level of effort Oregon undertook implies that proportional representation is probably not a standard possible to achieve under any system.

Any attempt to change the way benefits are defined will involve tradeoffs of gains and losses, and Oregon's proposal cannot be legitimately criticized on the grounds that there is a clear net loss to current beneficiaries. Current beneficiaries lose some current benefits, and a few would almost certainly be harmed in some way by this loss. But beneficiaries would also gain some new services under the demonstration, and they could still receive some uncovered services as charity care. At a benefit level set at line 587 on the prioritized list, the overall net effects of coverage changes on current Medicaid participants cannot be predicted with confidence.

If the benefit threshold changes and reduces the number of covered CT pairs, however, it would become more likely that the proposed program would result in net harm to the health of current beneficiaries. This finding is troubling because the related finding that demonstration costs may have been underestimated raises the likelihood that coverage would be cut during the course of the waiver. (Lower future funding itself would not necessarily mean that current beneficiaries would suffer net harm, because they might have lost some benefits under the current program as well. But lower future funding combined with relatively higher funding required to sustain the new proposal would increase the likelihood of net harm.)

In fact, the lack of a guaranteed minimum set of benefits below which coverage would not be allowed to fall is the most disturbing aspect of Oregon's proposal.[19] If program expenditures are higher than predicted, and if the passage of Ballot Measure 5 and internal budget priorities prohibit the State from making up the difference, the Federal Government would be faced with three possibilities. First, it could undertake to fund the difference out-of-pocket, covering Oregon's population at the expense of funding other health care experiments elsewhere in the Nation. Second, it could permit the benefit package to be cut, increasing the likelihood that Medicaid beneficiaries would be harmed by the demonstration. Third, it could withdraw or condition its continued approval and either modify the demonstration substantially or permit it to end, reducing the demonstration's usefulness for the purpose of research.

In summary:

1. Oregon's efforts to develop a proposal to make radical changes to its Medicaid program have yielded valuable information about the usefulness of outcomes data and public input in prioritizing services. The ranking process may also have value as a way to better inform policymakers and to enhance provider and

[19] In contrast, at present the Federal Government requires that States cover at least some mandatory benefits and populations in order to receive Federal funding.

patient awareness. Nonetheless, other States would not be well-advised at this time to rely on Oregon's particular CT-based prioritization method to categorize and rank services. The list itself cannot be applied in other settings with equivalent meaning. Also, the list discriminates poorly among effective services at the individual level, and it would probably not be ineffective internal cost-containment mechanism in FFS practice settings.

2. At a coverage level set at line 587, health care access under the proposed program would be improved for newly eligible participants and would not be clearly either better or worse for most current beneficiaries. Current beneficiaries would be more likely to be harmed if the number of covered CT pairs was reduced.
3. If implemented as proposed, the demonstration program may yield relatively little useful information about the different effects of service prioritization, comprehensive managed care, and comprehensive insurance coverage for the poor. A somewhat more modest experiment testing the effects of the managed care and coverage expansions alone would yield more specific information while providing most of the benefits of the current proposal. (The Oregon proposal in its entirety might still be valued as a political experiment, however.)
4. If the full demonstration is approved, some specific components deserve attention to ensure that the program is fully ready to implement. Examples include:
   - . The need for detailed instructions for providers on how to use the list;
   - . The need to reconcile hospital DRG-based billing, CT pairs, and covered diagnostic services;
   - . The need for more extensive baseline data for assessing program effects (particularly in the areas of utilization in the existing prepaid system, utilization and health status of the currently uninsured, and baseline health measures for specified subgroups of patients that could be significantly harmed if their treatments are not covered);
   - . The difficulties that public health clinics may face as they try to become part of the managed care system; and
   - • The possibility that some pregnant women and young children who would qualify for coverage under the current program would be ineligible under the proposed new eligibility rules.
5. Specifying a threshold below which coverage would not be allowed to drop and gaining greater confidence that Oregon could meet its financial responsibilities under the waiver would also improve the program's chances of success.

## Chapter 2

# Context of the Oregon Proposal

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## INTRODUCTION

Oregon's Medicaid proposal is the State's unique response to the changing health care system. This chapter will explore the context of the Oregon proposal by reviewing the State's demographic composition and health status indicators, the dilemmas of the Medicaid program, and the problem of an increasing uninsured population.

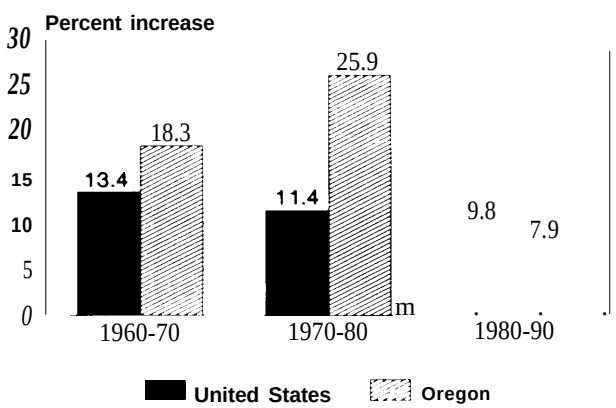
### *Population and Income*

In 1990 the State of Oregon had approximately 2.8 million residents (278). Most lived in the metropolitan areas in the western part of the State; more than 68 percent resided in the Portland and Salem county areas.

During the 1970s, the State underwent a major population increase, growing by 26 percent, but in the past decade growth has slowed dramatically (figure 2-l). The populations of Portland and Salem, however, continued to increase, by 23 and 33 percent, respectively, from 1980 to 1990.

Approximately 91 percent of the Oregon residents are white, much higher than the national rate of 76 percent (277). While Oregon has fewer minorities overall than the national average, it has a slightly larger proportion of Native and Asian Americans (figure 2-2)$_0$

**Figure 2-l—Resident Population, Percent Increase 1960-90**




DATA SOURCE: U.S. Department of Commerce, Bureau of the Census, *Statistical Abstract of the United States: 1991 (111th Edition)* (Washington, DC: U.S. Government Printing Office, 1991).

The median age of Oregonians is 34.5 years, higher than the U.S. average of 32.6. Oregon's proportion of young residents is about the same as in the country as a whole (25 percent under age 18), but the State has a higher proportion of elderly residents (14 vs. 12 percent age 65 and over in Oregon and the United States, respectively) (278).

In 1989, Oregon's median household income was higher than the national average ($30,003 vs. $28,910) (280), while per capita personal income in both current and constant dollars was slightly less than the national average ($13,422 vs. $14,948 in current dollars) (283). Oregon's average annual growth of personal income between 1988 and 1989 was slightly higher than the national average (4.7 vs. 2.9 percent), but it was lower throughout most of the 1980s.

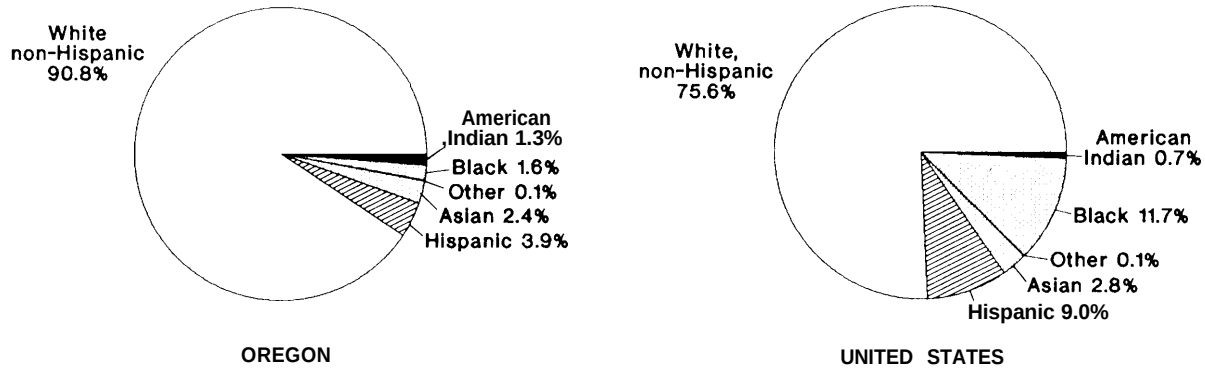
Over the 3 year period 1988-90, Oregon averaged 10,3 percent of persons in poverty, substantially lower than the U.S. average (13.5 percent in 1990) (282),

### *Health Status and Resources*

By most measures of infant health, Oregon babies are slightly better off than babies nationwide. Compared with U.S. figures, Oregon has lower rates of low-birth-weight infants, inadequate prenatal care, and infant mortality (16 1). The number of teenage pregnancies in Oregon is also relatively low (11.4 per 1,000 live births to women under age 20, ranking 25th in the Nation), although it has been increasing recently, reversing the trend of the early 1980s (161).

Overall mortality rates (adjusted for differences in age distribution) are also slightly lower in Oregon than the national average. (Unadjusted mortality rates are higher, since the population of Oregon has fewer young adults (18 to 24 years old) and more adults over age 65 than the national average) (278). Oregon, however, has a higher (unadjusted) mortality rate for cerebrovascular disease, cancers, several vascular disorders, and suicides. Some of Oregon's statistical advantage in health status indicators may be due to its low proportion of racial minorities.

**Figure 2-2—Percent Distribution of Population by Race/Ethnicity, Oregon vs. United States, 1990**




DATA SOURCE: U.S. Department of Commerce, Bureau of the Census, "Census Bureau Completes Distribution of 1990 Redistricting Tabulations to States." press release, Washington, DC, Mar. 11, 1991.

Membership in a racial or ethnic minority in the United States is associated with poorer overall infant health measures and higher mortality rates associated with AIDS/HIV (acquired immunodeficiency syndrome/human immunodeficiency virus), cancer, diabetes, liver cirrhosis, and cardiovascular disease (151,152).

Oregon has fewer hospitals and physicians per capita than the national average. In 1990, the State had 268 hospital beds per 100,000 residents, with an occupancy rate of approximately 64 percent (6,209). By comparison, the United States averaged 353 hospital beds per 100,000 persons and had an average occupancy rate of 69.6 percent (6,209). Oregon had 220 physicians per 100,000 individuals (approximately one practicing physician per 455 Oregonians), compared with the national average of 240 physicians per 100,000 residents. About 80 percent of Oregon's hospital beds, and about 80 percent of its practicing physicians, are located in metropolitan areas (188).

## MEDICAID IN THE UNITED STATES AND OREGON

The Medicaid program was instituted to fill the gaps of private health insurance by protecting vulnerable populations otherwise unable to afford coverage. The program is jointly funded by Federal and State governments; however, each State administers its own program within Federal guidelines.

### *Eligibility*

Medicaid originally covered certain "categorically eligible' low-income groups: women and children receiving Aid to Families with Dependent Children (AFDC) and poor aged, blind, and disabled persons receiving Supplemental Security Income (SSI). Reforms in eligibility standards for Medicaid since 1984 have broadened the population qualifying for coverage (table 2-1). Federal rules now require States to extend Medicaid eligibility to pregnant women and children under age 6 with incomes up to 133 percent of the Federal poverty level. Children born after September 30, 1983 who are over 6 years old are eligible if their family incomes are up to 100 percent of the Federal poverty level. Thus, by 2002, all poor children under age 19 with incomes up to the Federal poverty level will be covered. States must also extend coverage to families in AFDC-Unemployed Parent (AFDC-UP) programs, which provide welfare for two-parent families with one unemployed parent. States have the option of expanding coverage to pregnant women and infants up to age one with incomes up to 185 percent of the Federal poverty level.

The current Medicaid program in Oregon covers the mandatory populations: aged, blind, and disabled individuals receiving SSI, AFDC families, pregnant women and children under 6 years old with incomes less than 133 percent of the Federal poverty level, and families with unemployed parents receiving AFDC. It also covers the optional ' 'medically needy' population of children under 18 and

**Table 2-I-Summary of Recent Federal Medicaid Mandates**

| Year | Legislation and description |
|---|---|
| 1984 | *Deficit Reduction Act (Public Law 98-369)*<br>• Expanded coverage to include all pregnant women qualifying for Aid to Families with Dependent Children (AFDC) and all children 5 and under with family income up to AFDC levels. |
| 1986 | *Omnibus Budget Reconciliation Act (Public Law 99-272)*<br>• Eliminated categorical restrictions for pregnant women.<br>• Allowed States to cover pregnant women and children up to age 5 with incomes up to 100 percent of the Federal poverty level.<br>• Instituted "presumptive eligibility:" temporary coverage for prenatal care. |
| 1987 | *Omnibus Budget Reconciliation Act (Public Law 100-203)*<br>. Allowed States to extend coverage to pregnant women and infants with incomes up to 185 percent of the Federal poverty level.<br>• Allowed States to cover children under 5 up to the poverty level, with phase-in coverage for children under 8 in poverty.<br>. Instituted nursing home reform requiring States to:<br>1. Determine level of care for each patient,<br>2. Improve nursing aide training,<br>3. Institute pre-admission screening for mentally ill and mentally retarded patients, and<br>4. Comply with Federal standards. |
| 1988 | *Medicare Catastrophic Coverage Act (Public Law 100-360)*<br>• Required States to pay Medicare premiums, deductibles, and repayments for qualified Medicare beneficiaries whose income is up to 100 percent of the Federal poverty level and whose resources are up to two times the Supplemental Security Income level.<br>. Instituted "spousal impoverishment" plan to protect the savings of noninstitutionalized spouses.<br>. Mandated Medicaid coverage of pregnant women and infants up to age 1 with incomes below 100 percent of poverty by July 1990.<br>*Family Support Act (Public Law 100-485)*<br>• Required States to continue covering families losing AFDC benefits as a result of increased income for 12 months.<br>. Made AFDC-UP, coverage for two-parent families with one unemployed parent, mandatory. |
| 1989 | *Omnibus Budget Reconciliation Act (Public Law 101-239)*<br>• Required States to extend Medicaid to all pregnant women and children born after September 30, 1983 up to age 6 with incomes up to 133 percent of the Federal poverty level, superseding the Medicare Catastrophic Coverage Act.<br>• Set requirements for Early and Periodic Screening, Diagnostic, and Treatment Services (EPSDT), Medicaid's preventive care program for children under age 21. |
| 1990 | *Omnibus Budget Reconciliation Act (Public Law 101-508)*<br>. Required States to gradually extend coverage to all children born after September 30, 1983 until they reach age 19 in families with incomes below poverty.<br>• Required States to pay Medicare premiums for qualified Medicare beneficiaries with income levels between 100 and 110 percent of poverty by January 1993; the income level rises to 120 percent of poverty in January 1995.<br>. Allowed States to institute limited coverage for home care of elderly persons who would otherwise be institutionalized and also fund home and community-based services for mentally retarded persons. |

SOURCE: Office of Technology Assessment, 1992,

pregnant women who "spend down" into poverty due to high medical bills. The State does not cover the optional category of pregnant women and infants with incomes between 133 and 185 percent of the Federal poverty level.

The population concentration of Oregon is reflected in the Medicaid population. Of the more than 150,000 projected Medicaid enrollees for FY 1993, fewer than one-third live in rural, nonmetropolitan counties (182).

## *Benefits*

Under Federal rules, all States must provide a standard benefit package to the categorically needy (those receiving AFDC and SSI benefits) that includes: physician services, x-ray and laboratory services, inpatient and outpatient hospital services, family planning, home health care and skilled nursing facilities for adults, rural health clinic services, nurse-midwife services, and Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) serv-

**Table 2-2—Mandatory and Optional Services Covered by the Oregon Medicaid Program, 1991**

**Mandatory Services**
- Inpatient hospital services
- Outpatient hospital services
- Physician services
- Early and Periodic Screening, Diagnosis, and Treatment services for children under age 21
- Family planning services and supplies
- Laboratory and x-ray procedures
- Skilled nursing facility and home health care services for adults (i.e., 21 years and older)
- Rural health clinic services
- Services of certified nurse-midwives and pediatric and family nurse practitioners
- Service of federally qualified health centers receiving funds under sections 329, 330, or 340 of the Public Health Service Act

**Optional Services Covered by Oregon**
- Case management
- Additional home health services
- Services of other licensed practitioners, including psychologists, chiropractors, optometrists, podiatrists, and naturopaths
- Clinic services
- Other diagnostic, preventive, and rehabilitative services
- Prescription drugs
- Intermediate care facility services for mentally retarded persons
- Eyeglasses, prosthetic devices, and orthopedic shoes
- Private duty nursing
- Inpatient psychiatric care for those under age 21 and care in institutions for mental diseases for adults aged 65 or eider
- Physical, occupational, and speech, hearing, and language disorder therapies
- Other medical or remedial care recognized under State law, including personal care in the home, transportation and emergency services, home and skilled nursing facility care for those under age 21, and respiratory care services
- Home or community-based services under a waiver
- Respiratory care services for ventilator-dependent individuals
- Services for persons aged 65 or eider in a mental institution
- Transplant services (Oregon limits transplants to cornea and kidney for adults; for those under 21, Oregon rovers a professionally determined range of nonexperimental transplant services)
- Additional services for pregnant women: needs assessment, case management, nutritional counseling, and home services

**Optional Services Not Covered by Oregon**
- Dental care for adults
- Hospice services
- Preventive screening services for adults
- Christian Science nurses
- Organ transplants for adults (other than cornea and kidney)

a To the extent they are authorized to practice under State law or regulation.

SOURCES: U.S. Department of Health and Human Services, Health Care Finanang Administration, Division of Intergovernmental Affairs, *Medicaid Services State by* State, HCFA Pub. No. 02155-90 (Washington, DC: U.S. Government Printing Office, October 1990); Oregon Department of Human Resources, Office of Medical Assistance Program, Salem, OR, "Medicaid and the State of Oregon Medical Assistance Programs," (OMAP3061), January 1991.

ices for children. States that cover the medically needy[1] must also provide a benefit package for this group that at minimum includes prenatal care and delivery for pregnant women and ambulatory care for children. States may supplement the standard packages with an array of optional services.

In 1990, Oregon provided all mandatory services and an additional 27 optional services (out of a possible 31). Of the 27, 22 were provided for both categorically and medically needy recipients. Oregon did not cover screening services, nursing facilities for individuals over 65 in mental hospitals, Christian Science nursing, or hospice care (table 2-2). The State currently covers prescription drugs only for SSI medically needy adults (177).

## *Program Costs and Spending*

Nationally, approximately 45 percent of Medicaid funding comes from the States, with the remainder provided by the Federal Government. By law, individual States contribute from 17 to 50 percent of their programs' expenditures for services, depending on the State's per capita personal incomes. In fiscal year (FY) 1991, 17 States contributed the maximum match of 50 percent, and 14 States contributed less than 30 percent (287). Oregon's anticipated 1992-93

[1] The medically needy are individuals who are eligible for medical, but not financial, assistance (287).

State contribution will be 37.6 percent, or $278 million, a slight increase from its 1991 total of 36.5 percent (8,165).

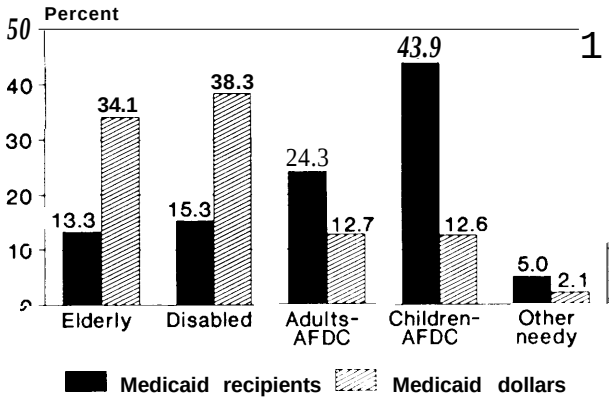
Medicaid program costs, following national health spending trends, have increased dramatically over the last 20 years in all States. Increases have been a result of both program expansions and health care cost inflation. Since FY 1987, total Medicaid expenditures have risen a minimum of 10 percent annually (291). Total Medicaid spending in the Nation, excluding administrative costs, was more than *$68* billion in FY 1990, a growth of almost 20 percent from FY 1989 (291). State Medicaid funding grew 13 percent from 1988 to 1989 and 18 percent from 1989 to 1990. In Oregon, State Medicaid spending increased almost 19 percent from 1989 to 1990 (290).

One of the consequences of these increases is that States have had difficulty predicting the programs' costs accurately (147). In FY 1990, 26 States, including Oregon, overspent their allotted Medicaid budgets by $662 million (97). In FY 1990, total Medicaid expenditures in Oregon increased to nearly $541 million, of which approximately $200 million was State-funded (290).

In 1991, Medicaid expenditures accounted for almost 14 percent of the States' budgets nationwide. Compared with this average, Oregon spent a relatively low proportion of its budget on Medicaid—slightly over 9 percent (147). This spending covered services for approximately 227,000 State Medicaid beneficiaries. Oregon's average program cost per Medicaid beneficiary was $2,283, lower than the national average of $2,568 (290).

Despite federally mandated eligibility expansions that have increased coverage for pregnant women and children, a large portion of program spending continues to be consumed by other beneficiaries. The difference in spending for different groups of beneficiaries is largely explained by Medicaid's major role in funding long-term care. Over 45 percent of nursing home care in 1990 was funded by Medicaid. Persons aged 65 and over constituted 13 percent of the program's population but consumed over 34 percent of Medicaid dollars. From 1980 to 1990, long-term care spending increased by 10 percent, or $8.2 billion (207). In 1990, Oregon's

**Figure 2-&Medicaid Recipients' Share of Medicaid Spending, by Recipient Group, 1990**




**NOTE: Percentages may not equal exactly 100 due to rounding error.**
**DATA SOURCE: U.S. Department of Health and Human Services, Health Care Financing Administration, HCFA 2082 data from the *Statistical Report on Medical Care: Eligibles, Recipients, Payments* and *Services*, Section D (2), Eligibles for Medical Care by Age, Race/Ethnicity, and Sex, Baltimore, MD: Health Care Financing Administration, Dec. 24, 1990.**

proportion of Medicaid expenditures spent on long-term care was slightly higher than the national average (40.9 vs. 38.6 percent) (290). Children in the United States, for example, received less than 13 percent of total (Federal/State) Medicaid dollars in 1990, while they made up almost 44 percent of the Medicaid population (figure 2-3).

### *State Responses*

States have resorted to a variety of measures to offset program expenditure increases resulting from Federal mandates, health care **cost** inflation, and other sources. Some have reduced optional benefits and optional enrollee categories. For example, Oregon eliminated all dental services for adults in 1991 due to budget constraints. Another common cost reduction strategy has been to freeze or lower reimbursement to providers. Upon 1981 changes in the Federal Medicaid rules (Public Law 97-35), for example, most States replaced their cost-based retrospective hospital payment systems with some form of prospective reimbursement.[2] Broader use of alternative delivery systems (e.g., those using some form of managed care) also has become a common strategy to constrain spending. By 1991, 47 States used a prospective payment system for Medicaid hospital services, and 23 States had implemented

[2] In nearly half of these States, a method based on diagnosis-related groups (DRGs) is used **(103). Oregon, as well as 20 other States, reimburses** based on these diagnosis-specific, prospective rates (207).

some form of prepaid managed care, covering nearly 900,000 beneficiaries (207,217).

A decade of payment controls has led to low Medicaid reimbursement for many services. In Oregon, for example, hospitals received only 59 percent as much for services rendered to Medicaid patients as they received under Medicare in 1990 (the second lowest rate in the country after Illinois (207). The so-called Boren Amendment provision of the Omnibus Budget Reconciliation Act of 1981 (OBRA 1981, Public Law 97-35), however, requires that hospitals and nursing homes be paid "reasonable and adequate rates. ' As of April 1991, providers in 21 States had sued for inadequate reimbursement.

The Oregon Association of Hospitals brought suit against the State of Oregon in 1991. The two parties reached an out-of-court settlement in which the State agreed to pay approximately $64 million over a 2-year period to compensate for underpayment of inpatient services provided to Medicaid patients (156,157). About $24 million (36.6 percent) of the settlement will come from State funds, in accordance with the State's matching rate for Medicaid program funding.

States have also commonly imposed limits on covered benefits as a means of controlling costs. These limits may be in the form of either copayments for services, caps on the number of physician visits or days of hospitalization, or the need for prior authorization for certain services. Twenty-two States, including Oregon, require prior authorization for procedures such as organ transplants and hemodialysis (203). Several States have at one point limited office visits, home visits and emergency room visits for nonemergencies. As of 1985, 35 States (not including Oregon) had used some form of cost sharing (primarily copayments for prescription drugs).[3]

In addition to these widely used strategies for program cost control, some States have cut back optional services and eligibility categories to reduce budget deficits. A survey of 32 States found that 6 States made both expansions and reductions in their Medicaid programs for FY 1992. Eight States reduced services and/or eligibility, 11 States expanded services and/or eligibility, and 7 States made no changes (8). Illinois, for example, eliminated its Aid to Medically Indigent Program, which was completely funded by the State. Maine lowered its medically needy income limit from 133 to 100 percent of the Federal poverty level and also reduced the income limit for AFDC recipients (8,66). In Oregon, the State cut coverage for nonpregnant, AFDC-related adults under their medically needy program and reduced coverage for medically needy-SS1 adults by restricting coverage to prescription drugs only.

Several States have recently proposed even more dramatic changes in their Medicaid systems. The State of Maryland, for example, will soon require all Medicaid recipients to have a personal primary physician. This program is an effort to extend access to preventive measures and limit the use of emergency facilities for routine care (82).

To complement their attempts at cost control, States have also tried to increase their Federal Medicaid resources. Some States, for example, have augmented their Medicaid funds through the collection of ''voluntary contributions' and provider taxes. By applying such funds to the State share, States have been able to secure more Federal matching funds. In some States, providers that contributed regained some or all of their contributions in the form of increased Medicaid reimbursement (225, 226). The Federal and State governments reached an agreement in November 1991 that eliminates Federal matching funds for most provider donations and provider-specific taxes (225,226).

Governors have also asked for some lenience in complying with the Federal mandates. In February 1991, the National Governors' Association (NGA) asked for a 2-year delay in implementing the changes from OBRA 1990 to give States sufficient time "to assess the depth of the recession and the opportunity to develop long-term solutions for the restructuring of the Medicaid program' (101). NGA also resolved that the Health Care Financing Administration (HCFA) must publish final regulations before States should be required to implement changes.

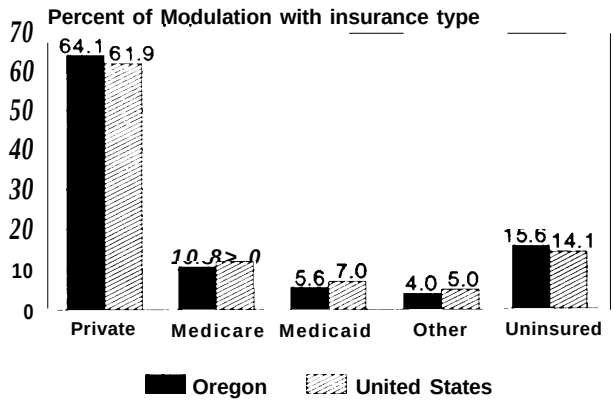
## THE UNINSURED

### *The Problem*

For all of its rising costs, Medicaid has not solved the problem of ensuring that Americans have financial access to health care. According to current

[3] Some small cost savings have been realized, but there is no evidence regarding cost sharing's effects on utilization (103).

**Figure 2-4-Health Insurance Status, Oregon vs. United States, 1990**




SOURCE: S. Raetzman (cd.), *Reforming the Health Care System: State Profiles 1990* (Washington, DC: American Association for Retired Persons, 1991).

estimates, the uninsured population in the United States in 1990 increased to 34.7 million, up from the 1989 estimate of 33.4 million (279,281). While there has also been an increase in the proportion of the population receiving Medicaid (from 8.6 percent or 21 million people in 1989 to 9.7 percent or 24 million in 1990), many poor people still lack insurance coverage.

Nonetheless, 59 percent of the Americans that lack insurance coverage are employed or dependents of employed persons (279). Many of the uninsured workers are either self-employed or work for small companies with fewer than 25 employees (60). Other uninsured individuals lack coverage because of preexisting conditions and their inability to either qualify or pay for private coverage. About 14 percent of all children aged 17 years old and under lack any form of health insurance coverage (279).

The rising number of uninsured persons has become a prominent issue in the national health care debate. Existing proposals for providing and funding their care include such ideas as expanding public programs, tax break options, universal access to health insurance or services, and an employer-mandated ''pay-or-play' system (26,49,61,65). Increased coverage, however, will probably increase costs further. Some observers have suggested that eventually the United States must ration services to reduce health care spending (l), although not all share this view (126,214).

Oregon has reason to reflect the national mood of concern. In 1988, the most recent year for which equivalent data are available, Oregon's rate of uninsured persons was higher than the national average (15.6 vs. 14.1 percent) (figure 2-4). Oregonians are more likely to be covered by private insurance, but they are slightly less likely to be covered by Medicare or Medicaid than are U.S. residents in general (209).

Oregon estimates that at present approximately 400,000 to 450,000, or 16 percent, of its residents lack any health insurance coverage (177) . Approximately two-thirds of these uninsured persons are employed (or dependents of employed persons) and one-third have incomes that fall below the Federal poverty level. A 1986 study of uninsured individuals in Oregon determined that the typical uninsured Oregonian was a female, single parent, poorly educated, and employed in retail or service for a small, non-union company (199).

Concern for the uninsured population stems from some evidence that lack of insurance decreases health care access (71). For example, Hadley et al. determined that an individual's condition on hospital admission, use of resources during hospitalization, and likelihood of death all varied according to health insurance status (71). In this study, uninsured people were more likely to be admitted for conditions with a relatively high expected risk of death and less likely to have discretionary procedures performed. Researchers have also shown that uninsured individuals have shorter average lengths of hospital stay and fewer physician visits per year (89,228).

A recent study has also associated newborns' insurance coverage with resource allocation in hospitals. Newborns without insurance received fewer services than Medicaid-covered newborns, who in turn received less care than privately insured newborns (22).

The tendency of those without insurance to delay treatment and to not receive preventive care may lead to poorer health outcomes in this population (50). Loss of Medicaid benefits has been shown to adversely affect both the access to care and the health status of poor adults with diabetes and hypertension (132). Although the evidence support-

ing the link between poorer health and uninsuredness is strong, it is not definitive.[4]

### *Barriers to State Solutions*

A few States have implemented ambitious programs to address the problems of their uninsured populations. Hawaii, for example, requires all employers to provide health insurance to their employees. Employees who work at least part time qualify and share the costs of their coverage (128). Hawaii has also developed a program for citizens who have fallen through the gap of the employer-based coverage and the Medicaid program. The State Health Insurance Program is subsidized by both the State government and private insurance companies. It provides care to approximately 30,000 individuals who are mostly dependents of low-income workers and seasonal workers (128).

In 1988, Massachusetts passed a universal health bill which included an employer mandate that would have required employers to provide insurance or pay into a fund for their workers. However, implementation of the law has been delayed and is in jeopardy of being repealed (20). Since 1990, about one-fifth of the States, including California, New Jersey, and Oregon, have begun to offer or have considered enacting tax credit programs to small employers providing coverage. In addition, almost 40 percent of the States have enacted high-risk pools for individuals who cannot obtain health insurance due to chronic illness or other ''preexisting" conditions (139).

Solutions for reducing the uninsured population such as these depend primarily on State financing. Increasingly, however, States have cited limited funds, their duty to maintain balanced budgets,[5] and overall fiscal distress as impediments to expanding such programs. Several factors have influenced the States' overall financial outlook. According to NGA and the National Association of State Budget Officers (NASBO), the Federal Government has decreased its aid to cities and States, which has placed a higher burden on the States to help local governments (147). NGA and NASBO also claim that many States used increased revenue from the mid-1980s to implement new programs; however, once revenue growth slowed in the late 1980s and 1990s, many States began to use reserves to fund ongoing programs.

In an effort to end FY 1991 with balanced budgets, 29 States cut almost $7.5 billion from their budgets. Oregon cut a total of $40.6 million (147). The total year-end balance for FY 1991, the amount of resources States have available at the end of the fiscal year, was at the lowest level since 1983 (147). The national total year-end balance as a percent of expenditures was 1.5 percent. Only 15 States, mostly concentrated in the mid- and far west, had balances of 5 percent or more, while 19 States had balances of less than 1 percent (147). Oregon was one of the 15 States with relatively large balances.

The national economy has been in a recession: unemployment rates have risen, personal income growth has slowed, and State balances are at an all-time low (147). According to NGA and NASBO, the recession has hit the Eastern States the hardest, while the Western States have been somewhat less affected (147). According to NGA and NASBO, Oregon leads the West in spending growth,[6] and personal income growth in that region continues to be the highest in the Nation. Nonetheless, NGA and NASBO conclude that decreases in the State ending balances "[place] all the States at an increased risk (for budget shortfalls) should the economic recovery be stalled for long" (147).

Oregon's funding problems may deepen as a result of a statewide referendum passed in November 1990. Ballot Measure 5 phases in a rollback of local property taxes over 5 years, and it requires the State to replace billions of dollars lost by local counties for school funds from the State's general fired. The referendum is expected to result in a tax loss of $540 million in the 1991-93 budget cycle, $1.7 billion in the 1993-95 biennium, and $2.9 billion in the 1995-97 budget cycle (185). The Governor's office expects the State to have $3.1 billion for all expenditures other than schools in the 1991-93 budget cycle, $2.6 billion in 1993-95, and $1.9 billion in 1995-97 (269).

Because of Measure 5, Oregon's tax burden will fall considerably. In FY 1989, Oregon ranked 22d in per capita tax collections ($1,806 in Oregon vs.

[4] An ongoing OTA study is examining the relationship between insurance coverage and access to care.

[5] Forty-nine States are required by their State constitutions to balance their budgets (147).

[6] Spending growth is defined here as an increase in the amount spent by States' general funds.

$1,888 *in the* United States). Under full implementation of Measure 5, Oregon's ranking will most likely fall to the bottom fifth of the Nation (185).

By law, the State of Oregon must balance its budget; therefore, the State must either cut the budget or increase taxes to compensate for the new obligation to replace local revenue losses. Since 84 percent of the State's general fund is already supported by personal income taxes, the passage of Measure 5 has encouraged discussion about restructuring Oregon's tax system, including instituting a sales tax (122).

### *Oregon's Efforts To Expand Health Care Access*

***In 1987,*** the Oregon State legislature voted to end Medicaid coverage for organ transplants, an optional service. These funds were intended to be used instead to cover another optional service-prenatal care for approximately 1,200 pregnant women and basic care for 1,800 children under the poverty level medical program (225).[7] Oregon's decision became highly publicized when two children were denied transplants. One infant's family moved out of the State to receive the transplant. The family of the other child, a 7-year-old boy with leukemia, attempted to raise the funds, but the child died before his family's efforts to raise $100,000 for the operation succeeded. (At the time of his death the boy was not medically eligible for the procedure (79,84,225 ).)

Following the transplant debate, Oregon Health Decisions (OHD), a nonprofit organization, held a series of 19 community discussions on priorities for health care.[8] A "Citizen's Parliament" summarized the results of the community deliberations and issued 15 principles that were then used to form lists of health services, ranked in order of importance, for 4 distinct age groups (i.e., infants, children, adults, and elderly). Another group, composed primarily of medical and legal experts, compiled the four lists into one prioritized list that was intended to inform "the State legislature, insurance companies, and others concerned with health care resource allocation' (186). A report including the list and accompanying actuarial estimates was submitted to the Oregon State legislature. This report and another report from the Governor's Commission on Health Care were the roots of the Oregon effort to reform health care.

Oregon's recent effort to extend health insurance coverage to its citizens is a compilation of several pieces of State legislation targeted at various groups of uninsured Oregonians. Several of the principles developed by the OHD's Citizen's Health Care Parliament are incorporated into this package of health care legislation.

The Health Partnership Act (Senate Bill (SB) 935) provides tax credits to small businesses that have not previously provided health insurance coverage to their employees. By 1995, all employers must either provide coverage to their employees or pay into a pool that would provide coverage. If 150,000 people gain insurance between 1989 and 1993, then employer coverage will remain voluntary. The State has committed to making health insurance more affordable to small employers through the Health Insurance Reform Act (SB 1076). Oregon also hopes to provide statewide health care cost data to providers through the Health Resources Commission Act (SB 1077).

Persons who do not qualify for Medicaid and cannot obtain insurance because of preexisting health conditions are covered under the State Health Risk Pool Act (SB 534), which mandates that coverage be available to these individuals at a premium rate no higher than 150 percent of the rate for other individuals.

Finally, the Oregon Medicaid Demonstration Act (SB 27) expands coverage to all individuals with incomes below the Federal poverty level by: 1) funding a prioritized list of medical services, 2) instituting managed care programs in all service areas, and 3) ensuring adequate payment to providers (177). This proposal, which requires Federal approval to qualify for Federal Medicaid matching funds, is the subject of the remainder of this report.

[7] See glossary for definition of poverty level medical.

[8] OHD had earlier conducted 300 community meetings throughout the State to discuss health care access, cost control measures, allocation of public funds, disease prevention and patient autonomy and dignity (43).

# Chapter 3

# The Prioritized List

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## INTRODUCTION

Central to Oregon's proposed Medicaid demonstration project is a list of 709 health services, prioritized by relative importance considering public preferences and values. The impetus to systematically prioritize health services can be traced to the public debate following the Oregon legislature's decision in 1987 to reallocate Medicaid funds away from expensive organ transplants that benefit relatively few and toward expanded access to prenatal care. With the passage of the Basic Health Services Act in 1989, the legislature committed itself to further expansions in access to health care, and set in place a process to ''rationally' define health benefits.[1]

Oregon's efforts to prioritize health services coincide with a new national focus on health care effectiveness and outcomes research. The U.S. Agency for Health Care Policy and Research (AHCPR), for example, is supporting medical outcomes research and health care guideline development in an effort to promote quality care and identify and limit use of ineffective services (295). While AHCPR is supporting focused research on particular conditions or treatments using traditional approaches (e.g., meta-analysis, analysis of geographic variation), Oregon's appointed Health Services Commission (HSC) used a novel approach to evaluate virtually all medical treatments in less than 2 years.

Understanding the strengths and weaknesses of Oregon's prioritization of health services is important because it represents the first attempt to broadly apply cost-effectiveness analysis to health resource allocation decisionmaking. A careful analysis of the process used to generate the list and of the "reasonableness' of the relative order of specific items on the prioritized list is important because under the demonstration, the Medicaid benefit ''package' could change during the demonstration-i. e., the coverage line initially set to include the first 587 conditions and their associated treatments could move up or down the list according to the availability of resources.

The remainder of this chapter is divided into five sections. The first section provides a detailed description of the HSC's prioritization process. The second section discusses the relative importance of various steps in the process. Section three provides a critique of the process and discusses its strengths and weaknesses. The fourth section focuses on the prioritized list itself and discusses its merits, irrespective of the process used to generate it. The final section summarizes OTA's findings and conclusions.

## THE PRIORITIZATION METHOD

As part of the Basic Health Services Act, a Health Services Commission* made up of health care providers and consumers was charged with preparing:

> . . . a list of health services[3] ranked by priority, from the most important to the least important, representing the comparative benefits of each service to the entire population to be served (Senate Bill [SB] 27).

The HSC was given little guidance on how to prioritize, but was directed to:

> . . . actively solicit public involvement in a community meeting process to build a consensus on the values to be used to guide health resource allocation decisions (SB 27).

The HSC completed its charge and on May 1, 1991 issued a prioritized list of 709 services, following nearly 2 years of deliberation. Several prioritization methods were considered by the HSC, and a preliminary list based on a cost-effectiveness approach issued in May 1990 reflected its work in progress.

---

1 Ch. 2 includes a discussion of the Oregon legislature's 1987 transplant decision and subsequent State activities that led to the inclusion of prioritization in the Basic Health Services Act.

2 The 11 HSC members responsible for developing the 1991 prioritized list included 5 physicians (including 1 doctor of osteopathy), 4 health care consumers, a public health nurse, and a social service worker. Members are appointed by the Governor and confirmed by the Senate.

3 A health service was defined as "an intervention related to a specific condition expected to maintain and/or restore an individual's health or well-being. Each health service listed is presumed to include all necessary ancillary and supportive services' (193). Health services include: provider services and supplies, in- and outpatient hospital services, and health promotion and disease prevention services.

The HSC used both formal (e.g., collection and evaluation of data) and informal (e.g., judgment calls) methods to rank order a comprehensive list of health care treatments. Six steps were used to create and rank the list:

1. The HSC, with input from health care provider groups, created a list of 709 "condition-treatment" (CT) pairs using diagnostic and procedure codes.
2. For each CT pair, the HSC gathered information on treatment benefits and costs associated with that pair.
3. The HSC ranked 17 categories of services (e.g., acute fatal, treatment prevents death and facilitates full recovery; preventive care for children) according to societal values elicited at public meetings. It used a group consensus method to reach agreement on the category rankings.
4. The HSC put each CT pair into one service category, considering such factors as the expected outcome given treatment and whether the condition was acute or chronic.
5. Within each category, CT pairs were ranked according to the expected net benefit of treatment.
6. Finally, in a line-by-line review, the HSC examined each CT pair's public health impact, treatment-related outcome and cost, and relation to health care values expressed at community meetings. Based on this review, the HSC selectively moved items up or down the list.

Each of these steps is described in detail below. To clarify Oregon's method, an example of a CT pair from the prioritized list is provided:

> . . . chronic otitis media (i.e., inflammation of middle ear) -eustachian tubes/tonsillectomy and adenoidectomy/tympanoplasty [ranked 355 of 709 CT pairs].

### *Step 1: Creating the List of CT Pairs*

Fifty volunteer provider groups[4] coupled disease and procedure codes[5] to generate an initial list of approximately 1,600 CT pairs to be ranked. Through the use of broad diagnostic and treatment groups, the HSC was able to reduce the original list of 1,600 CT pairs to 709 CT pairs, a selection of which is shown in box 3-A. (The full list is included in app. D.) CT pairs only include treatments because all medically reasonable diagnostic services would be covered under the demonstration.

In some cases, the HSC grouped disease codes together into one CT pair when treatment of different diseases were believed to have similar costs and outcomes. Conditions are usually broadly defined and include several specific ICD-9-CM codes.[6] For example, all forms of muscular dystrophy are included in one CT pair (line 506).

Treatments were also broadly defined. In fact, more than one-half (51 percent) of the CT pairs have the treatment specified as "medical therapy" or ''medical and surgical treatment. ' Medical therapy includes any non-procedure-related care, such as office care, general inpatient care, and ancillary services (120).[7]

Many conditions are listed multiple times with different procedures. Chronic otitis media, for example, is listed twice: once with specific procedures and again with medical therapy. The specific conditions and treatments included in the two CT pairs related to the care of chronic otitis media are shown in box 3-B.

### *Step 2: Gathering Information on Treatment Benefit, Duration of Benefit, and Cost*

For each CT pair, the HSC gathered information regarding:

. the expected net benefit of treatment,
• the duration of treatment benefit, and

[4] Provider groups represented most licensed practitioners in the State including, for example, the professional societies of dermatologists, surgical subspecialists, and acupuncturists (see table 3-9).

[5] The following coding manuals were used to identify conditions: *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD-9-CM); and the *Diagnostic and Statistical Manual of Mental Disorders, Third Edition* (DSMMD-3). *The Physician Current Procedural Terminology, Fourth Edition* (CPT-4) codes were used to identify treatments. The American Dental Association codes were used for dental conditions and treatments.

[6] ICD-9-CM codes classify clinical conditions and disease manifestations.

[7] Medical therapy includes ancillary services such as "hospital services, laboratory services, prescription drugs, radiology, medical supplies, therapies, vision and hearing services, medical transportation, case management, home health services, and hospice services, which are provided, if they are medically necessary to the treatment of the condition" (193).

### *Box 3-A—Examples of Condition-Treatment Pairs*

| Rank | Condition | Treatment |
|---|---|---|
| 1 | Pneumococcal pneumonia, other bacterial pneumonia, bronchopneumonia, influenza with pneumonia | Medical therapy |
| 50 | Acute myocardial infarction | Medical therapy |
| 100 | Injury to blood vessels of the thoracic cavity | Repair |
| 150 | Diabetes mellitus, Type I | Medical therapy |
| 200 | Diseases and disorders of aortic valve | Aortic valve replacement, valvuloplasty, medical therapy |
| 250 | Atrial septal defect, secundum | Repair septal defect |
| 300 | Congenital hydronephrosis | Nephrectomy/repair |
| 350 | Open wounds | Repair |
| 400 | Rheumatoid arthritis and other inflammatory polyarthropathies | Medical therapy |
| 450 | Deformities of foot | Fasciotomy, incision, repair, arthrodesis |
| 500 | Cancer of esophagus, treatable | Medical and surgical therapy |
| 550 | Dental services (e.g., insufficient room to restore tooth) | Restorative dental service |
| 600 | Absence of breast after mastectomy as treatment for neoplasm | Breast reconstruction |
| 650 | Oral aphthae | Medical therapy |
| 700 | Gynecomastia | Mastopexy |
| 709 | Anencephalous and similar anomalies and reduction deformities of the brain | Life support |

SOURCE: Oregon Health Services Commission "Prioritized Health Services List," Salem, OR, May 1, 1991.

. treatment-associated costs.

These three pieces of information were initially components of a cost-effectiveness formula used to rank CT pairs on a preliminary list. (The attempt to rank CT pairs by the cost-effectiveness formula is described in box 3-C.) The initial attempt to rank CT pairs according to cost-effectiveness was abandoned and only one component of the initial formula, the expected net benefit of treatment, was important to the final ranking methodology.

### Expected Net Benefit of Treatment

The HSC measured CT pair "net benefit" in terms of how treatment changes ''quality of life" for the typical patient within a CT pair. To assess treatment-related changes in quality of life, clinicians estimated the probability of dying or experiencing various ''health states" (i.e., symptoms or functional limitations) for patients treated and not treated for the specified condition. These estimates were then ''weighted' according to public opinions elicited from a telephone survey of Oregon residents. Information from clinicians and the public could be combined because they had as a common element a list of 29 health states. Clinicians described patient outcomes in terms of these health states an-d the public expressed their opinions about experiencing these same health states during the survey. A treatment's net benefit reflects both clinicians' estimates of treatment effects and consumers' perceptions of the desirability of experiencing those effects.

***Clinician Outcome Information--Groups*** of CT pairs were assigned to one of the 50 volunteer provider groups. These groups represented most State-licensed practitioners and included the professional societies representing physicians (e.g., internal medicine, dermatology, surgery and surgical subspecialties) and other practitioners (e.g., chiropractors, acupuncturists). For each CT pair, the provider groups estimated for two hypothetical cohorts-patients with and without treatment-the probability in 5 years of being in the following five states (the probabilities adding to 1):

1. Perfect health,
2. Morbidity state 1,
3. Morbidity state 2,
4. Morbidity state 3, and
5. Dead.

***Box 3-B—ICD-9-CM and CPT-4 Coding of Chronic Otitis Media Condition-Treatment (CT) Pairs***

| ***ICD-9-CM code*** and description | CPT-4 code and description |
|---|---|
| CT pair 355--Chronic Otitis Media | Eustachian tubes/ tonsillectomy and adenoidectomy/ tympanoplasty |
| 381.5: eustachian salpingitis<br>381.6: obstruction of eustachian tube<br>381.7: patulous eustachian tube<br>382.1:chronic tubotympanic suppurative otitis media<br>*382.2: chronic atticoantral* suppurative otitis media<br>382.3: unspecified chronic suppurative otitis media | 42820: tonsillectomy and adenoidectomy; under age 12<br>69400: eustachian tube inflation, transnasal; with catheterization<br>69401: same as 69400, but without catheterization<br>69405:eustachian tube catheterization, transtympanic<br>69410: focal application of phase control substance, middle ear (baffle technique)<br>69631: tympanoplasty without mastoidectomy (including canalplasty, atticotomy and/or middle ear surgery), initial or revision; without ossicular chain reconstruction<br>6%32: same as 69631, but with ossicular chain reconstruction, (e.g., postfenestration)<br>69633: same as 6%31, but with ossicular chain reconstruction and synthetic prosthesis (e.g., partial ossicular replacement prosthesis (PORP), total ossicular replacement prosthesis (TORP)) |
| CT pair 397--Chronic Otitis Media | Medical therapy |
| 381.5: eustachian salpingitis<br>381.6: obstruction of eustachian tube<br>381.7: patulous eustachian tube<br>382.1: chronic tubotympanic suppurative otitis media<br>*382.2: chronic* atticoantral suppurative otitis media<br>382.3: unspecified chronic suppurative otitis media | 90000-99999: all medicine CPT codes (excludes anesthesiology, surgery, radiology, and pathology and laboratory procedures) |

SOURCE: American Medical Association, *Physicians' Current Procedural Terminology, Fourth Edition, (CPT-4)* (Chicago, IL: AMA, 1990); Oregon Health Services Commission, Salem, OR, "Prioritized Health Services List," May 1, 1991; World Health Organization, *International Classification of Diseases, 9th Edition, Clinical Modifications* (Ann Arbor, MI: Edwards Brothers, Inc., 1980).

Providers described the three morbidity states using six *functional limitations* and 23 *symptoms* (box 3-D).[8]9 Children with chronic otitis media who undergo a middle ear procedure, for example, were assessed to have a much higher probability of being in perfect health in 5 years than untreated children (0.91 vs. 0.50), and to be less likely to experience functional limitations and symptoms (see box 3-E). Providers described this particular condition using one functional limitation (being limited in usual recreational activities) and two symptoms (having pain in ear or trouble hearing, and having trouble learning, remembering or thinking clearly).

***Public Opinion About the Functional Limitations and Symptoms—Public*** opinions regarding the health states (i.e., the six fictional limitations and 23 symptoms) were obtained through a random-digit-dialed telephone survey of 1,001 Oregon residents. Survey respondents were asked to imagine themselves to be *permanently* affected by the functional limitations or symptoms and to rate the

[8] The fictional limitations and symptoms were adapted from those on a quality of well-being instrument developed by R.M. Kaplan and colleagues (106).

[9] Providers could select up to one symptom and three functional limitations (one from each category—mobility, physical, social) for each morbidity state. If more than one symptom could be assigned to the morbidity state, providers selected the chief complaint associated with the condition.

### *Box 3-C--Prioritization Using a Cost-Effectiveness Formula*

A "cost-effectiveness" formula was used to order a preliminary prioritized list in May 1990:

C/(NB X D),

where C = treatment cost; NB = net benefit of treatment or the expected change in patients' "quality of life" with treatment; and D = expected duration of treatment benefit (in years).

Treatment Costs

Estimates of the costs associated with a given condition-treatment (CT) pair (e.g., hospital, ancillary services, pharmacy, etc.) were based on information from the Oregon Medicaid Management Information System. Clinicians provided additional cost data as needed. Cost estimates were usually intended to include those anticipated over the remaining life of the patient. For treatments without a lifetime benefit, costs were estimated for the expected duration of the treatment benefit (e.g., hip replacements confer a benefit for about 10 years). Each CT pair was assigned a cost, which was the midpoint of 1 of 14 cost ranges.

Treatment Net Benefit

A treatment's net benefit was estimated using clinical prognostic data and public opinions regarding a set of functional limitations and symptoms. (See description in text.)

Duration of Treatment Benefit

The duration of benefit was expressed in years. If a treatment had a lifetime benefit, the duration of benefit would be the remaining life expectancy (life expectancy was set at 75 years). If a treatment's effect was short-term, benefit duration was defined as the period until the next treatment would be required (e.g., hip replacements confer benefit for about 10 years). Provider panels estimated the median age range of diagnosis for each condition and the midpoints of the ranges were used in estimating duration of benefit.

Applying **the** Cost-Effectiveness Formula

The cost-effectiveness formula values for the "chronic otitis media-eustachian tubes/ tonsillectomy and adenoidectomy/tympanoplasty" CT pair areas follows:

| *Formula terms* | *Formula values* |
|---|---|
| Treatment cost (C) | $1,500 |
| Net benefit of treatment (NB) | .241 |
| Duration of treatment benefit (D) | *69 years* |

According to the formula, C /(NB X D), the value for "chronic otitis media--eustachian tubes/tonsillectomy and adenoidectomy/tympanoplasty" would be 90.20 (i.e., $1,500 per 16.63 quality-adjusted life years). The value 90.20 can be interpreted as the cost of adding 1 quality year of life associated with procedures for chronic otitis media.

SOURCE: **Office** of Technology Assessment 1992.

limitation/symptom on a scale from zero, which is "as bad as death," to 100, which represents ''good health."[10] Early in the interview, respondents were asked to rate a "best" health state described as "having no restrictions on movement or activity, and no health problems.''11 *Weights* for each symptom[12] were calculated as an average of the difference between ratings of the "best" health state and each symptom. If, for example, an individual rated the "best" health state as 90 and rated "trouble talking' as 72, the difference between the "best" health state and a health state including "trouble talking" would be 18 (i.e., 90 – 72). This value represents one individual's perception of the amount taken away from "best" health if he or she had trouble talking. The weights for each health state are shown inbox 3-D. (As shown in the box, the average ratings were divided by 100 so that they could be

[10] Symptoms were presented t. respondents one at a time, but functional limitations were presented in combination (e.g., respondents may have been asked to rate simultaneously having a mobility, physical activity, and a social activity functional limitation).

[11] Seventy-eight percent of respondents gave a value of 100 to the best health state.

[12] Functional limitation and symptom weights were calculated somewhat differently. Functional states were presented to the respondents in a nested format-respondents rated having three functional limitations, then two of the three, and then just one. The weight for functional state C, for example, was calculated by subtracting the value for having functional states A and B from the value of having functional states A, B, and C.

### *Box 3-D-Weights Associated With Functional Limitations and Symptoms Included on Oregon's Telephone Survey*

| Survey item | | Weight |
|---|---|---|
| Functional limitations | | |
| ***Mobility*** | | |
| M1. | Have to stay at hospital or nursing home | -0.049 |
| M2. | Cannot drive a car or use public transportation | -0.046 |
| ***Physical activity*** | | |
| P1. | Have to be in bed or in a wheelchair controlled by someone else | -0.560 |
| P2. | Have to use a walker or wheelchair under your own control | -0.373 |
| ***Social activity*** | | |
| S1. | Need help to eat or go to the bathroom | -0.106 |
| S2. | Are limited in the recreational activities you may participate in | -0.062 |
| Health states/symptoms | | |
| H1. | Have losses of consciousness from seizures, blackouts, or coma | -0.114 |
| H2. | Have a bad burn over large areas of your body | -0.372 |
| H3. | Have drainage from your sexual organs and discomfort or pain | *-0.325* |
| H4. | Have trouble learning, remembering or thinking clearly | *-0.367* |
| H5. | Have difficulty in walking because of a paralyzed or broken leg, but you have no other limitations on activity | *-0.253* |
| H6. | Have a painful or weak condition of the back or joints | *-0.253* |
| H7. | Have pain while you are urinating or having a bowel movement | *-0.299* |
| H8. | Have stomach aches, vomiting or diarrhea | *-0.370* |
| H9. | Experience a lot of tiredness or weakness | *-0.275* |
| H10. | Cough, wheeze or have trouble breathing | *-0.318* |
| H11. | Are often depressed or upset | *-0.326* |
| H12. | Have headaches or dizziness | *-0.305* |
| H13. | Have an itchy rash over large areas of your body | *-0.297* |
| H14. | Have trouble talking, such as a lisp, stuttering or hoarseness | *-0.188* |
| H15. | Have pain or discomfort in your eyes or vision problems that corrective lenses can't fix | *-0.248* |
| H16. | Are overweight or have acne on your face | *-0.215* |
| H17. | Have pain in your ear or trouble hearing | -0.217 |
| H18. | Are on prescribed medicine or a prescribed diet for health reasons | —[1] |
| H19. | Wear glasses or contact lenses | ***-0.055*** |
| H20. | Have trouble falling asleep or staying asleep | ***-0.248*** |
| H21. | Have trouble with sexual interest or performance | -0.276 |
| H22. | Can't stop worrying | -0.215 |
| H23. | Have trouble with the use of drugs or alcohol | -0.455 |

[1] The HSC assigned a value of 0 to this health state because it thought its use double-counted morbidity associated with conditions and because it did not consider taking medications a serious problem (243). The weight as calculated from the survey was -0.123.

SOURCE: Oregon Health Services Commission, Salem, OR, "Prioritized Health Services List," May 1, 1990.

## Box 3-E-Calculating Net Benefit Using the Example "Chronic Otitis Media—Eustachian Tubes/ Tonsillectomy and Adenoidectomy/Tympanoplasty'

| State | Without treatment | | | | | With treatment | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | P[a] | FL/S[b] | Weight[c] | QoL value[d] | QoL (P X value) | P[a] | FL/S[b] | Weight[c] | QoL value[d] | QoL (P X value) |
| 1. Death | 0.15 | — | -1 .000 | 0.000 | 0.0000 | 0.01 | — | -1.000 | 0.000 | 0.0000 |
| 2. Morbidity state 1 | 0.25 | S2 H4 | -0.062 -0.367 | 0.571 | 0.1428 | 0.05 | S2 H4 | -0.062 -0.367 | 0.571 | 0.0286 |
| 3. Morbidity state 2 | 0.10 | H17 | -0.217 | 0.783 | 0.0783 | 0.03 | H17 | -0.217 | 0.783 | 0.0235 |
| 4. Morbidity state 3 | — | — | — | — | — | — | — | — | — | — |
| 5. Perfect health | 0.50 | — | 0.000 | 1.000 | 0.5000 | 0.91 | — | 0.000 | 1.000 | 0.9100 |
| | | | ∑ (P x QoL value) | | 0.7211 | | | ∑ (P x QoL value) | | 0.9621 |

NOTE: Net benefit is the difference between the value of ∑ (P x QoL value) for patients with (.9621) and without (.7211) treatment, or .2410.

a p = probability of being instate.

b FL/S = functional limitation/symptom associated with health state (see box 3-D for description of health states).

c Weight = the weight the public assigns to the functional limitation/symptom. Can be interpreted as the amount taken away from perfect health (valued as 1 ) associated with the presence of a functional limitation/symptom. Weights for all telephone survey items are shown in box 3-D.

d QoL value = quality of life value = (1 + weight). When there is more than one functional limitation or symptom assigned to the state, weights are added before summing to 1. Can be interpreted as the value associated with the state on a scale from O (death) to 1 (perfect health).

SOURCE: Office of Technology Assessment, 1992, based on data from the Oregon Health Services Commission, May 1, 1991.

incorporated into the clinician outcomes data which were scaled from 0 to 1.)[13]

More detailed information on the conduct and analysis of the survey is provided in appendix C.

As shown in the example in box 3-E, the net benefit of treatment is the difference between the value of ($\Sigma$ (P x QoL Value)) for patients with and without treatment for chronic otitis media, or 0.2410 (i.e., 0.9621 – 0.7211). (See table footnotes for explanation of equation variables.) Net benefit can vary from zero, indicating no benefit of treatment, to 1, indicating that treatment results in changing a patient's status from death to perfect health.

### *Step* 3: *Ranking Categories of Health Services*

***The*** HSC used a group consensus method to rank 17 categories of health care services (e.g., preventive care for children, comfort care) (see box 3-F), taking into consideration values expressed at public hearings and community meetings.

#### Public Hearings

Between September 1989 and February 1990, the HSC heard testimony from approximately 275 people at 12 public hearings held throughout Oregon (191). The HSC was charged to solicit testimony from "advocates for seniors, handicapped persons, mental health services consumers, low-income Oregonians, and providers of health care" (SB 27). The Oregon Health Action Campaign (OHAC), a coalition of organizations, provided outreach, assistance in writing testimony, and transportation to the hearings in an effort to encourage low-income persons and others most likely to be directly affected by the legislation to testify at the hearings (204).

Health care providers and administrators made up approximately one-third of those testifying at the HSC public hearings (191). This group included naturopaths, chiropractors, nutritionists, homeopaths, physicians, massage therapists, social workers, nurses, and midwives. A diverse group of 125 consumers provided testimony at the HSC hearings, often as advocates for specific services, such as organ transplants. In addition, approximately 50 representatives of advocacy and special interest groups testified in the interests of renters, migrant workers, community groups, the elderly, the disabled, and a variety of other constituencies (191).

Many offering testimony recommended that specific services should receive high priority .14 The services most frequently mentioned by consumers and providers alike were:[15]

- Preventive health care (especially well-child care),
- Mental health care services,
- Prenatal care,
- Family planning,
- Dental care,
- Chemical dependency services,
- Primary care, and
- Care for chronic, nonacute conditions.

Major topics of discussion at the public hearings included (191):

- Financial barriers to health care,
- Special health service needs of minority populations,
- Need for higher provider reimbursement,
- Effective health care delivery (e.g., case management), and
- Need for broader Medicaid coverage to increase consumer choice of nonphysician providers (e.g., midwives, naturopaths, acupuncturists).

#### Community Meetings

In early 1990,47 community meetings were held throughout the State to discuss what types of health care Oregonians felt might constitute a common good (91).[16] The goal of the community meetings was 'to build consensus on the values to be used by the Health Services Commission to guide health resource allocation decisions" (SB 27).

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13 The average ratings were divided by 100 (rating assigned to perfect health) even though 22 percent of respondents gave lower ratings to the "best" health state. 'The HSC incorrectly reported that individual "best" health state scores (and not 100) were used in the denominator (193). The weights shown in box 3-D are expressed as negative values because they represent the amount associated with the condition that the public thinks should be subtracted from perfect health (score of 1).

14 Few participants indicated which services should receive low priority, though some stated that they thought there were expendable medical services.

15 Other mentioned services included: nutrition therapy and counseling; HIV/AIDS services; infertility services; abortions; treatment of morbid obesity; geriatric care; medical equipment and supplies, such as eyeglasses, dentures, and hearing aids; and prescription drugs.

16 At least one meeting was held in every county in the State.

### *Box 3-F—The 17 Service Categories Used in the Prioritization Process*

| Category | Description |
|---|---|
| ***"Essential" services*** | |
| 1. Acute fatal | Treatment prevents death with full recovery. *Example: Appendectomy for appendicitis.* |
| *2.* Maternity care | Maternity and most newborn care. *Example: Obstetrical care for pregnancy.* |
| *3.* Acute fatal | Treatment prevents death without full recovery. *Example: Medical therapy for acute bacterial meningitis.* |
| *4.* Preventive care for children | *Example: Immunizations.* |
| *5. Chronic* fatal | Treatment improves life span and quality of life. *Example: Medical therapy for asthma.* |
| *6.* Reproductive services | Excludes maternity/infertility services. *Example: Contraceptive management.* |
| *7. comfort care* | Palliative therapy for conditions in which death is imminent. *Example: Hospice care.* |
| *8.* Preventive dental care. | Adults and children. *Example: Cleaning and fluoride applications.* |
| *9.* Proven effective preventive care for adults | *Example: Mammograms.* |
| ***"Very important" services*** | |
| 10. Acute nonfatal | Treatment causes return to previous health state. *Example: Medical therapy for vaginitis* |
| 11. Chronic nonfatal | One-time treatment improves quality of life. *Example: Hip replacement.* |
| *12.* Acute nonfatal | Treatment without return to previous health state. *Example: Arthroscopic repair of internal knee derangement.* |
| *13. Chronic* nonfatal | Repetitive treatment improves quality of life. *Example: Medical therapy for chronic sinusitis.* |
| *Services that are "valuable to certain individuals"* | |
| *14.* Acute nonfatal | Treatment expedites recovery of self-limiting conditions. *Example: Medical therapy for diaper rash.* |
| *15.* Infertility services | *Example: In-vitro fertilization.* |
| *16. Less* effective preventive care for adults | *Example: Screening of nonpregnant adults for diabetes.* |
| *17.* Fatal or nonfatal | Treatment causes minimal or no improvement in quality of life. *Example: Medical therapy for viral warts.* |

*SOURCE:* Oregon Health Services Commission Salem, OR, "Prioritized Health Services List," May 1, 1991.

The community meetings were conducted for the HSC by Oregon Health Decisions (OHD), a nonprofit organization that since 1983 has organized community forums to discuss ethical issues related to health care, including the problem of allocation of scarce resources. Trained volunteers organized meetings, provided outreach and publicity, and served as facilitators at meetings. OHD attempted to ensure that community meeting participants were representative of their counties, and that those to be affected by SB 27 participated in the meetings (91).[17] Approximately 1,000 people attended 47 community meetings, where attendance ranged from 7 to 132 participants (on average, there were 20 participants).

Meeting participants were informed that the Oregon legislature had passed three new laws which would expand access to health insurance, but that:

17 Outreach took the form of English and Spanish language flyers, posters, press releases, and radio and television spots (259).

> . . . [while] many more people will be served, there may not be enough money to provide all the services that people may want. For this reason, the law requires that health services be ranked in order of importance. In order to do this the Health Services Commission has asked for your help in telling them what values are most important to you and society (91).

Community meetings followed a standard format that included viewing a slide show presentation,[18] completing a questionnaire designed to elicit health care values, evaluating certain types of treatment, and participating in group discussions.

The questionnaire presented eight theoretical health care situations, such as the following:

- After three heart attacks, a patient is getting worse despite taking several medications daily. An operation to put in a pacemaker would probably help the heart's rhythm but not the general condition of the heart, The day to day activities of the patient may improve.
- A heavy user of crack cocaine wants help for drug addiction. Immediate treatment will help stop use. A month of intensive in-hospital treatment and outpatient treatment for a year will help stop the alcohol and drug use for the long term.

Participants also classified as essential, very important, or important nine categories of care, such as ''treatment of conditions where the health care is likely to extend life by more than two years or to improve the person's quality of life, ' and ''treatment not likely to extend life or make any big improvement in quality of life."19

Group consensus on health care values (box 3-G) was achieved following these structured activities and group discussions (91).

HSC Group Consensus

The HSC ranked the 17 health service categories according to community health care values using a modified Delphi[20] method that included five steps (194):

1. Commissioners individually rated each health service category on a scale from 1 to 10 on each of three attributes:
   - value to the society,
   - value to an individual at risk of needing the service, and
   - whether the service is essential to a basic health care package.
2. Commissioners received a report stating where their individual responses fell within the distribution of group values.
3. Commissioners met to discuss how value judgments were made.
4. Commissioners reconsidered, and sometimes adjusted previously submitted individual responses.
5. Finally, Commissioners met and reordered some categories based on their best collective judgment.

### *Step 4: Placing CT Pairs in Service Categories*

***The*** HSC placed each of the 709 CT pairs within one (and only one) of the 17 service categories. Eight of the categories are service-specific and include CT pairs related to such services as children's preventive care or reproductive care. The remaining nine service categories are defined by whether the condition is fatal, whether it is acute or chronic, and whether the treatment prevents death, returns patients to previous health, improves life span, or improves quality of life. Commissioners classified CT pairs as acute or chronic and then applied an algorithm based on health outcomes information to initially place CT pairs into these nine categories. "Fatal" conditions, for example, were those that without treatment resulted in at least a 1 percent mortality rate. Full recovery was defined as ''at least 90 percent of those surviving with treatment are asymptomatic or with a treatment [benefit] value of at least 0.9. ' The 'chronic otitis media--eustachian tubes/tonsillectomy and adenoidectomy/tympano-

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18 The slide show detailed the purpose of the community meetings and described the potential reduction under the Oregon Basic Health Services Act in the number of uninsured residents. Also discussed was the current system of cost-shifting in which insured individuals absorb some of the costs of uncompensated care (91).

19 Participants were instructed to place three of the nine categories of care into each of the three classification (i.e., essential, very important, or important). The results of this exercise were not tabulated.

20 The Delphi technique is used to obtain the most reliable consensus of opinion from a group of experts, Consensus is achieved after an iterative process where group members offer written individual opinions, discuss group opinion, and then revise individual opinions (227).

***Box 3-G-Health Care Values Elicited at Community Meetings***

- Prevention—Preventive services such as prenatal care and childhood immunizations were unanimously agreed upon as essential.
- Quality of life--Services that enhance emotional and physical well-being, as well as extend life, were generally thought to increase quality of life and should receive higher priority than those that only extend life.
- Cost effectiveness-Cost-effective treatments were given high priority, although some community members disagreed that cost alone should be a primary determinant in prioritization.
- Ability to function—The importance of independence and ability to perform daily activities was mentioned at three-fourths of the community meetings.
- Equity—Equity was described as a fundamental belief that everyone should have equal access to adequate health care. Discussions of equity raised various objections to the prioritization process-many participants, for instance, thought that health care services should be available equally to all segments of society. There ***was*** support for increased Federal funding for health care services, and some advocated the establishment of a national health insurance plan. Other equity issues discussed included increasing access to treatment services in rural communities and universal access to health care for children.
- Effectiveness of treatment-Participants agreed that treatments with proven efficacy and those that improve quality of life should be prioritized over those less likely to have successful outcomes.
- Benefits many-Services that benefit many should receive higher priority than those for whom few benefit, according to participants.
- Mental health and chemical dependency—Prevention, including drug education, was more highly valued than treatment services. While mental health and chemical dependency services were frequently discussed at meetings, there was some ambivalence regarding society's obligation to provide substance abuse services. Some participants, for example, felt that treatment was appropriate only in cases where patients were "motivated to undergo treatment, " and that recidivism needed to be considered in cases of "repeat offenders. "
- Personal choice-Some community members expressed a desire for increased choice of type of providers, while others wanted more patient and family autonomy in making medical treatment decisions.
- Community compassion—Participants indicated that society is obligated to provide treatments and services that alleviate pain and suffering (e.g., hospice care).
- Impact on society-Treatments for infectious diseases and for alcoholism or drug abuse are examples of services that yield societal as well as individual benefit (discussed at approximately half of the community meetings).
- Length of life-Prolonging life was viewed as important, but a treatment's value is limited if extending life sacrifices quality of life.
- Personal responsibility-Personal responsibility was viewed as the individual's obligation to society to seek appropriate health education and treatment services, and to generally take responsibility for one's health. Individuals taking responsibility for their health should receive priority, and those whose illnesses are related to lifestyle, such as alcohol- and drug-related conditions, a low priority if health care services are rationed.

SOURCE: R. Hasnain and M. Garland, "Health Care in Common: Report of the Oregon Health Decisions Community Meetings Process," Oregon Health Decisions, Portland, OR, April 1990.

plasty" CT pair has a treatment-associated benefit value of *0.9621* (see box 3-E) and was placed in the service category ''chronic nonfatal, one time treatment improves quality of life. '

Following this initial assignment of CT pairs into categories, the HSC extensively reviewed category placement and selectively moved some CT pairs to other categories.

### *Step* 5: *Ranking CT Pairs Within Categories*

Within each category, CT pairs were ranked according to the treatment's net benefit (see step 2).

### *Step* 6: *Final Line-by-Line Review of CT Pairs*

The HSC conducted a line-by-line review of the list to identify CT pairs that might be appropriately moved up or down the list (i.e., either within its

**Table 3-I-Condition-Treatment (CT) Pair Rank by Category**

| CT pair category[a] | CT pair rank 1-300 | 301-587 | 588-709 | Total |
|---|---|---|---|---|
| | *Percent (count)* | | | |
| 1-9 | 79.2 (290) | 18.6 (68) | 2.2 (8) | 100 (366) |
| 10-13 | 3.6 (10) | 77.8 (214) | 18.5 (51) | 100 (275) |
| 14-17 | 0.0 (0) | 7.4 (5) | 92.6 (63) | 100 (68) |
| Total | | | | (709) |

[a] The HSC considered categories 1-9 to be "essential," categories 10-13 "very important," and categories 14-17 "valuable to certain individuals." Total percentages may not add to exactly 100.0 due to rounding error.

SOURCE: Office of Technology Assessment, 1992; based on 1991 data from the Oregon Health Services Commission.

category range or into another category range). In this final review, the HSC used professional judgment, its interpretation of community values, cost-benefit ratios, and cost alone to alter the order of CT pairs on the list.[21]

### *Defining "Basic Health Care"*

***While*** not required to do so, the HSC provided some guidance to the legislature on what health services it considered to constitute a ''basic" set of benefits. Basic health care was defined as "a floor beneath which no person should fall" (193). They categorized each service on the list as "essential,' ''very important,' or ''valuable to certain individuals" and recommended that all "essential" and most ''very important' services be covered (193).

The HSC, in its May 1, 1991 report, recommended that the legislature fund health services included in categories 1 through 9 (considered "essential") and most services in categories 10 through 13 (considered "very important"). CT pairs in categories 14 through 17 are considered "valuable to certain individuals but significantly less likely to be cost-effective or to produce substantial long-term gain" (193). The HSC defined "basic" health care from a societal perspective rather than from the individual's perspective and noted that:

> [W]hat is essential for the overall well-being of society may not meet the desires of specific individuals. Responding to the needs of both society and the individual may mean earmarking more funds for investment in Oregon's medical assistance programs than has previously been the case (193).

The legislature's decision to fund services through line 587 follows the coverage recommendations of the HSC. With the line drawn at *587,* covered services include all but eight "essential" CT pairs and most (81 percent; 224 out of 275) "very important" services. All but five CT pairs ''valuable to certain individuals' are listed below line 587 (table 3-l). An examination of the eight uncovered 'essential" services and the five covered "valuable to certain individuals" CT pairs shows that they probably represent CT pairs that were incorrectly placed in categories 1 through 9 or 14 through 17, respectively (box 3-H). Medical therapy for hepatorenal syndrome, for example, was placed in category 3 and was initially highly ranked on the unadjusted list (CT pair 166). However, this condition is regarded clinically by many as untreatable, and the HSC moved the CT pair down to line 606.

### *Future Changes to the Prioritized List*

***The*** HSC continually reviews health outcomes and effectiveness data and is to reissue a revised list every 2 years when the legislature meets. Technical amendments to the list could be made in the interim. New medical technologies or inadvertent omissions from the list could be added through such a process.[22] Mental health and chemical dependency services are to be incorporated into the 1993 prioritized list, and some services for the aged, blind, and disabled are expected to be incorporated.[23]

21 As part of this final step, each physician on the HSC was assigned about 200 CT pairs to review. The HSC reviewed the list and moved items up and down the list based on group consensus following a consideration of HSC clinician recommendations and community values (e.g., number who may potentially benefit, alleviation of pain and suffering) (120).

22 The HSC plans t. issue a revised list including technical amendments in May 1992. Any changes with significant cost implications require approval of the legislature or its emergency board (244).

23 The HSC plans to finalize an integrated list in summer 1992 (244).

**Box 3-H-Listing of the "Essential"[1] Condition-Treatment (CT) Pairs Moved Below Line 587 and CT Pairs "Valuable to Certain Individuals"[2] Moved Above Line 587**

| Rank | Category | Condition | Treatment |
|---|---|---|---|
| *"Essential" CT pairs that are not covered* | | | |
| 606 | 3 | Hepatorenal syndrome | Medical therapy |
| 607 | 5 | Other deficiencies of circulating enzymes (alpha 1-antitrypsin deficiency) | Lung transplant |
| 608 | 5 | Lethal midline granuloma | Medical therapy |
| 609 | 5 | Amyotrophic lateral sclerosis (ALS) | Medical therapy |
| 610 | 5 | Cancer of liver and intrahepatic bile ducts | Liver transplant |
| 687 | 2 | Intraventricular and subarachnoid hemorrhage of fetus or neonate | Medical therapy |
| 690 | 5 | Alcoholic cirrhosis of liver | Liver transplant |
| 691 | 5 | Non-Hodgkin's lymphomas | Bone marrow transplant (5-6 loci match) |
| *CT pairs "valuable to certain Individuals" that are covered* | | | |
| *352* | *14* | Pilonidal cyst with abscess | Medical and surgical treatment |
| 358 | 14 | Acute conjunctivitis | Medical therapy |
| 396 | 14 | Infective otitis externa | Medical therapy |
| 424 | 17 | Ophthalmic injury: Lacrimal system laceration | Closure |
| 434 | 14 | Body infestations (e.g., lice, scabies) | Medical therapy |

1 "Essential" CT pairs are those in categories 1-9 (see box 3-F).
2 CT pairs "valuable to certain individuals" are those in categories 14-17 (see box 3-F).

SOURCE: Office of Technology Assessment, 1992; based on 1991 data from the Oregon Health Services Commission.

# DETERMINANTS OF CT PAIR PLACEMENT ON THE PRIORITIZED LIST

As described in the last section, the 709 CT pairs were ranked first by service category and then by net benefit within category. The HSC then applied a ''reasonableness' test to subjectively reorder some CT pairs. This section presents analyses of CT-specific data (e.g., CT pair category assignment, net benefit values) to determine which steps of the prioritization process were most important in determining CT pair placement on the list. Finally, HSC data on such CT pair-associated characteristics as age and cost are used to describe the distribution of CT pairs on the list.

## *Effect of Adjustment of the List by the* HSC

The HSC reported that about *25* percent of CT pairs were moved from their ranked position on the list (i.e., after being ranked frost by category and then within category by net benefit) (35,244). Inspection of CT pairs as finally ordered (i.e., adjusted) and as ordered by category and net-benefit ranking alone (i.e., unadjusted) show that almost every CT pair shifted from its original position after adjustment. Furthermore, virtually no blocks of CT pairs remain contiguous on the adjusted list, suggesting that more than *25* percent of CT pairs were selectively moved.

***While*** a movement of one CT pair up the list shifts all CT pairs below its new placement down, this shift should often have been counterbalanced by movement of another CT pair down the list. Many of the CT pairs that were 'not selectively moved' should therefore have stayed in the same relative position. Table *3-2* shows the extent of CT pair movement resulting from adjustment. Fewer than one-half (47 percent) of CT pairs stayed within 25 lines of what would have been expected if the ranking procedure had been used without adjustment. Nearly one-quarter (24 percent) of CT pairs moved at least 100 lines up or down the list following adjustment.

Factors strongly associated with the movement of CT pairs were:

- *Category--The* most extreme movements occurred in categories 1 through *9* (essential)[24] and 10 through 13 (very important) .[25] CT pairs in categories 14 through 17 (valuable to some) tended not to move; more than three-quarters (78 percent; 52 out of 67) of category 14 through 17 CT pairs stayed within 25 lines of the unadjusted ranked position. Only five category 14 through 17 CT pairs shifted up to

*24* Two-thirds (68 percent; *62 out* of 91) of CT pairs moved down 100 or more lines are in categories 1 through 9.

25 Two-thirds (67 percent; 48 out of 72) of CT pairs moved up 100 or more lines are in categories 10 through 13.

**Table 3-2—Effect of List Adjustment on Location of Condition-Treatment (CT) Pairs***

| Final adjusted CT pair position relative to unadjusted position | Percent (number) of CT pairs |
|---|---|
| Moved down 100 or more lines | 12.9 (85) |
| Moved down 50 to 99 lines | 5.8 (38) |
| Moved down 25 to 49 lines | 5.0 (33) |
| Moved down 1 to 24 lines | 18.0 (119) |
| Not moved | 1.7 (11) |
| Moved up 1 to 24 lines | 26.8 (177) |
| Moved up 25 to 49 lines | 9.7 (64) |
| Moved up 50 to 99 lines | 9.5 (63) |
| Moved up 100 or more lines | 10.6 (70) |
| | 100.0 (660) |

NOTE: Based on analysis of 660 CT pairs; net-benefit value missing for 49 CT pairs.

a Movement of CT pairs from the position expected if ranking followed category placement and net benefit. If the adjusted position is 100 and the unadjusted position was 50, for example, the CT pair is said to have moved down 50 lines.

SOURCE: Office of Technology Assessment, 1992; based on 1991 data from the Oregon Health Services Commission.

line 587 or above to be covered, and only eight category 1 through 9 CT pairs shifted down to below line 587 to the uncovered range. These 13 CT pairs are shown in box 3-H.

- Cost[26]—Most CT pairs (60 percent; 15 out of 25) associated with the highest costs (i.e., $100,000 or above) moved down the list at least 100 line spaces following adjustment. CT pairs associated with the lowest costs (i.e., less than $1,000) were more likely to move up than down (62 percent moved up; 35 percent moved down; 3 percent did not move).
- Age[27]—Nearly two-thirds (64 percent) of CT pairs that were moved down 100 or more lines affected adults (ages 19 to 70), while over one-third (35 percent) affected children or infants.[28] Nearly two-thirds (61 percent) of the CT pairs that moved up at least 100 lines affected primarily young and middle-aged adults (ages 19 to 55).

If ranking had been without HSC adjustments, 30 uncovered CT pairs would have been covered and 30 covered CT pairs would not have been covered given the line 587 cutoff point determining the initial benefit package (box 3-I). Changes in coverage would be more extensive if the coverage line were higher. At line 500, for example, 102 CT pairs change coverage status (i.e., 51 would shift above and 51 would shift below line 500).

## *Determinants of Final Placement of CT Pairs on the List*

OTA examined the relative roles of category placement, net benefit values, and the judgments of the HSC in determining the final order of CT pairs on the prioritized list.

***Category Placement--Figures*** 3-la and b show the relationship between the ranked position (1 through 709) and CT pair category placement for the unadjusted and final adjusted list, respectively. Figure 3-la shows a step-like pattern because on the unadjusted list, all category 1 CT pairs are ranked highest, then category 2 CT pairs and so on. Figure 3-lb shows jagged steps because the HSC moved some CT pairs up and down the list, beyond the proximity of other CT pairs of the same category. Despite the extent of movement, the final ranking follows category placement—most category 1 through 9 CT pairs are highly ranked and most category 14 through 17 CT pairs are low-ranked (table 3-3). Statistical tests confirm this; CT pair category assignment is highly correlated with final list placement (correlation coefficient 0.85).[29]

***Net Benefit-Net*** benefit influenced ranking in two ways: it was considered when CT pairs were assigned to categories, and it was used to initially rank CT pairs within categories. How net benefit and other health outcome measures are related to category assignment is discussed later. This section describes the importance of net benefit in determining rank and rank within category on the adjusted list.

Figures 3-lc and 3-id show the relationship between rank and net benefit for the unadjusted and final adjusted lists, respectively. In the unadjusted case (figure 3-lc), the series of disconnected slopes show the ranking of CT pairs by category, and within category from the highest to lowest net benefit scores. The peak of each slope is the highest net

26 The HSC assigned each CT pair to 1 of 14 Cost categories.

27 Each CT pair was assigned an age category representing the age cohort usually affected by the condition and associated treatment. See table 3-7 for ages included in categories.

28 CT pairs affecting the elderly (over age 70) accounted for 1 percent of CT pairs moved down 100 or more lines.

29 Correlation of 0.85 is significant at p = 0.001 (1-tailed).

**Box 3-I-Condition-Treatment (CT) Pairs Whose Coverage Status Changed as a Result of Ranking Adjustment**

| Adjusted rank | Unadjusted rank | Condition | Treatment |
|---|---|---|---|
| *CT pairs* ***covered by adjusted ranking that would not have been covered by unadjusted ranking[1]*** | | | |
| ***352*** | ***646*** | Pilonidal cyst with abscess | Medical and surgical treatment |
| 358 | 656 | Acute conjunctivitis | Medical therapy |
| 387 | 607 | Lyme disease | Medical therapy |
| 390 | 605 | Atopic dermatitis | Medical therapy |
| 391 | 592 | Contact dermatitis and other eczema | Medical therapy |
| 392 | 596 | Acne | Medical and surgical treatment |
| 396 | 670 | Infective otitis externa | Medical therapy |
| 397 | 598 | Chronic otitis media | Medical therapy |
| 401 | 604 | Gout | Medical therapy |
| 402 | 615 | Crystal arthropathies | Medical therapy |
| 423 | 638 | Osteoporosis | Medical therapy |
| 425 | 593 | Disorders of refraction and accommodation | Medical therapy |
| 434 | 662 | Body infestations (e.g., lice, scabies) | Medical therapy |
| 469 | 600 | Endometriosis without hysterectomy | Medical and surgical treatment |
| 483 | 611 | Osteoarthritis and allied disorders | Medical therapy |
| 486 | 613 | Menopausal management | Medical therapy other than hormone replacement |
| 534 | 606 | Allergic rhinitis and conjunctivitis | Medical therapy |
| 537 | 608 | Pelvic pain syndrome | Medical and surgical treatment |
| 571 | 588 | Brachial plexus lesions | Medical therapy |
| 572 | 590 | Chronic sinusitis | Medical therapy |
| 574 | 597 | Dysmenorrhea | Medical therapy |
| 578 | 599 | Raynaud syndrome | Medical therapy |
| 580 | 601 | Urticaria, chronic | Medical therapy |
| 581 | 602 | Keratoderma, acquired; acquired acanthosis nigricans, striae atrophicae, other and unspecified hypertrophic and atrophic conditions of skin | Medical therapy |
| 586 | 589 | Spondylosis and other chronic disorders of back | Medical and surgical treatment |
| 587 | 591 | Esophagitis | Medical therapy |

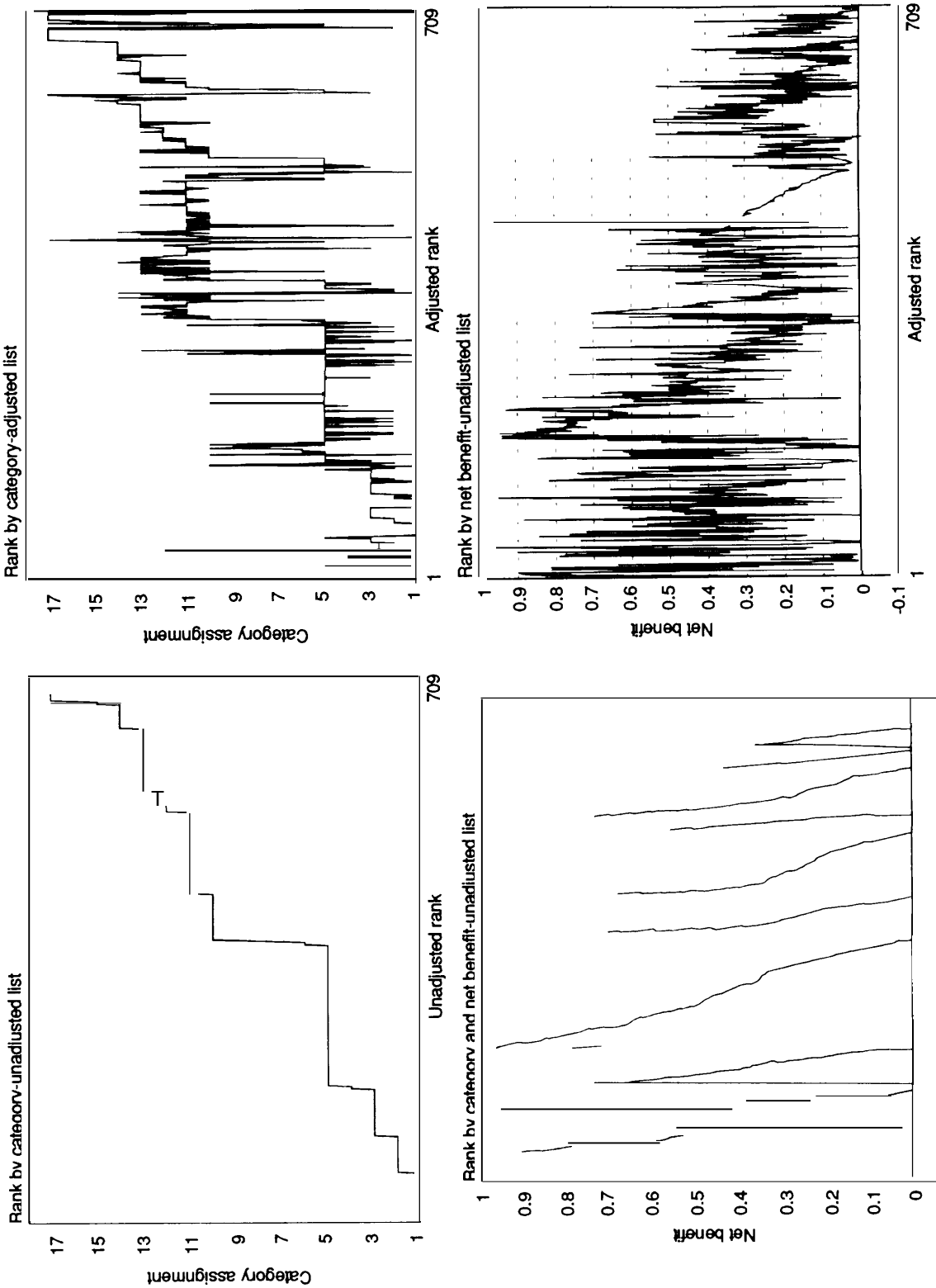
**Box 3-l-Condition-Treatment (CT) Pairs Whose Coverage Status Changed as a Result of Ranking Adjustment-Continued**

| Adjusted rank | Unadjusted rank | Condition | Treatment |
|---|---|---|---|
| *CT pairs not covered by adjusted ranking that would have been covered by unadjusted ranking* | | | |
| 588 | 577 | Intervertebral disc disorders | Thoracic-lumbar laminectomy, medical therapy |
| 599 | 463 | Hydrocele | Medical therapy, excision |
| 600 | 514 | Absence of breast after mastectomy as treatment for neoplasm | Breast reconstruction |
| 601 | 506 | Spastic dysphonia | Medical therapy |
| 606 | 166 | Hepatorenal syndrome | Medical therapy |
| 607 | 267 | Other deficiencies of circulating enzymes (alpha 1-antitrypsin deficiency) | Lung transplant |
| 608 | 350 | Lethal midline granuloma | Medical therapy |
| 609 | 351 | Amyotrophic lateral sclerosis (ALS) | Medical therapy |
| 610 | 235 | Cancer of liver and intrahepatic bile ducts | Liver transplant |
| 611 | 409 | Hematoma of auricle or pinna and hematoma of external ear | Drainage |
| 612 | 416 | Enophthalmos | Revision |
| 613 | 421 | Acute lymphadenitis | Incision and drainage |
| 614 | 462 | Congenital anomalies of female genital organs | Surgical treatment |
| 615 | 467 | Generalized convulsive or partial epilepsy without mention of impairment of consciousness | Focal surgery |
| 616 | 434 | Varicose veins of lower extremities | Stripping/sclerotherapy |
| 617 | 525 | Disease of capillaries | Excision |
| 618 | 486 | Anomalies of relationship of jaw to cranial base, major anomalies of jaw size, other specified and unspecified dentofacial anomalies | Osteoplasty, maxilla/mandible |
| 619 | 510 | Congenital anomalies of the ear without impairment of hearing | Otoplasty, repair& amputation |
| 621 | 489 | Temporomandibular joint (TMJ) disorders | TMJ surgery |
| 625 | 455 | Cervical rib | Surgical treatment |
| 645 | 581 | Benign intracranial hypertension | Medical therapy |
| 652 | 582 | Food allergy | Medical therapy |
| 654 | 530 | Sublingual, scrotal, and pelvic varices | Venous injection, vascular surgery |
| 687 | 97 | Intraventricular and subarachnoid hemorrhage of fetus or neonate | Medical therapy |
| 689 | 518 | Sensorineural hearing loss | Cochlear implant |
| 690 | 263 | Alcoholic cirrhosis of liver | Liver transplant |
| 691 | 329 | Non-Hodgkin's lymphomas | Bone marrow transplant (5-6 loci match) |
| 692 | 515 | Obesity | Gastroplasty |
| 694 | 403 | Benign polyps of vocal cords | Medical therapy |
| 706 | 522 | Prolapsed urethral mucosa | Surgical treatment |

[1] Only 26 of 30 CT pairs are listed. The 4 unlisted CT pairs cannot be identified from those that have no net benefit assigned to them (i.e., their unadjusted rank cannot be determined).

SOURCE: Office of Technology Assessment, 1992; based on 1991 data from the Oregon Health Services Commission.

**Figure 3-1—Relationship of Category Assignment and Net Benefit With Condition-Treatment (CT) Pair Rank for the Adjusted and Unadjusted Lists**




SOURCE: Office of Technology Assessment, 992; based on 199· data from the Oregon Health Services Commission.

**Table 3-3-Condition-Treatment (CT) Pairs by Category and Location on the List**

| Category | Number of CT pairs | Location on list | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 1-99 | 100-199 | 200-299 | 300-399 | 400-499 | 500-599 | 600-709 |
| | | *Percent of CT pairs within ranges* | | | | | | |
| *"Essential"* | | | | | | | | |
| *1-9* | *366* | *26.8* | *26.0* | *26.2* | *11.5* | *1.6* | *5.7* | *2.2* |
| 1 | 64 | 79.7 | 10.9 | 4.7 | 1.6 | 1.6 | 1.6 | 0.0 |
| 2 | 48 | 45.8 | 25.0 | 12.5 | 12.5 | 2.1 | 0.0 | 2.1 |
| 3 | 61 | 32.8 | 50.8 | 3.3 | 6.6 | 1.6 | 3.3 | 1.6 |
| 4 | 4 | 50,0 | 25.0 | 25.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 5 | 182 | 1.6 | 20.9 | 46.2 | 16.5 | 1.6 | 9.9 | 3.3 |
| 6 | 4 | 0.0 | 75.0 | 0.0 | 25.0 | 0.0 | 0.0 | 0.0 |
| 7 | 1 | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 8 | 1 | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 9 | 1 | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| *"Very important"* | | | | | | | | |
| *10-13* | *275* | 0.4 | 1.8 | 1.5 | 20.0 | 33.5 | 26.9 | 16.0 |
| 10 | 60 | 0.0 | 8.3 | 3.3 | 25.0 | 31.7 | 25.0 | 6.7 |
| 11 | 106 | 0.0 | 0.0 | 0.9 | 16.0 | 56.6 | 13.2 | 13.2 |
| 12 | 28 | 3.6 | 0.0 | 0.0 | 32.1 | 14.3 | 50,0 | 0.0 |
| 13 | 81 | 0.0 | 0.0 | 1.2 | 17.3 | 11.1 | 38.3 | 32.1 |
| *"Valuable to certain individuals"* | | | | | | | | |
| *14-17* | *68* | *0.0* | *0.0* | *0.0* | *4.4* | *2.9* | *7.4* | *85.3* |
| 14 | 31 | 0.0 | 0.0 | 0.0 | 9.7 | 3.2 | 12.9 | 74.2 |
| 15 | 4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 25.0 | 75.0 |
| 16 | 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 |
| 17 | 32 | 0.0 | 0.0 | 0.0 | 0.0 | 3.1 | 0.0 | 96.9 |
| Total | 709 | 14.0 | 14.1 | 14.1 | 14.1 | 14.1 | 14.1 | 15.5 |

SOURCE: Office of Technology Assessment, 1992; based on 1991 data from the Oregon Health Services Commission. Total Percentages may not add to exactly 100.0 due to rounding error.

benefit score for that category. Peaks are highest (i.e., they approach 1.0) in categories 1 through 9 and are at their lowest in categories 14 through 17 (i.e., none exceed 0.5). The trend of declining net benefit with increasing category is expected because net benefit was considered when CT pairs were assigned to categories. There is a wide range of net benefit scores within each category, especially categories 1 through 9. While CT pairs in categories 1 through 9 include most (84 percent) CT pairs with high net benefit scores (i.e., 0.5 or higher), as many as one-quarter (26 percent) of category 1 through 9 CT pairs have benefit scores lower than 0.2 (table 3-4).

The HSC adjustment moved almost all CT pairs from their original position. Many CT pairs moved out of their category's range on the list or were reordered within their category's range. Figure 3-id shows the effect of this reordering-there are now wide fluctuations in net benefit by rank and the slopes seen in figure 3-lc have largely disappeared. Statistical tests confirm that following adjustment net benefit loses importance in determining CT pair rank. Although the adjusted and unadjusted rankings are highly correlated (correlation coefficient = 0.87),[30] the strength of this relationship is largely explained by CT pair category assignment. Category assignment alone is highly correlated to final list placement (correlation coefficient = 0.85).[31]

Net benefit determined CT pair order within categories on the unadjusted list. If CT pairs are analyzed by category, does this relationship still hold for the adjusted list? Figures 3-2A through 3-21 show net benefit among CT pairs within categories (ordered by rank within category). The wide fluctuations in net benefit persist in all but two categories—some CT pairs in categories 10 and 11 show net

[30] Correlation of 0.87 is significant at p = 0.001 (1-tailed).

[31] Correlation of 0.85 is significant at p = 0.001 (1-tailed).

**Table 3-4-Net Benefit Scores by Category**

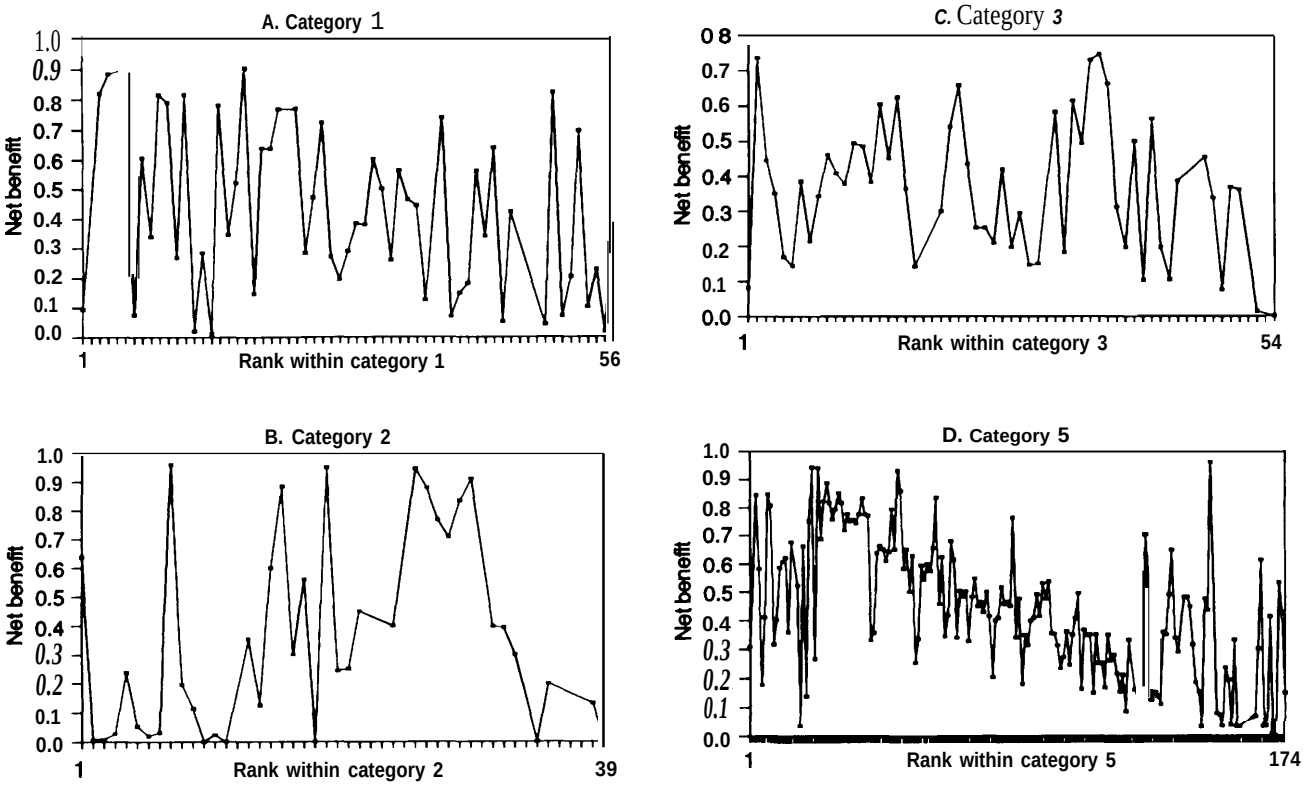
| CT pair category[a] | Net benefit 0 | <.1 | .1-.19 | .2-.29 | .3-.39 | .4-.49 | .5-.59 | .6-.69 | .7-.79 |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | *Percent (count)* | | | | |
| 1-9 ..... | 1.2 (4) | 12.4 (41) | 12.1 (40) | 9.7 (32) | 15.8 (52) | 14.5 (48) | 7.9 (26) | 9.4 (31) | 8.2 (27) |
| 10-13 ..... | 1.1 (3) | 12.5 (33) | 25.0 (66) | 28.4 (75) | 16.3 (43) | 8.7 (23) | 4.5 (12) | 2.7 (7) | .8 (2) |
| 14-17 ..... | 18.2 (12) | 36.4 (24) | 19.7 (13) | 16.7 (11) | 7.6 (5) | 1.5 (1) | 0.0 (0) | 0.0 (0) | 0.0 (0) |

NOTE: Number of missing observations = 49.

[a] The Health Services Commission considered categories 1-9 to be "essential," categories 10-13 "very important," and categories 14-17 "valuable to percentages may not add to exactly 100.0 due to rounding error.

SOURCE: Office of Technology Assessment, 1992; based on data from the Oregon Health Services Commission.

**Figure 3-2—The Relationship Between Net Benefit and Rank Within Categories for the Adjusted List**



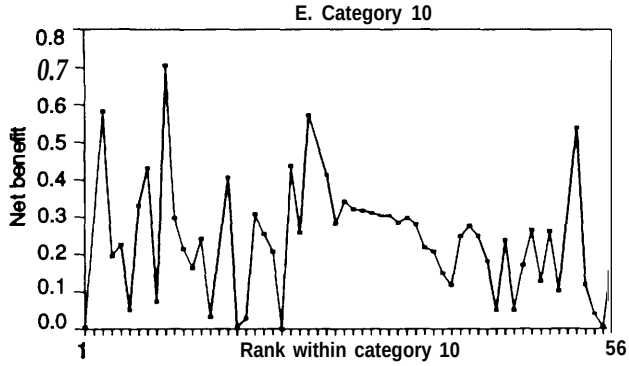

benefit gradually declining with increasing rank (see figures 3-2e and 3-2f). Figure 3-3 summarizes the relationship between within-category net benefit and rank showing median net benefit for categories and quartiles within categories. The expected decline in median net benefit as rank increases is seen in several categories (i.e., categories 5, 11, 12, 13, and 17).[32] Statistical tests show that following adjustment, CT pair rank within category is poorly or moderately correlated to rank based on net benefit (table 3-5).

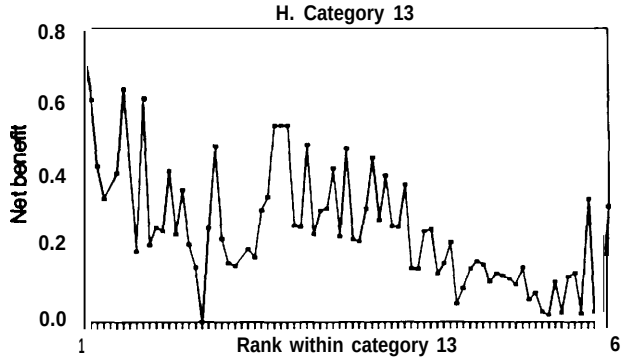
While net benefit is not, in itself, highly correlated with list placement,[33] of note is that none of the CT pairs below line 600 has a high net benefit term (i.e., 0,6 or above) and 88 percent (84/96) of CT pairs with high net benefit terms are above line 300 (see table 3-6). While a high net benefit term seems to be associated with high placement on the list, a low net benefit term (i.e., less than 0.2) is not associated with low placement. In fact, more than one-third (35 percent) of CT pairs with such low net benefit scores are above line 400.[34]

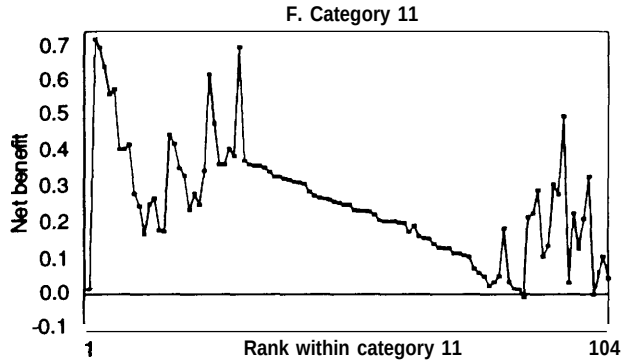
32 Another expected trend is that the median net benefit for categories in the essential range (i.e., categories 1 through 9) are generally higher@ those in the "important" range (i.e., categories 10 through 13), which are in turn higher than the median net benefit for CT pairs in the "important to individuals' range (i.e., categories 14 through 17). Category 2, maternity services is an exception—its median net benefit is lower than that of categories 10 through 13.

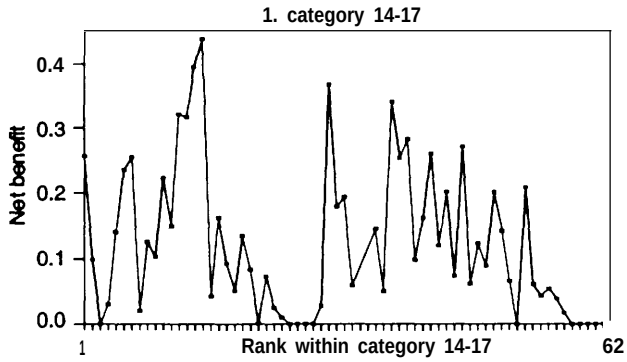
33 A ranking of CT pairs based on the net benefit term alone is only moderately correlated to the adjusted (correlation coefficient = 0.47, significant at P = 0.001 (l-tailed)) and unadjusted list (correlation coefficient = 0.41, significant at p = 0.001 (l-tailed)).

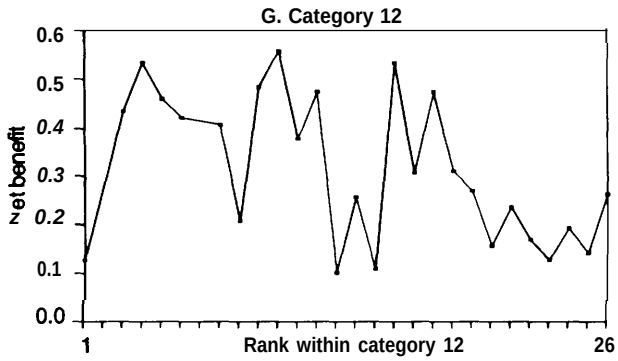
34 The relatively low net-benefit terms associated with some of the highly ranked CT pairs may be explained because avoidance of death does not always contribute to large changes in net benefit (35,244).




SOURCE: Office of Technology Assessment, 1992; based on 1991 data from the Oregon Health Services Commission.

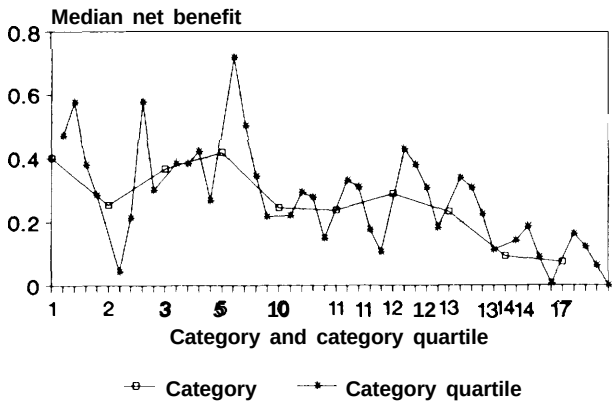
**Table 3-5-Correlation Between Order of Condition-Treatment (CT) Pairs Within Categories if Determined by Rank or by Net Benefit[a]**

| Category | Number of CT pairs in category | Correlation between CT pair order within category by rank and net benefit | Percent of variation explained by net benefit |
|---|---|---|---|
| 1 | 56 | .3105[b] | 9.6 |
| 2 | 39 | –.2774 | 7.7 |
| 3 | 54 | .1558 | 2.4 |
| 5 | 174 | .6130[b] | 37.6 |
| 10 | 56 | .1836 | 3.4 |
| 11 | 104 | .6699[b] | 44.9 |
| 12 | 26 | .4230 | 17.9 |
| 13 | 78 | .6176[b] | 38.1 |
| 14 | 31 | .5099[b] | 26.0 |
| 17 | 31 | .7745[b] | 60.0 |

a Analysis is limited to those categories with more than 10 CT pairs. Correlation is between order of CT pairs within category as ranked by the Oregon Health Services Commission and order expected if ranked by net benefit.
b Correlation is significant at p -.01 (l-tolled).

SOURCE: Office of Technology Assessment, 1992; based on 1991 data from the Oregon Health Services Commission,

**Figure 3-3-Median Net Benefit by Category and Quartile Within Category**




SOURCE: Office of Technology Assessment, 1992; based on 1991 data from the Oregon Health Services Commission.

## *Characteristics of the List*

The distribution of CT pairs on the list can be described by three CT pair-associated characteristics: age,[35] sex,[36] and treatment-associated costs.[37]

***CT Pair Rank by Age-CT*** pairs related to children generally rank fairly high on the list. Nearly two-thirds (66 percent) of infant-related CT pairs, one-half (50 percent) of child-related CT pairs, and one-third (34 percent) of adolescent CT pairs are located within the top 300 lines (table 3-7). CT pairs associated with infants, senior adults (age 56 to 70), and the elderly (age 70 and older) are least likely to be toward the bottom of the list (i.e., below 587). The 27 CT pairs affecting infants, children, and adolescents falling below line 587 are shown in box 3-J.[38]

***Ranking of CT Pairs Affecting Women-CT*** pairs affecting women also tend to rank relatively high on the prioritized list. Nearly all CT pairs can affect women (89 percent; 634 of 709), but 59 (8 percent) can be classified as "primarily or only" affecting women.[39] Of these, 41 percent (24 of 59 CT pairs) fall within the top 300 lines of the list and 17 percent (10 of 59 CT pairs) fall below line 587 (box 3-K).

***CT Pair Rank by*** Cost—Nearly one-half (46 percent; 25 of 55 CT pairs) of high-cost CT pairs (i.e., $40,000 and above) are found within the top 300 lines of the list and as many as one-third of low cost CT pairs (i.e., less than $1,000) fall below line 587 (table 3-8).

35 Clinician panels in Oregon provided information on the age group usually affected by the CT pair. Some of the pediatric age cohort assignments made by the Oregon clinicians were incorrect according to an OTA clinical reviewer (235). For example, rheumatic fever (CT pair 145) was inappropriately omitted as a pediatric CT pair and cataract (CT pair 337) was inappropriately included as a primarily pediatric CT pair.

36 OTA clinical contractors identified CT pairs unique or common to women (14).

37 The HSC used information from clinicians and the Office of Medical Assistance Programs (OMAP) to estimate CT pair-associated cost groupings.

38 More than one-quarter (28 percent; 9/32) of CT pairs affecting adolescents and more than 1 in 10 (15 percent; 11/76) CT pairs affecting children fall below line 587 on the list (table 3-7).

39 CT pairs "primarily or only" affecting women are those for which women make up at least 75 percent of all patients (14).

## Table 3-6—Net Benefit by Rank

| | Net benefit | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CT pair rank | <0 | < 1 | 1-.19 | 2-.29 | 3-.39 | 4-.49 | .5-.59 | .6-.69 | .7-.79 | .8-.89 | .9-1.0 | Row total |
| 1-99 | | | | | | | | | | | | |
| **Count** | 2 | 15 | 12 | 8 | 14 | 11 | 5 | 8 | 9 | 7 | 2 | 93 |
| Row percent | 2.2 | 16.1 | 12.9 | 8.6 | 15.1 | 11.8 | 5.4 | 8.6 | 9.7 | 7.5 | 2.2 | 14.1 |
| Column percent | 10.5 | 15.3 | 10.1 | 6.8 | 14.0 | 15.3 | 13.2 | 21.1 | 31.0 | 35.0 | 22.2 | |
| 100-199 | | | | | | | | | | | | |
| **Count** | 0 | 8 | 11 | 10 | 9 | 6 | 8 | 8 | 15 | 10 | 4 | 85 |
| Row percent | 0.0 | 9.4 | 12.9 | 11.8 | 10.6 | 7.1 | 9.4 | 9.4 | 17.6 | 11.8 | 4.7 | 12.9 |
| Column percent | 0.0 | 8.2 | 9.2 | 8.5 | 9.0 | 8.3 | 21.1 | 21.1 | 51.7 | 50.0 | 44.4 | |
| 200-299 | | | | | | | | | | | | |
| **Count** | 0 | 1 | 5 | 11 | 24 | 21 | 13 | 13 | 3 | 3 | 2 | 96 |
| Row percent | 0.0 | 1.0 | 5.2 | 11.5 | 25.0 | 21.9 | 13.5 | 13.5 | 3.1 | 3.1 | 2.1 | 14.5 |
| Column percent | 0.0 | 1.0 | 4.2 | 9.3 | 24.0 | 29.2 | 34.2 | 34.2 | 10.3 | 5.0 | 22.2 | |
| 300-399 | | | | | | | | | | | | |
| **Count** | 2 | 11 | 16 | 18 | 13 | 17 | 3 | 7 | 2 | 0 | 0 | 89 |
| Row percent | 2.2 | 12.4 | 18.0 | 20.2 | 14.6 | 19.1 | 3.4 | 7.9 | 2.2 | 0.0 | 0.0 | 13.5 |
| Column percent | 10.5 | 11.2 | 13.4 | 15.3 | 13.0 | 23.6 | 7.9 | 18.4 | 6.9 | 0.0 | 0.0 | |
| 400-499 | | | | | | | | | | | | |
| **Column** | 2 | 1 | 25 | 30 | 26 | 7 | 3 | 1 | 0 | 0 | 1 | 96 |
| Row percent | 2.1 | 1.0 | 26.0 | 31.2 | 27.1 | 7.5 | 3.1 | 1.0 | 0.0 | 0.0 | 1.0 | 14.5 |
| Column percent | 10.5 | 1.0 | 21.0 | 25.4 | 26.0 | 9.7 | 7.9 | 2.6 | 0.0 | 0.0 | 11.1 | |
| 500-599 | | | | | | | | | | | | |
| **Column** | 0 | 23 | 18 | 28 | 11 | 6 | 5 | 1 | 0 | 0 | 0 | 92 |
| Row percent | 0.0 | 25.0 | 19.6 | 30.4 | 12.0 | 6.5 | 5.4 | 1.1 | 0.0 | 0.0 | 0.0 | 13.9 |
| Column percent | 0.0 | 23.5 | 15.1 | 23.7 | 11.0 | 8.3 | 13.2 | 2.6 | 0.0 | 0.0 | 0.0 | |
| 600-709 | | | | | | | | | | | | |
| **Column** | 13 | 39 | 32 | 13 | 7 | 4 | 1 | 0 | 0 | 0 | 0 | 109 |
| Row percent | 11.9 | 35.8 | 29.4 | 11.9 | 6.4 | 3.7 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 16.5 |
| Column percent | 68.4 | 39.8 | 26.9 | 11.0 | 7.0 | 5.6 | 2.6 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Column total | 19 | 98 | 119 | 118 | 100 | 72 | 38 | 38 | 29 | 20 | 9 | 660 |
| | 2.9 | 14.8 | 18.0 | 17.9 | 15.2 | 10.9 | 5.8 | 5.8 | 4.4 | 3.0 | 1.4 | 100.0 |

NOTE: Number of missing observations = 49. Total percentages may not add to exactly 100.0 due to rounding error.

SOURCE: Office of Technology Assessment, 1992; based on 1991 data from the Oregon Health Services Commission.

## Table 3-7--Condition-Treatment (CT) Pair Age Cohort[a] by Rank

| CT pair rank | Age group | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Infancy | | Children | | Adolescent | | Young adult | | Middle-age | | Senior adult | | Elderly | |
| | *Percent (count)* | | | | | | | | | | | | | |
| *1-300* | *65.9* | *(56)* | 50.0 | (38) | 34.4 | (11) | 36.2 | (77) | 38.1 | (69) | 38.1 | (32) | 25.0 | (2) |
| 301-587 | 25.9 | (22) | 35.5 | (27) | 37.5 | (12) | 42.3 | (90) | 41.4 | (75) | 50.0 | (42) | 62.5 | (5) |
| 588-709 | 8.2 | (7) | 14.5 | (11) | 28.1 | (9) | 21.6 | (46) | 20.4 | (37) | 11.9 | (Io) | 12.5 | (1) |
| Total | 100.0 | (85) | 100.0 | (76) | 100.0 | (32) | 100.0 | (213) | 100.0 | (181) | 100.0 | (84) | 100.0 | (8) |

NOTE: n = 679; number of missing observations_ 30. Total percentages may not add to exactly 100.0 due to rounding error.
a Infancy = Less than age one; children = 1-10 years old; adolescent = 11-18 years old; young adult = 19-35 years old; middle-aged = 36-55 years old; senior adult = 56-70 years old; elderly = over 70 years old.

SOURCE: Office of Technology Assessment, based on data from the Oregon Health Services Commission, 1991.

## Table 3-8-Condition-Treatment (CT) Pair Cost Interval[a] by Rank

| CT pair rank | cost | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | up to $1,000 | | $1,000 to 4,999 | | $5,000 to 17,999 | | $18,000 to 39,999 | | $40,000 to 99,999 | | $100,000 and over | |
| | *Percent (count)* | | | | | | | | | | | |
| *1-300* | *22.7* | *(25)* | 29.0 | *(47)* | *46.0* | *(104)* | *67.3* | *(76)* | 60.0 | (18) | 28.0 | m |
| 301-587 | 43.6 | (48) | 52.5 | (85) | 40.3 | (91) | 19.5 | (22) | 30.0 | (9) | 52.0 | (13) |
| 588-709 | 33.6 | (37) | 18.5 | (30) | 13.7 | (31) | 13.3 | (15) | 10.0 | (3) | 20.0 | (5) |
| | 100.0 | (110) | 100.0 | (162) | 100.0 | (226) | 100.0 | (113) | 100.0 | (30) | 100.0 | (25) |

NOTE: n = 666; number of missing observations = 43. Total percentages may not add to exactly 100.0 due to rounding error.
a The Oregon Health Services Commission estimated the cost interval for each CT pair.

SOURCE: Office of Technology Assessment, 1992; based on 1991 data from the Oregon Health Services Commission.

### Box 3—J-The 27 Condition-Treatment (CT) Pairs Affecting Children That Fall Below Line 587[1]

| Rank | Condition | Treatment |
|---|---|---|
| 594 | Sprains, strains and non-allopathic spinal lesions: thoracic, lumbar and sacrum acute | Medical therapy |
| 614 | Congenital anomalies of female genital organs | Surgical treatment |
| 618 | Anomalies of relationship of jaw to cranial base, major anomalies of jaw size, other specified and unspecified dentofacial anomalies | Osteoplasty, maxilla/mandible |
| 619 | Congenital anomalies of the ear without impairment of hearing | Otoplasty, repair and amputation |
| 624 | Cavus deformity of foot | Medical therapy, orthotic |
| 625 | Cervical rib | Surgical treatment |
| 634 | Obesity | Nutritional and lifestyle counseling |
| 639 | Herpes simplex without complications | Medical therapy |
| 640 | Testicular and polyglandular dysfunction | Medical therapy |
| 649 | Diaper or napkin rash | Medical therapy |
| 652 | Food allergy | Medical therapy |
| 660 | Internal infections and other bacterial food poisoning | Medical therapy |
| 662 | Viral, self-limiting encephalitis, myelitis and encephalomyelitis | Medical therapy |
| 663 | Acute tonsillitis | Medical therapy |
| 667 | Aseptic meningitis | Medical therapy |
| 668 | Infectious mononucleosis | Medical therapy |
| 669 | Other nonfatal viral infections | Medical therapy |
| 670 | Acute pharyngitis and laryngitis and other diseases of vocal cords | Medical therapy |
| 675 | Vitiligo, congenital pigmentary anomalies of skin | Medical therapy |
| 680 | Agenesis of lung | Medical therapy |
| 685 | Ichthyosis | Medical therapy |
| 687 | Intraventricular and subarachnoid hemorrhage of fetus or neonate | Medical therapy |
| 692 | obesity | Gastroplasty |
| 693 | Congenital cystic lung-severe | Lung resection |
| 705 | Constitutional aplastic anemia | Medical therapy |
| 708 | Extremely low birth weight (under 500 gm) and under 23 week gestation | Life support |
| 709 | Anencephalous and similar anomalies and reduction deformities of the brain | Life support |

1 This listing is based on data supplied by the HSC. The HSC may have misidentified some CT pairs as principally affecting children (e.g., obesity) (see reference 235).

SOURCE: Office of Technology Assessment, 1992; based on 1991 data from the Oregon Health Services Commission.

### Box 3-K-The 10 Condition-Treatment (CT) Pairs "Primarily or Only" Affecting Women That Fall Below Line 587[1]

| Rank | Category | Condition | Treatment |
|---|---|---|---|
| 598 | 15 | Anovulation (infertility) | Medical therapy |
| 600 | 11 | Absence of breast after mastectomy as treatment for neoplasm | Breast reconstruction |
| 603 | 15 | Tubal disease | Microsurgery |
| 614 | 11 | Congenital anomalies of female genital organs | Surgical treatment |
| 645 | 13 | Benign intracranial hypertension | Medical therapy |
| 666 | 14 | Vulval varices | Vascular surgery |
| 672 | 17 | Old laceration of cervix and vagina | Medical therapy |
| 681 | 17 | Gallstones without cholecystitis | Medical therapy, cholecystectomy |
| 683 | 17 | Sicca syndrome | Medical therapy |
| 696 | 15 | Tubal dysfunction and other cases of infertility | In-vitro fertilization, GIFT[2] |

1 CT pairs that "primarily or only" affect women are those for which women make up at least 75 percent of all patients (see ref. 14).
2 Gamete intrafallopian transfer.

SOURCE: Office of Technology Assessment, 1992; based on 1991 data from the Oregon Health Services Commission.

# CRITIQUE OF THE PRIORITIZATION PROCESS

This section presents the results of OTA analyses designed to answer the following questions:

- How complete is the prioritized list? Are all important health care services included?
- How appropriately are conditions and treatments aggregated into CT pairs?
- Should category assignment be an important determinant of CT pair order on the prioritized list?
- How accurate is CT-specific outcomes information provided by panels of clinicians?
- Are the public's health state preferences appropriately integrated into the prioritization process?
- Were community values appropriately assessed and incorporated into the 'prioritization process?

## *Completeness of the Prioritized List*

Virtually all conditions are accounted for in the prioritization process, according to a study conducted to assess the list's completeness. OTA identified a systematic sample of ICD-9-CM codes[40] and checked inclusion of these codes on the prioritized list or on the "Missing ICD-9 Code Report" provided by the HSC (192). The missing code report includes 948 ICD-9-CM codes intentionally omitted from the prioritized list, representing roughly 10 percent of all ICD-9-CM codes. In all but one case, the sampled codes, or the more detailed subcodes, were found on either the prioritized list or the missing code list.

OTA reviewed selected conditions listed on the "Missing ICD-9 Code Report"[41] and found that most omitted codes either represent conditions or treatments initially excluded from prioritization (e.g., mental health conditions) or are nonspecific codes that the HSC intentionally omitted from the list (e.g., ICD-9-CM code 459, other disorders of circulatory system). By omitting the nonspecific codes, the HSC hoped to encourage clinicians to use specific codes. Currently, all codes ending in "99" require manual review prior to payment (170).

Some conditions represented on the missing code list, however, probably represent errors. The codes for secondary hypertension (ICD-9-CM code 405) and hypertensive renal disease (ICD-9-CM code 403), for example, should probably have been included within CT pairs 147 (hypertension and hypertensive disease) and 148 (hypertensive heart and renal disease), respectively. Similarly, impetigo (ICD-9-CM code 684)[42] and carbuncle and furuncle (ICD-9-CM code 680) should probably have been included in CT pair 217, infectious skin conditions.

Some missing codes may represent more serious omissions. The following are examples of conditions that will probably have to be reviewed by the HSC and formally added to the list through its technical review process: benign neoplasms of the eye (ICD-9-CM code 224); disorders of fluid, electrolyte, and acid-base balance (ICD-9-CM code 276);[43] visual disturbances (ICD-9-CM code 368); and chronic laryngitis (ICD-9-CM code 476).

## *Appropriateness of Aggregation of Conditions and Treatments Into CT Pairs*

Ideally, patients falling within any given CT pair should have similar clinical experiences with treatment. According to OTA's review of CT pair content, however,[44] CT pairs are so broadly defined that in many instances patient outcomes can vary substantially within a CT pair. Heterogeneity within CT pairs can often be traced to outcome differences expected by patient characteristics such as age and comorbidity. Some patient subpopulations within high-ranking CT pairs have as poor an expected outcome as patients falling into below-the-line CT

40 A systematic sample of 39 ICD-9-CM three-digit codes (representing 4 percent of a total of 910 three-digit codes) was selected from *The International Classification of Diseases, 9th Revision, Clinical Modification. Every 25th code was* selected following a random start. Excluded from this sample were 'E" codes used to classify injuries and diseases caused by external events (e.g., railway and motor vehicle accidents) and "V" codes used to classify procedures that do not fall into either the numerical or "E" code categories.

41 OTA analyzed all 131 three-digit ICD-9-CM codes listed in the ''Missing ICD-9 Code Report' (192).

42 Impetigo herpetiformis is listed on line 591.

43 The HSC is considering adding anew CT pair for disorders of fluid, electrolyte, and acid-base balance to the revised list that is expected to be issued in h&y 1992 (35).

44 The clinical review was undertaken on OTA's behalf by four physicians (two internists and two pediatricians) who reviewed the entire prioritized list (14,80,235). For this and other analyses, the clinical contractors were instructed to use readily available published information (e.g., review articles, medical textbooks) and consultations with experts.

pairs. Conversely, some patient subpopulations within low-ranking CT pairs probably have as good a prognosis as those falling within above-the-line CT pairs. This issue is explored further in a later section of this chapter, which provides the results of a clinical evaluation of the list.

Specific types of clinical problems with CT pair content include:[45]

- Heterogeneous conditions within CT pairs--CT pairs often include several ICD-9-CM codes that describe conditions with very different consequences. CT pair 95, for example, includes myocarditis, pericarditis, and endocarditis, which differ in their clinical implications and their responses to treatment. CT pair 663, medical therapy for acute tonsillitis, includes both viral pharyngitis (a simple sore throat) and gangrene of the tonsils. Even within an ICD-9-CM code there can be markedly different clinical states. Patients with benign prostatic hypertrophy (a single ICD-9-CM code), for example, range from having no urinary symptoms to experiencing very severe symptoms, such as urinary retention.
- Inappropriate grouping of CT pairs-Some CT pairs include clinical conditions that are themselves diverse, with widely different implications. Line 264, for example, includes diseases of white blood cells, some of which are trivial or benign while others are life-threatening. Line 640 includes testicular hyperfunction, which may require no treatment, and Schmidt's syndrome, which is fatal without treatment of the adrenal insufficiency, and for which the treatment is inexpensive and completely effective (31 1).
- Lack of information on comorbidity--Some CT pairs are commonly associated with other illnesses, making their ranking problematic. Disseminated intravascular coagulation (CT pair 102), for example, is often a secondary result of a primary condition such as cancer or infection. It is difficult to evaluate this secondary condition without knowledge of the underlying primary condition. Age is a predictor of treatment outcomes for many conditions, yet only two conditions are split into separate CT pairs by age to distinguish childhood from adult forms of disease (i.e., hearing loss and acute lymphocytic leukemia). The HSC was concerned that making distinctions by age might be interpreted as discriminatory (244).
- Inappropriate separation of CT pairs-Some CT pairs are so similar that separating them seems unnecessary. CT pairs 11, 100, and 119, for example, represent surgical repair for injuries to major blood vessels (i.e., upper extremity, thoracic cavity, lower extremity) that have similar outcomes and could have been grouped together. Other CT pairs are inappropriately separated on the list if clinical outcome itself is the only criterion. Liver transplantation for nonalcoholic liver failure is widely separated from transplantation for alcoholic cirrhosis of the liver (line 366 and 690), despite similar success rates (299). A more reasonable distinction could have been made based on liver failure associated with hepatitis B virus or cancer (14).
- Inappropriate prognostic staging—For some CT pairs, attempts to distinguish among different grades or stages of the same disease are inadequate or inappropriate (e.g., cancers, human immunodeficiency virus (HIV) disease, burns). Cancer is categorized as treatable or nontreatable, the latter being defined as "treatment results in less than a 10 percent chance of survival in 5 years.
- ICD-9-CM/CPT-4 code mismatch—There are substantive inconsistencies between the ICD-9-CM or CPT-4 codes listed and the verbal diagnosis or treatment descriptions listed for some CT pairs. So-described "treatable dementia' (line 230), for example, includes some codes for dementias that some clinicians would not consider effectively treatable (i.e., ICD-9-CM 290.40, multi-infarct dementia and ICD-9-CM 291.2, alcoholic dementia) (14).
- Apparent coding errors-There are numerous examples of duplicate or misplaced ICD-9-CM or CPT-4 codes. If uncorrected, some coding problems could contribute to misinterpretation of the scope of conditions or treatments included in the CT pair.[46]

45 The HSC is in the process of correcting some technical errors and plans to issue a revised list in May 1992 (244).

46 OTA clinical reviewers and an obstetrician-gynecologist consultant were unable to comprehend one CT pair (line 672, medical therapy for old laceration of cervix or vagina).

To better understand how often these types of problems occurred, OTA's contractors analyzed a systematic sample of 35 CT pairs.[47] Nearly one-third (10 of 35) of sampled CT pairs encompass such a wide variety of conditions that available information from the literature on condition-specific outcomes could not be interpreted to provide reliable CT pair outcome estimates. Comorbidity or other factors were noted to substantially affect the outcomes of over one-third (14 of 35) of sampled CT pairs. One-half (18 of 35) of sampled CT pairs had at least one of these problems (i.e., heterogeneous CT pair or CT pair substantially affected by comorbidity or other factors).

### *The Use of Categories in Prioritization*

ACT pair's health service category assignment is an important determinant of CT pair placement on the prioritized list. OTA critiqued the use of health service categories as a prioritization tool and then assessed the category assignment of a sample of CT pairs.

The 17 health service categories used to rank CT pairs were a useful organizational tool for the HSC, but their use has some inherent drawbacks because of the inability of the categories to distinguish conditions on grounds that are clinically meaningful. The distinction between acute and chronic conditions in 8 of the 17 categories, for example, is clinically irrelevant to its "importance.' If two conditions, one acute and episodic (e.g., vaginal infections), the other chronic (chronic cystitis), both have similar outcomes with treatment, there is little clinical reason one should be ranked above the other. Other distinctions between categories may also be poor indicators of clinical ' 'importance. ' Categories 11 (i.e., chronic nonfatal, one-time treatment improves quality of life) and 13 (chronic nonfatal, repetitive treatment improves quality of life), for example, differ only because one treatment needs to be repeated and the other doesn't. The HSC prioritized category 11 CT pairs because they represent services that are likely to be less costly (i.e., only performed once) and more convenient for patients (244).

To assess whether the classification system was ambiguous, OTA had clinician reviewers examine the categorization of a systematic sample of 35 CT pairs. Two CT pairs were viewed as being assigned to the wrong category (lines 112 and 412). Another six CT pairs' assignments were viewed as possibly correct, but given the nature of the condition, the CT pair could easily have been assigned to another category. Otherwise the clinicians agreed with CT pair assignment to categories. OTA concludes that some CT pairs' placement (as many as one in five) into categories are at least debatable. Given that category placement had important implications for final ranking, some CT pairs could probably be justifiably moved on the list.

### *Accuracy of Outcomes Information Supplied by Clinicians*

Net benefit was not as important a determinant of CT pair placement on the list as other aspects of the prioritization process. Nonetheless, the outcome information provided to the HSC by clinicians was a vital conceptual part of the process. This section explores whether that information was accurate and could have been used reliably.

OTA's clinician contractors evaluated morbidity and mortality data for a systematic sample of 35 CT pairs. These data are integral to the calculation of CT pair net benefit values. OTA reviewers found that the net benefit value assigned to most CT pairs (22 of 35 CT pairs) was difficult to justify based on available published information. When the direction of the discrepancy could be determined, there were as many overestimates of net benefit as underestimates.

Reviewers also assessed the appropriateness of the set of health states available to characterize morbidity. For more than one-half of sample CT pairs (19 of the 35), the assigned health states were viewed as inadequate descriptors of morbidity (e.g., the symptoms of stroke and glaucoma, CT pairs 252 and 332 respectively, are not well defined by the list of health states). Pediatrician reviewers felt that the health states failed to account for the unique developmental and physiologic concerns of children (e.g., problems of weight gain, failure to thrive). Reviewers also noted several instances where health states were erroneously assigned to a condition (e.g., "cough, wheeze, or trouble breathing" assigned to anal fissure, line 432).

47 OTA selected a 5 percent systematic sample of 709 CT pairs for this and other analyses. Every 20th CT pair on the list was selected from a randomly selected starting point.

While outcomes assessment by this method may vary among individuals according to experience and opinion, the OTA reviewers' assessments demonstrate that at best it is a highly subjective process. Several specific aspects of the outcomes gathering process that may have contributed to inconsistencies in outcomes assessment are discussed below.

*Provider panels varied in size and methods.* There were no requirements regarding the composition or size of the clinician panels, which ranged from 3 to 14 members (244). Since the literature suggests that group judgments vary according to group size and composition, each panel's outcome assessments might have been different if a group of a different makeup had been assembled (48,69).

Clinician panels were given a uniform charge with explicit instructions on how to provide outcomes information, but the actual methods adopted by various panels to complete their charge varied. Clinicians generally provided information based on their training, experience, and clinical judgment, but sometimes they made a special review of the professional literature, especially when considering new methods of treatment, such as transplants.[48] The type of data available to assess outcomes varied. Rarely, Oregon-specific data were available to help assess outcomes. For example, treatment outcomes of coronary artery bypass grafting (CABG)[49] and percutaneous transluminal coronary angioplasty (PTCA)[50] for coronary artery disease (CAD) were obtained by examining a historical database containing information from approximately 20,000 patients who had been treated with CABG or PTCA at one hospital in Portland, Oregon.

*There was little attempt to identify clinician bias in reporting treatment outcomes. The HSC* assigned groups of CT pairs to provider panels according to their specialty. Neonatologists, for example, were assigned CT pairs related to the critical care of newborns, and cardiologists were assigned cardiovascular-related CT pairs. Each CT pair was assigned to only one panel. CT pairs that could fall under the domain of both internists and specialists (e.g., ischemic heart disease, diabetic care) were usually assigned to the more specialized provider group.

Specialist data could have been systematically reviewed by other clinician groups (e.g., pediatric review of neonatology data) to identify whether specialists tend to overestimate the effectiveness of their treatments. A systematic primary care provider review might have been helpful, as these providers may be most familiar with the outcomes of many interventions at the 5-year endpoint specified by the HSC. The HSC's five primary care clinicians reviewed outcomes information and all participating panelists had an opportunity to review the HSC finalized list.

*Important physician groups did not participate in the process.* A list of clinician groups that provided outcomes information is shown in table 3-9. Two primary care provider groups, general pediatricians[51] and family practitioners, decided not to provide information on CT pair-specific treatment outcomes. Both the pediatricians and family practitioners informed the HSC that outcomes data for primary care treatments were generally unavailable, but they encouraged the HSC to get more readily available nonprimary care outcomes data from specialty or subspecialty groups.

*Clinicians providing outcomes information were not representative of Oregon physicians.* Clinician panel participants were generally representatives of the State's professional societies. The general internists that participated, for example, were senior officials of the Oregon Society of General Internal Medicine. The clinical opinions of these officials might differ from those of nonparticipating physicians. Nonetheless, the HSC made a concerted effort to ensure participation from as many volunteer clinicians as possible.

*Factors affecting outcomes (e.g., age, comorbidity) were not handled consistently among panels.* As anticipated, the clinician groups often had difficulty providing outcomes information for "average" patients and split CT pairs by such factors as age and

48 Clinicians relied on the professional literature for only 4 to 5 percent of their outcome judgments (244).

49 CABG is an operative procedure in which a vein from the leg is removed and surgically implanted in a coronary artery to "bypass" an obstruction.

50 PTCA is a nonoperative intervention in which a balloon on the end of a catheter is threaded into an obstruction of a coronary artery and inflated rapidly to "crack' the obstruction.

51 Pediatricians provided information on the timing and frequency of well-child care visits. one pediatrician provided outcomes information on otitis media treatment (35).

**Table 3-9-Provider and Specialty Groups Submitting Health Outcomes Data to the Health Services Commission (HSC)[a]**

| | |
|---|---|
| Acupuncture | Obstetrics and gynecology |
| Adult infectious disease | Oncology |
| Allergy | Ophthalmology |
| Burn care | Oral surgery |
| Cardiovascular surgery | Orthopedics |
| Cardiology | Osteopathy |
| Chiropractic | Otorhinolaryngology |
| Cornea transplant | Pain management |
| Dentistry | Pediatrics[b] |
| Dermatology | Pediatric cardiology |
| Diabetes | Pediatric infectious disease |
| Endocrinology | Pediatric rehabilitation |
| Gastroenterology | Pediatric surgery |
| General surgery | Physician's assistants |
| Genetics | Plastic surgery |
| Hyperbaric oxygen | Podiatry |
| Metabolic specialists | Poison control |
| Internal medicine | Psychiatry |
| Morbid obesity | Radiology oncology |
| Naturopathy | Rehabilitation & physical medicine |
| Neonatology | Rheumatology |
| Nephrology | Thoracic surgery |
| Neurology | Transplant surgery |
| Neurosurgery | Trauma |
| Nurse practitioners | Urology |

a This list includes clinician groups that completed structured worksheets prepared by the HSC to collect treatment-related outcomes information. Other clinician groups provided information to the HSC at public meetings and in correspondence.
b General pediatricians from the Oregon Pediatric Society provided information to the HSC on the periodicity of well-child visits. One pediatrician provided outcomes data for the acute otitis media CT pair.

SOURCE: D. Coffman, researcher, Oregon Health Services Commission, Salem, OR, personal communication, Dec. 17, 1991.

comorbidity.[52 53] The internal medicine provider panel, for example, provided outcomes information for:

- Patients who had only the condition in question,
- Patients with other complicating conditions, and
- The average elderly patient (1 12).

Cardiology specialists also stratified their outcomes. They provided their outcome estimates for CABG and PTCA interventions for CAD based on the New York Heart Association classification of the patient at the time of diagnosis.[54] Other panels, on the other hand, provided more general outcomes information.

Where panels provided detailed information, the detail was often lost in the final CT pair list. The HSC extensively reviewed outcomes information provided by the panels and grouped many treatments and conditions into general categories. The physicians on the HSC used their judgment to revise outcomes estimates when information from several CT pairs were grouped. Revised data sheets were sent to provider panels with an accompanying memo asking them review the outcomes information and the appropriateness of service category placements. Outcomes information supplied by some of the specialty groups were subjected to review by a clinician who had not participated in the initial process.

*The outcomes assessment method may have underestimated the value of treatments for acute conditions.* Clinician panels provided outcomes information for treatment effects at 5 years. Many acute conditions may be resolved eventually without treatment (e.g., sprains and strains), but treatment effectively relieves immediate symptoms. With the estimate of the effects of treatment and lack of treatment set at 5 years, some treatments effective in the short term are not identified as effective. In the example of sprains and strains, comparing the 5-year outcomes of no treatment with treatment would indicate no benefit, assuming the sprain or strain would resolve itself eventually. The benefit of immediately alleviating symptoms such as pain is not captured.

### *Use of Health Outcomes Information To Place CT Pairs Into Categories*

Much of the health outcomes information obtained from clinician panels was inconsistent with the published literature or contradicted OTA contractor's clinical judgment, and yet the information was used to assign most CT pairs to categories. This may, in part, explain why OTA clinicians found CT pair category assignment to be debatable in 20

52 Comorbid conditions are coexisting health problems that tend to worsen the patient's overall clinical condition.

53 The HSC anticipated that clinician panels would have problems and instructions to panels stated that, "[I]t is understood that some outcome data may be subjective in nature. A disease may be bimodal with significantly different outcomes occurring dependent on age of onset or vary according to the extent of the disease at the time of presentation (stage). If this is the case, please use two or more lines to define the condition . . . .Please think of the average patient that presents with this condition, not the extremes.'

54 The New York Heart Association classification system stratifies patients with CAD into four separate categories depending on their type and severity of symptoms.

percent of the sample of CT pairs they reviewed. Even if one assumes that the health outcomes information was an accurate reflection of clinical practice in Oregon, there are some apparent inconsistencies in CT pair category assignment. Nearly one-quarter (23 percent) of CT pairs in category 12, for example, have high with-treatment benefit scores[55] (i.e., 0.9 or above), despite being defined as conditions for which treatment is ''without return to previous health." The health outcomes estimates appear to be consistent with category 17 placement where all 31 CT pairs have low net-benefit values (less than 0.4) indicating "minimal or no improvement in quality of life.

### *Incorporation of Oregonians' Health State Preferences Into the Measurement of Treatment Outcomes*

***An*** innovative aspect of the HSC prioritization method is the incorporation of public perceptions of health states into the assessment of treatment outcomes. Public preferences for health states were obtained from a telephone survey and average preference weights were then incorporated into the estimate of a CT pair's net benefit. Neither net benefit nor the incorporated survey weights were important determinants of CT pair list placement, but the effort to measure public health state preferences was an important conceptual aspect of the prioritization process.

The preference weights derived from the telephone survey have a number of problems that render them inadequate representations of true public preferences as applied in Oregon's prioritization process (OTA analyses of the survey are described in more detail in app. C):

. More than one-third of respondents (381 of 1001) gave inconsistent responses, indicating that they had difficulty with the telephone interview. More than one-quarter (27 percent) of respondents, for example, provided illogical responses to the nested questions pertaining to functional limitations. One example of such a response is giving a less-favorable score to a health state defined by one fictional limitation (e.g., used a wheelchair) than to a health state including that and an additional limitation (e.g., used a wheelchair *and* needed help going to the bathroom or eating). Respondents with inconsistent responses were significantly more likely to be insured through the Medicaid program, have incomes at or below the Federal poverty level, and be members of a racial/ethnic minority group.

The HSC decided to use all values from the survey, despite the logical inconsistencies of some responses. According to OTA analyses, however, adjusting the data for inconsistencies does alter the weights and had net benefit been used to rank CT pairs within category, the order of some CT pairs would have changed had adjusted weights been used.[56] But even if the survey-derived weights were adjusted, evidence of respondent confusion might invalidate their use.

Respondent confusion may account for the presence of some counter-intuitive weights. Having stomach aches, vomiting, or diarrhea (-0.370), for example, was viewed as comparable to having a bad burn over large areas of the body (-0.372).

- For many states, individual scores varied widely from the average, suggesting either that there is general disagreement regarding the implications of the specified health states or that health states were too broadly defined (table 3-10).[57] Many of the health states include a wide range of conditions (e.g., coma and fainting are included in the same health state), and it is possible that different weights would have been obtained if health states had been more precisely defined.
- Weights differ significantly by respondent sociodemographic characteristics such as age and sex and according to whether the respondent had experienced the health state. Among the trends noted are that: respondents who had experienced the health state in question viewed

55 Net benefit is the difference between the assessed benefit with and without treatment.

56 An estimated 49 CT pairs (7 percent of 709 CT pairs) would move 10 or more lines if adjusted weights were used instead of unadjusted weights. These shifts would not have changed coverage status with coverage set at line 587.

57 The variation of individual Oregon scores as reported in table 3-10 is of the same magnitude as istypically feud in preference measure s. Available evidence suggests that while individuals within groups express differences in preference, preference weights are relatively constant from group to group (260).

**Table 3-10-Functional Limitation and Health State/Symptom Weights, Standard Deviations, and 95 Percent Confidence Intervals**

| Survey item | Oregon weight | Standard deviation | Confidence interval[a] |
|---|---|---|---|
| ***Functional limitation*** | | | |
| **Mobility** | | | |
| MI. Have to stay at hospital or nursing home. | -0.049 | .137 | (-0.057, -0.041) |
| M2. Cannot drive a car or use public transportation | -0.046 | .112 | (-0.054, -0.038) |
| **Physical activity** | | | |
| PI. Have to be in bed or in a wheelchair controlled by someone else | *-0.560* | *.257* | (-0.575, -0.543) |
| P2. Have to use a walker or wheelchair under your own control | -0.373 | *.246* | (-0.389, -0.357) |
| **Social activity** | | | |
| S1. Need help to eat or go to the bathroom. | -0.106 | .146 | (-0.1 16, -0.096) |
| S2. Are limited in the recreational activities you may participate in. | -0.062 | .099 | (-0.068, -0.056) |
| ***Health states/symptoms*** | | | |
| HI. Have losses of consciousness from seizures, blackouts, or coma. | -0.114 | .175 | (-0.126, -0.102) |
| H2. Have a bad burn over large areas of your body ... , | -0.372 | .265 | (-0.388, -0.356) |
| H3. Have drainage from your sexual organs and discomfort or pain | -0.325 | .240 | (-0.341, -0.309) |
| H4. Have trouble learning, remembering, or thinking dearly | -0.367 | .235 | (-0.381, -0.353) |
| H5. Have difficulty in walking because of a paralyzed or broken leg, but you have no other limitations on activity. | -0.253 | .210 | *(--0.267, -0.239)* |
| H6. Have a painful or weak rendition of the back or joints | -0.253 | .210 | *(-0.267, -0.239)* |
| H7. Have pain while you are urinating or having a bowel movement. ... , . | -0.299 | .236 | *(-4.315, -0.283)* |
| H8. Have stomach aches, vomiting, or diarrhea | -0.370 | .239 | *(-0.386, -0.354)* |
| H9. Experience a lot of tiredness or weakness. | -0.275 | .201 | *(-0.287, -0.263)* |
| H1O. Cough, wheeze, or have trouble breathing | -0.318 | .224 | *(-0.332, -0.304)* |
| H11. Are often depressed or upset | -0.326 | .234 | *(-0.340, -0.312)* |
| H12. Have headaches or dizziness | -0.305 | .221 | *(-0.319, -0.291)* |
| H13. Have an itchy rash over large areas of your body | -0,297 | .227 | *(-0.311,* -0.283) |
| H14. Have trouble talking, such as a lisp, stuttering, or hoarseness | -0.188 | .202 | (-0.200, -0.176) |
| H15. Have pain or discomfort in your eyes or vision problems that corrective lenses can't fix. | -0.248 | .212 | (-0.262, -0.234) |
| H16. Are overweight or have acne on your face ., | -0.215 | .227 | (-0.229, -0.201) |
| H17. Have pain in your ear or trouble hearing | -0.217 | .204 | (-0.229, -0.205) |
| H18. Are on prescribed medicine or a prescribed diet for health reasons , . | -0.123[b] | .183 | (-0.135, -0.1 11) |
| H19. Wear glasses or contact lenses | -0.055 | .166 | (-0.065, -0.045) |
| H20. Have trouble falling asleep or staying asleep | -0.248 | .218 | (-0.262, -0.234) |
| H21 . Have trouble with sexual interest or performance. | -0.276 | .246 | (-0.292, -0.260) |
| H22. Can't stop worrying. | -0.215 | .216 | (-0.229, -.201) |
| H23. Have trouble with the use of drugs or alcohol | -0.455 | .290 | (4.473. -0.437 |

a The 95 percent confidence interval shows the range of values that should include the true weight 95 percent of the time. The confidence interval is calculated by taking the weight +/- two times the standard error.
b The Health Services Commission decided not to use this weight (see text).

SOURCE: Office of Technology Assessment, 1992, based on analyses of 1990 telephone survey data supplied by the Oregon Health Services Commission.

12 health states more favorably than those who had not experienced them (e.g., having difficulty in walking); increased age was associated with less favorable scores for 11 of the health states (e.g., have trouble talking); males viewed 3 health states as being significantly worse than did females (e.g., trouble with sexual interest or performance) [58] (table 3-11).

If net benefit had been used to order CT pairs within categories and the weights of those who had experienced the health state were used instead of weights for the entire sample, the relative position of 45 CT pairs (6 percent of 709 CT pairs) would have changed by 10 or more lines. Following these shifts, six CT pairs would have changed coverage status with coverage set at line 587 (three would have moved up to be covered, three would have moved down to lose coverage). Selective use of women's weights for health conditions such as dysmenorrhea (CT pair 574) also would affect the ranking of some CT pairs.[59]

58 Women viewed three health states as being significantly worse than did *men (e.g.,* having a bad bin).

59 For example, men viewed experiencing drainage from sexual organs and sexual dysfunction less favorably than did women. US@ women's weights for these symptoms, which are associated with dysmenorrhea, would have the effect of moving that CT pair down the list by 10 lines (see app. C, box C-5, for net benefit calculations for this CT pair).

**Table 3-1 l—Differences in Oregon's Preference Weights by Medicaid Status, Poverty, Race/Ethnicity, Age, Sex, Experience With Problem, and Metro/Nonmetro Residence[a]**

| Survey items | Medicaid status[b] | Poverty[c] | Race/ethnicity[d] | Age[e] | Sex[f] | Experience with problem[g] | Residence metro/nonmetro[h] |
|---|---|---|---|---|---|---|---|
| ***Functional limitations*** | | | | | | | |
| **Mobility** | | | | | | | |
| MI. Have to stay at hospital or nursing home | — | — | — | J | — | — | — |
| M2. Cannot drive a car or use public transportation | — | — | — | — | — | — | — |
| **Physical activity** | | | | | | | |
| PI. Have to be in bed or in a wheelchair controlled by someone else | — | — | | — | — | — | — |
| P2. Have to use a walker or wheelchair under your own control | — | — | | — | ✓ | J | — |
| **Social activity** | | | | | | | |
| S1. Need help to eat or go to the bathroom | — | — | J | J | ✓ | — | — |
| S2. Are limited in the recreational activities you may participate in. | — | — | J | — | — | — | J |
| ***Health states/symptoms*** | | | | | | | |
| H1. Experience loss of consciousness due to seizures, blackouts, or coma. | — | — | — | — | ✓ | — | — |
| H2. Have a bad burn over large areas of your body. | — | — | — | ✓ | ✓ | — | — |
| H3. Have drainage from your sexual organs and discomfort or pain | — | — | J | ✓ | ✓ | | J |
| H4. Have trouble learning, remembering, or thinking dearly | — | — | — | — | — | J | — |
| H5. Have difficulty in walking because of a paralyzed or broken leg, but you have no other limitations on activity | — | — | — | — | — | J | — |
| H6. Have a painful or weak condition of the back or joints | — | | — | — | — | — | — |
| H7. Have pain while you are urinating or having a bowel movement | — | — | — | ✓ | — | | — |
| H8. Have stomach aches, vomiting, or diarrhea. | — | — | — | ✓ | — | ✓ | — |
| H9. Experience a lot of tiredness or weakness | — | — | — | ✓ | — | ✓ | — |
| H10. Cough, wheeze, or have trouble breathing | — | — | — | ✓ | — | ✓ | J |
| H11. Often depressed or upset | — | — | — | — | — | | — |
| H12. Have headaches or dizziness | — | — | — | J | — | J | — |

**Table 3-n-Differences in Oregon's Preference Weights by Medicaid Status, Poverty, Race/Ethnicity, Age, Sex, Experience With Problem, and Metro/Nonmetro Residence[a]--Continued**

| Survey items | Medicaid status[b] | Poverty[c] | Race/ethnicity[d] | Age[e] | Sex[f] | Experience with problem[g] | Residence metro/nonmetro[h] |
|---|---|---|---|---|---|---|---|
| H13. Have an itchy rash over large areas of your body | — | | — | J | — | — | — |
| H14. Have trouble talking, such as a lisp, stuttering or hoarseness | — | — | — | J | — | — | — |
| H15. Pain or discomfort in your eyes or vision problems that corrective lenses can't fix | — | — | — | — | — | — | — |
| H16. Overweight or have acne on your face | — | — | — | √ | — | √ | — |
| H17. Have pain in your ear or trouble hearing | — | — | √ | | — | — | — |
| H18. Are on prescribed medicine or a prescribed diet for health reasons | — | — | — | — | — | J | — |
| H19. Wear glasses or contact lenses | — | — | — | — | — | J | — |
| H20. Have trouble falling asleep or staying asleep | — | — | J | — | — | √ | — |
| H21. Have trouble with sexual interest or performance | — | — | — | J | √ | √ | — |
| H22. You can't stop worrying | — | — | — | — | — | — | — |
| H23. Have trouble with the use of drugs or alcohol | — | — | — | J | — | — | — |

[a] Multivariate analyses (analysis of variance) were used t. assess whether item-specific weights varied significantly (indicated by checks) by respondent characteristics.

b Those reporting anyone in the household holding a Medicaid card were coded as being a Medicaid participant (n=83).

c Those living at or below the Federal poverty level (FPL) were coded as poverty level (n=90).

d Blacks, American Indians, Orientals, Hispanics, and those reporting mixed heritage were coded as being minority group members (n=65). Minority group members perceived needing help for self-care (S1) (p=.01) more favorably than nonminority group members and perceived recreation limits (S2) (.02), sexual organ discomfort (H3) (p=.02), ear pain (H17) (p=.04), and sleep problems (H20) (p=.03) less favorably than nonminority group members.

e Age was treated as a continuous variable. As age increased, there were more favorable weights for hospital stays (M1) (p=.01), needing help for self-care (S1 ) (p=.008), and sexual dysfunction (H21) (.02). As age increased, there were less favorable weights for burns (H2) (.006), sexual organ discomfort (H3) (p=.03), urination/defecation pain (H7) (~-03), stomach aches (H8) (P-.000), tiredness (H9) (p=.05), cough (H1O) (p=.000), headaches/dizziness (H12) (p-.000), rash (H13) (p=.002), trouble talking (H14) (p=.02), overweight/acne (H16) (p-.003), and trouble with drugs/alcohol (H23) (p=.01).

f Women (n=598) viewed three states as being significantly worse than did men (n=403): needing help for self-care (S1) (@.02), loss of consciousness (HI ) (p=.002), and burns (H2) (p-.004). Men viewed three states as being significantly worse than did women: using a walker or wheelchair under own control (P2) (p=.02), sexual organ discomfort (H3) (p=.02), and sexual dysfunction (H21) (p- .005).

g Weights are significantly more favorable for respondents with experience with the condition than for those without such experience for 12 conditions: using a walker or wheelchair under own control (P2) (n=78) (p-.000), trouble learning/remembering (H4) (n=1 21) (p-.005), difficulty walking (H5) (n=139) (p=.012), stomach aches (H8) (n=381) (p=.03), tiredness/weakness (H9) (n-230) (p=.05), cough (H1 O) (n-290) (p=.000), headaches/dizziness (HI 2) (n=385) (p=.005), overweight/acne (H16) (n=436) (p-.007), prescription medications/diet (H18) (n=436) (p=.000), glasses (H19) (n=683) (.002), sleep problems (H20) (n=339) (p=.02), and sexual dysfunction (H21) (n-84) (p=.01).

h Weights of residents of metropolitan areas (SMAs) (n=676) were significantly more favorable than Weights of nonmetro residents (n=324) for recreational activity limitations (S2) (p=.02), sexual organ discomfort (H3) (p=.04), and cough (H1O) (p-.009).

SOURCE: Office of Technology Assessment, 1992, based on analyses of survey data supplied by the Oregon Health services Commission, 1990.

That Oregon's preference weights varied by sociodemographic and health experience should not be surprising. Kaplan and his colleagues report negative correlations between individuals' preference scores and age, number of chronic medical conditions, number of reported symptoms or problems, number of physician contacts, and dysfunctional status (109). Such differences, however, raise questions regarding the appropriate use of the weights (e.g., whether women's weights should be used to assess conditions affecting only women).[60]

In addition to problems related to the validity of the weights themselves, there are two potential problems with how the weights were applied:

- The list of 29 defined health states were used by both the clinicians providing outcomes information and the survey respondents valuing those health states. However, the descriptions of the health states that the clinicians used were more lengthy and often substantially different from those used for the survey. For example, when providing outcomes information, clinicians could use the descriptor ''pain, stiffness, weakness, numbness, or other discomfort in chest, stomach (including hernia or rupture), side, neck, back, hips, or any joints or hands, feet, arms, or legs. " For the telephone survey this symptom was abbreviated to "have a painful or weak condition of the back or joints." The weights from the survey might have been less favorable if the more extensive description of symptoms had been used.
- Different clinical endpoints were defined for the survey and for clinicians supplying outcome information. Clinicians were told to estimate outcomes that would be expected to occur in 5 *years, while survey* respondents providing health state preferences were told to assume that the health state was *permanent.* Although some symptoms or functional limitations present at 5 years are probably permanent, some of the weights might have been more favorable if respondents had assumed that the health condition described was not necessarily permanent. Furthermore, some immediate consequences of treatment (e.g., alleviation of pain following surgery) that may be important to patients are not accounted for using the clinicians' 5-year endpoint.

### *Incorporation of Community Values*

Incorporating community values into the prioritization process was an important goal of the Oregon Basic Health Services Act, and the HSC attempted to become informed of public values through both public hearings and community meetings. Despite a concerted effort to solicit the views of the population most likely to be affected by the demonstration (i.e., Medicaid recipients, those without medical insurance), the majority of community meeting attendees (69 percent) were health care providers (91). Although these individuals may have tried to express the needs of their patients, they also had their own interests to express. On the other hand, given the nature of the values discussed at the meetings (see box 3-G), it is unlikely that different values would have been expressed had the socio-demographic composition of the group been different (e.g., the high prioritization of services for mothers and children and the low prioritization of infertility services) (83,105).

Regardless of the representativeness of the meetings, the HSC category rankings do seem to reflect the values expressed at them. Potentially life-saving treatments, maternal and child health services, preventive services, dental services, and treatments that improve quality of life were highly ranked categories, while treatments for conditions for which minimal or no improvement in quality of life is expected were generally ranked low.

### *Factors the HSC May Consider When Issuing Another Prioritized List in 1993*

Some of the criticisms raised in this section have been acknowledged by the HSC, which is making technical amendments to the list. The list issued May 1, 1991 is not unchangeable. The legislation stipulates that the list be under continual review and a new list issued every 2 years. Some factors that may be considered or considered more fully in the future include (193):

60 Differences between the Oregon weights and those measured by Kaplan (preferences of San Diego County, California residents were assessed in the mid- 1970s) are discussed in app. C.

- Comorbidity,
- Severity of illness,
- Public preference for immediate versus future health benefits,
- Ranking preventive services according to their relative effectiveness,
- Societal impact of the prevention of contagious disease,
- Societal impact of fertility/birth control measures,
- Personal responsibility for condition,
- Condition incidence and prevalence,
- Discounting of future costs and benefits,
- Costs of health maintenance when a Life is saved,
- Costs of non-treatment or of alternative treatments (e.g., dialysis instead of liver transplant), and
- Social costs (e.g., unemployment due to disability).

### *The Implications of Integrating Additional Services Into the Prioritized List*

Mental health and chemical dependency (MHCD) services would be incorporated into the 1993 version of the list, and some services for the aged, blind, and disabled are expected to be integrated. The HSC's MHCD subcommittee prioritized 51 MHCD services using a similar approach to the HSC and issued an integrated list of 760 health and MHCD services.[61] The subcommittee recommended that at a minimum the frost 39 of the 51 MHCD services be covered (244). Actuarial estimates are not yet available for the integrated list, but including expensive MHCD services may require substantial additional expenditures to maintain coverage of the current list of 587 health services (96). The process of identifying and prioritizing services for the aged, blind, and disabled is just beginning, so it is unclear how their inclusion might affect the prioritized list.

## EVALUATING THE PRIORITIZED LIST

### *Clinical Critique of the Prioritized List*

A clinical review of the list was undertaken on OTA's behalf by four physicians (two internists and two pediatricians) who reviewed the entire prioritized list (14,80,235). For this and other analyses, the clinical contractors were instructed to use readily available published information (e.g., review articles, medical textbooks) and consultations with experts. An informal review of the entire list identified the following problems associated with its use:

- Ranked too low—There are numerous examples of CT pairs that are more effective or clinically important than other nearby CT pairs. Examples of CT pairs where clinicians may find it hard to accept noncoverage for treatment include medical therapy and thymectomy for myasthenia gravis (line 593),[62] and medical therapy for chronic bronchitis (line 643), sarcoidosis (line 644), and sprains and strains (lines 653 and 655).
- Ranked too high—There are numerous CT pairs that are less effective or clinically important than other nearby CT pairs. Examples include line 495, excision of ganglion of tendon or joint, which is usually a trivial condition, and line 606, medical therapy for hepatorenal syndrome, for which treatment is generally regarded as ineffective.
- Related treatment rankings-Some alternative treatments for the same condition are inappropriately ranked given the usual sequence of current practice. In some cases, surgical therapy is ranked above line 587 and medical therapy ranked below line 587. Surgical treatment for peripheral enthesopathies (CT pair 493), for example, is covered, while medical therapy is not (CT pair 642).[63] Clinicians generally try medical therapy, and proceed to surgery only if medical therapy fails. Such rankings create counterproductive incen-

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61 The HSC plans to finalize an integrated list summer 1992 (244).

62 The HSC is considering moving myasthenia gravis from line 593 to between lines 159 and 160 as part of the technical amendment process. This change is expected to be reflected in the May 1992 revised list (190).

63 The HSC, as part of the technical amendment process, is considering redefining CT pair 493 and moving it down the list to between lines 531 and 532. The redefined CT pair would include surgical treatment for all peripheral enthesopathies. Medical therapy for peripheral enthesopathies would remain uncovered at line 642 (190),

tives for providers, encouraging expensive and invasive therapy.

. Heterogeneous patients within CT pairs-Patients within many CT pairs are heterogeneous with respect to expected outcomes and therefore some subgroups of patients within CT pairs below the line could be expected to benefit from treatment. Physicians may have difficulty denying potentially beneficial treatment to some of these patients. CT pair 640, for example, includes testicular hyperfunction, which may require no treatment, and Schmidt's syndrome, which is fatal without treatment of the adrenal insufficiency and for which the treatment is inexpensive and completely effective (311).

. Distinctions between some CT pairs are very subjective--Distinctions between some CT pairs, such as cancer and HIV-related CT pairs, require very subjective and arbitrary judgments of clinicians. There are 27 site-specific cancer CT pairs above the coverage line specified as "treatable.' Line 688 specifies treatments for cancer of various sites with distant metastasis where treatment will not result in a 10 percent 5-year chance of survival. A similar distinction is made for HIV disease. Medical therapy for HIV disease is covered at line 158, but it is not covered if the patient is in the end stages of HIV disease (CT pair 702). End-stage HIV disease is defined as the last 6 months of life. Comfort care would be available for terminal ' 'untreatable" conditions. It may be difficult for clinicians to classify a condition as untreatable or terminal. In fact, a determination of a poor prognosis for patients is often made only after a patient fails to respond to treatment.

. Inseparability of treatment from diagnostic evaluation—For some CT pairs, the treatment is largely inseparable from a reasonable diagnostic evaluation. In the case of surgery for peritoneal adhesions (line 508), for example, the diagnosis is made at the time of laparotomy, the surgical procedure employed to treat the condition.

. Many opportunities to up- or down-code-Decisions to categorize patients by CT pair is in many cases subjective so that up- or down-coding could easily occur. Sometimes a CT pair is split according to severity of illness. Lung resection for congenital cystic lung disease, for example, occurs twice on the list, once for the mild or moderate form (CT pair 212) and once for the severe form (CT pair 693). The distinction between mild or moderate and severe is subjective, and clinicians could make such distinctions according to their inclination to treat. In other cases, the treatment might not be covered for the patient's immediate condition, but if the physician coded the patient according to his or her underlying or secondary condition, the treatment could be covered. Cholecystectomy is an uncovered treatment, but it is sometimes indicated for patients with sickle-cell anemia. The surgery might be covered if coded as a treatment for sickle-cell anemia (CT pair 160). Treatment of terminal cancer is not covered, but when such patients experience a complication such as anemia or intestinal blockage, that treatment could be covered under higher ranking CT pairs.

. Empty CT pairs--Some treatments ranked near the bottom of the list represent ineffective care that in practice is rarely provided, giving their lack of coverage little meaning. Oregon neonatologists are not now, for example, providing aggressive medical treatment to anencephalic babies (CT' pair 709), or to extremely low-birth-weight babies that are considered nonviable (babies weighing less than 500 grams and born at less than 23 weeks gestation) (CT pair 708) (57).

. Confusion regarding where certain conditions and their treatments are on the list—Until the list is corrected and provider instructions for using it completed, coding errors and inconsistencies would lead to confusion as physicians try to locate specific conditions or treatments on the list. Many CT pairs have duplicate or missing ICD-9-CM or CPT--4 codes. ICD-9-CM code 722.7 (intervertebral disc disorder with myelopathy), for example, appears within two CT pairs, one above and the other below the line (CT pair 58&medical and surgical treatment for spondylosis and other chronic disorders of back, and CT pair 588--thoracic-lumbar laminectomy or medical therapy for intervertebral disc disorders). It is unclear what the intent for coverage is for this condition, Another source of confusion is inconsistency between the CT pair descriptions and the ICD-9-CM or CPT-4 codes listed within the CT pair. Treatable dementia (line 230), for example, includes conditions that

some clinicians would not consider effectively treated (e.g., multi-infarct dementia).

It is not surprising that OTA clinical reviewers found numerous examples of CT pairs that, in their opinion, were ranked either too high or too low, given that the ranking was dependent on the judgments of HSC commissioners. Clinicians may have difficulty using the list as it now stands, either because of its ambiguities or because it forces clinicians to accept judgments that may not coincide with their own or do not seem applicable to individual patients. The clinical consequences to beneficiaries of applying the prioritized list are discussed in the following chapters.

## SUMMARY AND CONCLUSIONS

### *The Prioritization Process*

***The*** HSC prioritized CT pairs using a two-staged ranking process, followed by **a** reordering of selected CT pairs on the list according to its judgment. In the **first stage** of the ranking process, CT pairs were assigned to 1 of 17 health service categories. The categories were then ranked using a group consensus method intended to reflect community health care values expressed at public meetings. In the second stage, CT pairs were ranked within categories by a "net benefit" term, which indicates the likely improvement in health-related quality of life associated with treatment for the specified condition. Its calculation integrates information from two principal sources: health care providers' assessments of treatment outcomes, and Oregonians' health state preferences elicited through a telephone survey.

Following the two-staged ranking, the HSC used its best judgment to reorder some CT pairs. Selected CT pairs were moved up and down the list either within or beyond the range of their original category placement.

### *Determinants of CT Pair List Placement*

OTA concludes that CT pair order on the prioritized list was determined largely by judgment-based HSC rankings of service categories and "hand" adjustments of the list. The hand adjustments of the **list** were extensive; the HSC moved nearly one-quarter (24 percent) of CT pairs at least 100 lines up or down the list. CT pair health service category assignment remains an important determinant of CT pair placement on the prioritized **list,** but HSC adjustment of the list reduced the importance of "net benefit,' which had been used to order CT pairs within categories. Given that rankings depended on HSC judgments, it is unlikely that the exact rankings of the final list would be reproduced if a similar process were undertaken by others. That the list may not be replicable does not itself necessarily condemn its use in Oregon, but it does imply that the list cannot be adopted by other States and retain whatever meaning it has.

Given that Oregon's prioritized list is widely discussed as an example of "rationing," it is important to note that certain factors often discussed as part of 'rationing" are relatively unimportant to the list. For example, CT pair-related cost and cost-effectiveness were not important determinants of CT pair order on the list. Nearly one-half of the highest-cost CT pairs are found within the top 300 lines of the list, and as many as one-third of low-cost CT pairs fall below line 587. The relative order of some CT pairs may appear counterintuitive to some if the list is viewed from a cost-effectiveness perspective. Simple and inexpensive-to-treat sprains and strains, for example, fall below the coverage line while expensive transplants generally fall above the line.

Also, the relative effectiveness of diagnostic tests were not considered as part of prioritization-all diagnostic tests are included in a hypothetical CT pair O. Other mechanisms that area part of Oregon's plan (e.g., utilization review, managed care) are to control any inappropriate use of diagnostic services.

Finally, while the list does seem to concentrate some conditions for which treatment is regarded as ineffective at the bottom of the list, the list itself does not effectively eliminate what many would consider "futile' care. For example, although the list does prioritize comfort care over the treatment of terminal cancer, a patient with complications of terminal cancer (e.g., anemia, surgical treatment of an intestinal blockage) could be treated under the plan.

### *Critique of HSC Prioritization Process*

Community Meetings and Public Hearings--The community meetings and public hearings held as part of the prioritization process provided an important opportunity for the public to raise issues and participate in the process. Some of the public values expressed at these meetings seem to be reflected in the list. However, the views expressed at

the community meetings may not be representative of a cross section of Oregon residents. Despite a concerted effort on the part of meeting organizers to reach out to populations likely to be affected by the demonstration, the majority of participants were health care providers.

A potential liability of using a focus group or ''town meeting' approach to setting priorities is that irrespective of whether balanced representation is achieved, various stakeholders are likely to skew the outcomes. Treatments affecting subpopulations might suffer if majority consensus or well-funded special interest groups drive resource allocation decisions. If the demonstration proceeds, awareness of the importance of the prioritized list would be raised and providers and various interest groups would probably lobby the HSC for special consideration. Representatives of the HSC expect this to occur (244) and point out that such efforts routinely occur on a national basis (e.g., lobbying Congress for Medicare coverage for certain services).

The HSC would require technical and analytic expertise to judge the validity of interest group claims to avoid being swayed by biased or faulty data. Such expertise would be needed both for the biannual preparation of a new list and for the technical amendment process that would occur in the interim. The HSC now has a very small technical staff, and Ballot Measure 5-related cuts may reduce the available staff by as much as 25 percent, limiting the HSC's ability to provide necessary analytic support (191).

***Treatment Outcomes Information-Net*** benefit was not as important a determinant of CT pair placement on the list as other aspects of the prioritization process. Nonetheless, the outcome information provided to the HSC by Oregon clinicians and the public preferences elicited by telephone were vital conceptual parts of the process.

The HSC relied on panels of clinicians to provide outcomes information based primarily on their own clinical judgment rather than extensive reviews of the medical literature. OTA clinician reviewers disagreed with most of the outcomes information for a sample of CT pairs they examined, suggesting that outcomes assessment by this method is a highly subjective process that may vary substantially among individuals according to experience and opinion.

It was difficult for Oregon clinicians to provide outcomes information in accordance with their own experience because individual CT pairs often aggregated a wide range of conditions and treatments, and because there was no way to systematically capture the effects of factors such as age and comorbidity on outcome. Several specific aspects of the outcomes gathering process may have also contributed to errors and inconsistencies in outcomes assessment (e.g., the fact that clinician panels providing outcomes information differed in composition, size, and methods).

One of the most innovative aspects of Oregon's prioritization process is the integration of quality-of-life measures into treatment outcome assessments. A uniform set of health states were used to describe all treatment outcomes, making it possible to compare such diverse treatments as medical therapy for diaper rash and bone marrow transplantation for leukemia. Clinician-supplied outcomes information was specified in terms of the presence or absence of these health states, which were in turn weighted according to public preferences or the relative desirability of experiencing the health states (as determined by a statewide phone survey). Using the weights allows the prioritization of a treatment that avoids a particularly dreaded symptom over another treatment that avoids a less onerous one.

OTA analyses of the telephone survey responses and the resultant weights, however, suggest that it is premature to apply these measures to resource allocation decisions. More research on eliciting weights (e.g., in-person vs. phone interviews), defining health states to be measured, and methods to calculate weights are needed before they can be applied with scientific validity.

### *Clinical Critique of the Prioritized List*

From a clinical perspective, a weakness in the prioritization methodology is the reliance on broadly defined service categories (e.g., chronic fatal, acute non-fatal). These categories were an important determinant of CT pair order on the list, but they are clinically problematic because many of the distinctions among categories are not useful measures of treatment ''importance' (e.g., acute vs. chronic, repetitive vs. one-time treatment). On the other hand, the service-defined categories (e.g., reproductive health, dental services) were a useful organizational tool which enabled the HSC to incorporate

public values elicited at community meetings and hearings. For example, the HSC was able to rank high women's and children's services and rank low treatments for infertility.

A major problem with the list is that many diverse conditions are aggregated into CT pairs and many CT pairs include conditions of varying severity and responsiveness to treatment. The HSC used its judgment to rank CT pairs for the average patient within the CT pair. From the perspective of the patients and physicians using the list, however, the list may seem unreasonable when applied to individuals because of the level of aggregation of conditions and treatments within CT pairs. There are numerous examples of patient subpopulations within below-the-line CT pairs that might benefit substantially from treatment, and there are other examples of patient subpopulations within above-the-line CT pairs for which treatment might be ineffective. Clinicians and patients may have difficulty accepting the validity of the list when the patient's treatment falls below the line, but the treatment is expected to improve the condition because of the patient's unique clinical circumstances. Lastly, there are numerous technical errors in the list that if not corrected could contribute to misinterpretation of the scope of conditions or treatments included in CT pairs on the list.

In summary, a *quantified* prioritization process incorporating net-benefit values was not possible, in part because accurate health outcome information is not yet available for most treatments. Even if such data were available, however, it would be difficult to apply in the Oregon context because of the variety of conditions and treatments included in many CT pairs and the inability for CT pair-based outcomes estimates to account for such factors such as age and comorbidity. If CT pairs were disaggregated to better specify conditions on such factors as comorbidity and better define patient populations by factors such as age, the list could number in the tens of thousands and the subjective processes used by the HSC would become unmanageable. One group that has attempted to use a clinician consensus process to generate outcomes for certain procedures, for example, has enumerated as many as 2,000 indications for hysterectomy alone (33). If conditions were disaggregated, a more systematic or quantified approach than that used by the HSC would have to be used. Even if a quantified approach were developed to rank even a much less extensive list, however, the list might not serve as a useful guide to health benefits-it would be nearly impossible to actuarially price such a list and it would be impractical for clinicians to use it. Furthermore, difficult ethical questions would arise as rankings by treatment effectiveness would certainly be influenced by such factors as age and presence of disability.

Applying cost-effectiveness analysis to a list made up of CT pairs is also problematic. CT pairs are defined so broadly that clinical approaches of widely varying costs and effectiveness are buried within a single CT pair (e.g., treatment is often defined as medical or surgical therapy, which could include anything from an office visit to invasive surgery). Quantifying costs and benefits and adjusting for quality of life over a lifetime for all health services are daunting tasks which are theoretically possible but unlikely to be achieved in the near future. Information will be available incrementally to help guide specific health resource allocation decisions and to improve physician-patient counseling and decisionmaking.

The Oregon prioritization process has provided some valuable lessons. Public awareness of limited health care resources has been raised and a concerted effort was made to identify the medical and social value of treatments as assessed by community physicians and patients. Refinements and variations of the process could be used to: define the extremes of coverage (i.e., highly prioritized care and 'futile' or socially unimportant care), guide utilization management programs, and focus the efforts of the health service research community.

# Chapter 4

# Implications for Health Care Providers

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# Chapter 4
# Implications for Health Care Providers

## INTRODUCTION

Implementation of Oregon's proposed Medicaid demonstration would affect providers of health care organizationally, financially, and clinically. Any impact of the proposed demonstration on providers of care is likely to have a resultant impact on Medicaid beneficiaries' access to care-either primary access or access to specific services. (Implications for beneficiary access to care are discussed further in chapter 5.)

Of the many changes proposed under the demonstration, four are likely to have pronounced effects on providers:

- Enrollment expansion,
- Restructuring of the delivery system,
- Changes in methods and rates of provider reimbursement, and
- Implementation of the prioritized list of health services as the Medicaid benefit package.[1]

Not all of these changes would be fully in place at program startup. Enrollment expansions are expected to occur over a period of approximately 3 years (see ch. 5). Delivery system and reimbursement reforms are expected to be completed within the first 2 years. The prioritized list, however, would be in place from the very beginning. The ultimate impact of the demonstration on providers would depend on the combined effect of all of these changes and would probably vary greatly among individual providers.

This chapter provides a framework for predicting provider response to the demonstration by examining the *possible* effects of proposed changes for different types of providers in the State. First, it provides an overview of Oregon health care providers and the current Medicaid delivery system. Next, it summarizes the proposed delivery system and payment changes under the demonstration and speculates about their possible implications for different types of providers. Finally, the chapter discusses provider issues related to the implementation of the prioritized list as a benefit package. It also discusses the level of data collection efforts and other administrative tasks that providers (and the Office of Medical Assistance Programs (OMAP))[2] would need to take on in order to enable an evaluation of the demonstration.

It is important to note that, at the time this report was written, many aspects of Oregon's implementation process had yet to be developed. The goal of this chapter is first to describe the proposed changes in detail, and then to point out issues of potential concern for providers based on the Office of Technology Assessment's (OTA) understanding of the development of Oregon's plan to date. Some of these concerns appear to be relatively simple ones to address, and some are already under consideration by OMAP; others seem less tractable.

## CURRENT STATUS OF PROVIDERS IN OREGON

To understand how the proposed demonstration might affect health care providers in Oregon, it is helpful to examine their current involvement in Medicaid as well as the broader climate in which they function. This section describes the supply and distribution of providers in Oregon and, where possible, their financial characteristics and participation in Medicaid. It then describes how health care is delivered and paid for under Oregon's current Medicaid program.

### *Provider Supply, Distribution, and Financial Characteristics*

#### Hospitals

There are 66 short-term general community hospitals in Oregon.[3] Of these, 30 are in Oregon's 8 metropolitan counties. Of the 36 hospitals in nonmetropolitan areas of the State, 24 have fewer than 50 beds (155). Table 4-1 shows the distribution of hospitals by county and size.

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1 Another change that would affect providers is the State's proposed waiver of liability for not providing to Medicaid patients those medically necessary services that fall below the cutoff point on the prioritized list. This provision is discussed in ch. 7.

2 OMAP is the agency within the Oregon State Department of Human Resources that is responsible for administering the Medicaid program.

3 Data presented in this section are for short-term general community hospitals only.

**Table 4-I-Number and Size of Oregon Short-Term General Hospitals[a] by Geographic Area, Current (1991) Medicaid Delivery System Status, and Anticipated Delivery System Status Under the Proposed Demonstration**

| Current delivery system in county group | Proposed delivery system in county group | Number of counties | Total hospitals | Number of staffed beds | | |
|---|---|---|---|---|---|---|
| | | | | 6 to 49 | 50 to 199 | 200 to 499 |
| PHP[b] enrollment currently mandatory for AFDC recipients | FCHP to be primary mode of delivery for all demonstration eligibles at program startup | 9 (7 metro, 2 nonmetro) | 30 | 7 | 15 | 8 |
| PHP enrollment currently optional for AFDC recipients | PCO or FCHP to be primary mode of delivery for all demonstration eligibles at program startup | 1 (metro) | 3 | 1 | 1 | 1 |
| Currently under FFS system | PCOs to be primary mode of delivery for all demonsration eligibles by year three of demonstration | 19 (all nonmetro) | 28 | 19 | 9 | 0 |
| Currently under FFS system | Case-managed FFS mandatory for all demonstration eligibles at program startup | 5 (all nonmetro) | 5 | 5 | 0 | 0 |
| Entire State | | 34 | 66 | 32 | 25 | 9 |

NOTE: AFDC = Aid to Families with Dependent Children; FCHP = fully capitated health plan; FFS = fee-for-service; PCO = physician care organization (PCOs are capitated for physician and selected other outpatient services, but not for inpatient care); PHP = prepaid health plan.

[a] Includes all short-term general hospitals in Oregon except military and VA hospitals.

[b] In 1991, there were 15 partially capitated and one fully capitated prepaid health plans serving Medicaid clients in a 10-county area in Oregon.

SOURCES: Oregon Association of Hospitals, Salem, OR, unpublished data on the distribution and financial characteristics of Oregon hospitals, provided to the Office of Technology Assessment in 1991; Oregon Department of Human Resources, Office of Medical Assistance Programs, Salem, OR, *The Oregon Medicaid Demonstration Waiver Application,* submitted to the Health Care Financing Administration, Aug. 16, 1991.

Available data suggest that the viability of a number of hospitals in the State is tenuous. For example:

- The average occupancy rate for community hospitals in Oregon is significantly lower than the U.S. average (56.8 vs. 66.8 percent in 1990) (6).
- One metropolitan county and 8 of the 25 nonmetropolitan counties had average hospital occupancy rates below 30 percent (162).
- Although net operating margins[4] of Oregon hospitals generally improved between 1987 and 1990, certain classes of hospitals (e.g., hospitals of 6 to 24 beds, government hospitals) on average reported negative operating margins in 1990 (table 4-2). Operating margins of type A and type B rural hospitals have improved over the last 4 years, perhaps due to the implementation of Federal and State policies that exempt them from prospective payment for inpatient services and percent-of-cost limits for outpatient services. Operating margins of type C rural hospitals, which do not benefit from reimbursement protections, have declined.
- In 1990, 23 of the State's hospitals reported negative operating margins, with 9 hospitals reporting margins worse than –10 percent (155). All but 7 of these 23 hospitals were in nonmetropolitan counties.

Although all hospitals serve at least some Medicaid patients, certain hospitals serve more than others and, hence, are more dependent on Medicaid revenues than their counterparts. For example, in 1990:

- The total number of Medicaid inpatient discharges in Oregon was 38,513.[6] Of these, 26,115 (67 percent) were from Oregon's 10 Medicaid disproportionate share hospitals (162).
- Medicaid represented 11.6 percent of total inpatient discharges and 10.2 percent of total inpatient days in Oregon hospitals. Types of hospitals with a greater than average proportion of Medicaid inpatient discharges and days were Medicaid

[4] See glossary for definition of net operating margins.

[5] Refers to classifications developed by the State of Oregon for Medicaid reimbursement exemptions and other resource allocation purposes. Type A hospitals were exempt from prospective payment for inpatient services for all years represented in table 4-2. Type B hospitals were exempt from prospective payment for inpatient services beginning in 1989. Both type A and type B rural hospitals are reimbursed at 100 percent of costs for inpatient services (based on individual hospitals' Medicare cost reports). Type C rural hospitals are not eligible for these reimbursement protections (161a).

[6] Discharges with Medicaid listed as primary source of pay. Excludes discharges from the two Kaiser Permanente hospitals.

**Table 4-2—Net Operating Margins of Oregon Short-Term General Hospitals,[a] 1987 and 1990**

| Hospital category | Number of hospitals, 199@ | Net operating margin 1987 | 1990 |
|---|---|---|---|
| All hospitals | 66 | 2.56% | 2.58%. |
| Metropolitan ., | 28 | 2.63 | 2.41 |
| Nonmetropolitan. | 38 | 2.63 | 3.04 |
| Rural class A[c] | 9 | -1.68 | 1.25 |
| Rural class B | 19 | -3.11 | -0.10 |
| Rural class C | 13 | 4.95 | 2.87 |
| Nonrural hospitals | 25 | 2.98 | 2.79 |
| Number of staffed beds | | | |
| 6 to 24 | 8 | -16.87 | -13.20 |
| 25 to 49 | 24 | 0.42 | 2.10 |
| 50 to 99 | 10 | 5.80 | 4.94 |
| 100 to 199.,.... | 15 | 2.92 | 3.51 |
| 200 to 299...,.. | 1 | 3.49 | 1,69 |
| 300 to 399..... | 4 | -1.49 | -3.52 |
| 400 to 499..... | 4 | 6.68 | 7.64 |
| Ownership | | | |
| Private, for profit. | (8) | -0.43 | 2.32 |
| Nongovernment, not-for-profit | (39) | 5.20% | 4.26 |
| Government, State or local | (19) | -11,10 | -6.60 |
| Medicaid disproportionate share (DSH) status | | | |
| DSH | (10) | NA | -3.66 |
| All other hospitals. | (56) | NA | 4.20 |

NOTE: NA = not available.
[a] Includes all short-term general hospitals in Oregon except military and Veterans Administration hospitals.
[b] This column reflects the 1990 totals for each grouping. Numbers forpnoryears were slightly different.
[c] See text (footnote 5)foradefinition of Oregon rural hospital classifications.

SOURCE: PreparedbytheOregonAssociation ofHospitals, Salem,OR,usingdata from the 1990 American Hospital Association Annual Survey of Hospitals and 1990 audited financial statements from Oregon hospitals.

disproportionate share hospitals (22.9 and 22.0 percent of discharges and days, respectively), government hospitals (18.2 and 18.6 percent), type C rural hospitals (16.7 and 11.5 percent), and type B rural hospitals (13.6 and 12.0 percent) (162).

- Medicaid represented 11.9 percent of total inpatient charges for all hospitals. Types of hospitals significantly exceeding this average included hospitals of 200 to 400 beds (where Medicaid represented about 15 percent of charges), State or local government hospitals (16.2 percent), and Medicaid disproportionate share hospitals (22.9 percent). Hospitals below the average included rural hospitals (6.9 percent for class A), hospitals that were not a part of a multihospital system (8. 1 percent), and hospitals that did not have Medicaid disproportionate share status (7.0 percent) (162).

The distribution of outpatient visits by source of pay appears to differ from that of inpatient visits. Small rural hospitals and Medicaid disproportionate share hospitals had a greater proportion of outpatient visits than inpatient discharges attributed to Medicaid (10.9 vs. 6.9 percent for rural class A, 15.0 vs. 13.9 percent for disproportionate share), while the reverse was true for all other hospitals (162). The higher use of outpatient services by Medicaid patients in rural hospitals could be due to the limited availability of office-based health care services in these areas, although no empirical data exist to support this theory. The differences noted could also be due in part to inconsistencies in how individual hospitals report outpatient visits.

### Primary Care Clinics

Primary care clinics in Oregon include federally qualified health centers (FQHCs),[7] federally certified rural health clinics (RHCs), county health

[7] FQHCS are clinics funded under sections 329, 330, and/or 340 of the Public Health Service Act, or other public clinics that serve similar clients, as designated by the Secretary of the Department of Health and Human Services (Public Law 101-239, Public Law 101-508). They include community health centers (section 330), migrant health centers (section 329), and health centers for the homeless (section 340).

## Table 4-3-Location, 1990 Patient Population Characteristics, and Proposed Status Under the Demonstration of Oregon's Federally Qualified Health Centers (FQHCs)[a]

| Clinic name | Total unduplicated users, 1989 | PHS[a] grant source | County/ metro status[b]/ No. of clinic sites | Percent of users with no health insurance | Minority status | | Age distribution | | Percent of users below 100 percent of FPL[c] | Percent of users who have Medicaid coverage | PCO/FCHP status[d] Now | Under demonstration |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Clinica del Carino | 2,182 | 329 and 330 | Hood River Nonmetro 1 | 71% | Hispanic<br>Black<br>Other nonwhite | 70.0?/'<br>0.3%<br>0.8% | 0-19<br>20-64<br>65+ | 44.0%<br>54.0%<br>2.0% | 70% | 14% | None | PCOs by start of year 3 |
| Clinica del Vane | 3,794 | 329 | Jackson Metro 1 | 91 | Hispanic<br>Black<br>Other nonwhite | 70.0<br>0.5<br>0.5 | 0-19<br>20-64<br>65+ | 41.5<br>57.0<br>1.5 | 70 | NA | PCO optional | FCHPs mandatory by startup |
| Hermiston Community Clinic | 3,312 | 329 | Umatilla Nonmetro 1 | 60 | Hispanic<br>Black<br>Other nonwhite | 38.0<br>0.5<br>NA | 0-19<br>20-64<br>65+ | 51.0<br>46.0<br>3.0 | 60 | 16 | None | PCOs by start of year 3 |
| Milton-Freewater Clinic | (New clinic in 1990) | 329 | Umatilla Nonmetro 1 | 30 | Hispanic<br>Black<br>Other nonwhite | NA<br>NA<br>NA | 0-19<br>20-64<br>65+ | NA<br>NA<br>NA | NA | 15 | None | PCOs by start of year 3 |
| Multnomah Co. Health Department | 38,332 | 330 and 340 | Multnomah Metro 14a | 82 | Hispanic<br>Black<br>Other nonwhite | 3.8<br>16.3<br>12.6 | 0-19<br>20%1<br>65+ | 57.0<br>41.0<br>2.0 | 79 | 21 in a PCO, 1.8 not | PCOs mandatory | FCHPs mandatory by startup |
| Salud Medical Clinic | 8,075 | 329 and 330 | Marion Metro 1 | 71 | Hispanic<br>Black<br>Other nonwhite | 60.3<br>NA<br>1.0 | 0-19<br>2044<br>65+ | 48.0<br>51.0<br>1.0 | 74 | 11 | PCOs mandatory | FCHPs mandatory by startup |
| SORHN | 2,827 | 330 | Klamath Nonmetro 2 | 39 | Hispanic<br>Black<br>Other nonwhite | 1.0<br>1.0<br>24.0 | 0-19<br>20-64<br>65+ | 40.0<br>47.0<br>13.0 | 77 | 29 | None | PCOs by startup |
| Valley Family Health Care Inc./ Nyssa | NA | 329 | Malheur Nonmetro 2 | | Hispanic<br>Black<br>Other nonwhite | NA<br>NA<br>NA | 0-19<br>20-64<br>65+ | NA<br>NA<br>NA | NA | NA | None | PCOs by start of year 3 |
| Virginia Garcia Clinic | 8,494 | 329 | Washington Metro 1 | 87 | Hispanic<br>Black<br>Other nonwhite | 88.5<br>0.1<br>0.2 | 0-19<br>20-64<br>65+ | 46.0<br>53.0<br>1.0 | 92 | 8 | PCOs mandatory | FCHPs mandatory by startup |
| West Salem Clinic | 6,891 | 330 and 340 | Marion Metro 1 | 26 | Hispanic<br>Black<br>Other nonwhite | 15.0<br>2.0<br>3.0 | 0-19<br>20-64<br>65+ | 23.0<br>53.0<br>24.0 | 68 | 35 | PCOs mandatory | FCHPs mandatory by startup |
| Clackamas Co. Health Department | (New clinic in 1991) | "Look-alike" | Clackamas Metro 2 | 74 | Hispanic<br>Black<br>Other nonwhite | 10.0<br>0.8<br>1.1 | 0-19<br>20-64<br>65+ | 59.0<br>41.0<br>0.0 | 63 | 22 | PCOs mandatory | FCHPs mandatory by startup |

NOTE: NA = not available.

a FQHCs are clinics funded under sections 329 (migrant health centers), 330 (community health centers), and/or 340 (health care for the homeless) of the Public Health Service Act (see text). Other public clinics can also qualify under a "look-alike" provision if they provide similar services.

b Refers t. metropolitan or nonmetropolitan status (Bureau of Census definition) of county in which clinic is located.

c FPL = Federal poverty level.

d Denotes proposed service delivery mode i, that county under the demonstration. PCO = physician care organization (a partially capitated plan); FCHP = fully cavitated health plan. Currently, prepaid plan enrollment is mandatory for Aid to Families with Dependent Children (AFDC) eligibles in a 9-county area and is optional in a tenth county. As of March 1991, four FQHCs (Multnomah County Health Department, Clackamas County Health Department, Virginia Garcia Clinic, and Clinica del Vane) were participating as PCOs and an additional two (Salud and West Salem clinics) were participating as subcontractors to a PCO. Under the demonstration, enrollment in prepaid delivery systems would apply to all eligibility groups (see text). FCHPS would be the required mode of service delivery in nine (urban or urban-adjacent) counties. Other counties are targeted for PCO contract negotiations, although Oregon has not stated in which counties PCOs will be mandatory. The dates in the far right-hand column reflect the time at which OMAP had anticipated PCO and FCHP contracts to be finalized in that county. The original anticipated date for program startup was July 1,1992. Contract negotiations have since been delayed on a month-to-month basis pending approval of the waiver by the U.S. Health Care Financing Administration (see text).
e The Multnomah County Health Department is composed of seven COmmUnity clinic sites and seven school-based sites.
f Clackamas County Health Department was designated as an FQHC in October 1991.

SOURCES: Oregon Primary Care Association, unpubiisheddata derived from Bureau of Common Reporting Requirements reports filed by federally funded clinics and reports from individual clinics, prepared for the Office of Technology Assessment August 1991; Oregon Department of Human Resources, Office of Medical Assistance Programs, Salem, OR, *The Oregon Medicaid Demonstration Waiver Application*, submitted to the Health Care Financing Administration Aug. 16,1991 ; T. Troxel, Director, Public Health Division, Clackamas County Department of Human Services, Portland, OR, personal communication, Mar. 16, 1992.

## Table 4-4-insurance Coverage and Income Characteristics of Patients in Oregon Primary Care Clinics, 1990[a]

| | Number and percent of clinics who reported[b] that the percentage of their patients having the characteristics listed below was: | | | | | | | | | | | | | | | | | | | | Total number of clinics with valid responses |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | o-lo% | | 11-2070 | | 21-30% | | 31-40% | | 41-50% | | 51-60% | | 61-7070 | | 71-80% | | 81-90% | | 91-100% | | |
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | |
| *Insurance coverage:* | | | | | | | | | | | | | | | | | | | | | |
| Medicaid coverage | 17 | 30.3 | 16 | 28.6 | 14 | 25.0 | 3 | 5.4 | 3 | 5.4 | 0 | 0.0 | 1 | 1.7 | 2 | 3.6 | 0 | 0.0 | 0 | 0.0 | 56 |
| Medicare coverage | 13 | 43.3 | 5 | 16.7 | 5 | 16.7 | 1 | 3.3 | 3 | 10.0 | 2 | 6.7 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 3.3 | 30 |
| Private insurance | 20 | 51.3 | 3 | 7.7 | 6 | 15.4 | 4 | 10.3 | 4 | 10.3 | 2 | 5.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 39 |
| No health insurance | 4 | 8.1 | 3 | 6.1 | 10 | 20.4 | 4 | 8.1 | 2 | 4.1 | 2 | 4.1 | 8 | 16.3 | 3 | 6.1 | 4 | 8.2 | 9 | 18.5 | 49 |
| *Income characteristic:* | | | | | | | | | | | | | | | | | | | | | |
| Have incomes below 100 percent FPL[c] | 3 | 6.5 | 2 | 4.4 | 2 | 4.4 | 3 | 6.5 | 10 | 21.7 | 6 | 13.0 | 7 | 15.2 | 5 | 10.9 | 4 | 8.7 | 4 | 8.7 | 46 |
| Pay nothing for clinic services | 10 | 25.5 | 2 | 5.1 | 7 | 18.0 | 0 | 0.0 | 7 | 18.0 | 2 | 5.1 | 1 | 2.6 | 2 | 5.1 | 1 | 2.6 | 7 | 18.0 | 39 |

a Based on a 1990 survey to which 97 clinics (all nonprofit) responded. These clinics included 49 county clinics, 10 school-based clinics, 11 federally qualified health centers (FQHCs), 2 Indian Health Service clinics, and 25 other types of clinics. Only 43 of the total 97 clinics reported payment/insurance coverage data.
b Clinics were asked t. report what percentage of all their patients in 1990 fit the categories listed on the left-hand side of this table. Percentages of patients do not add to 100 due to overtap between categories of insurance coverage and income characteristics.
c FPL = Federal poverty level.

SOURCE: Oregon Department of Human Resources, Office of Health Policy, Salem, OR, unpublished data from the June 1991 Primary Care Clinics Survey.

departments (CHDs), and other public and private clinics. These clinics have traditionally played a key role in providing basic primary care services to the Medicaid population.

There are 11 FQHCs in Oregon, located in both urban and rural areas (table 4-3), and 17 RHCs.[8] The 11 FQHCs include clinics with community health center, migrant health center, and health care for the homeless funding, as well as one county health department designated under the so-called "look alike" provision (table 4-3).[9] All FQHCs use an income-based sliding-fee scale for their uninsured patients—some patients may pay the full charge, while others pay nothing. To subsidize uncompensated care, these clinics rely on Federal grant dollars and cross-subsidies from patients who do have health insurance, including those with Medicaid coverage.

Data derived from quarterly utilization reports for 1989 and 1990[10] show that, in the 11 FQHCs, anywhere from 26 to 91 percent of patients seen in a given clinic had no health insurance, and from 8 to 35 percent had Medicaid coverage (table 4-3). The proportion of patients below the Federal poverty level (FPL) ranged from 60 to 79 percent (table 4-3). OTA was unable to obtain service capacity, financial, or patient demographic data for RHCs.

Other primary care clinics include Indian Health Service clinics and 35 CHDs. Data for these facilities are scarce. In a 1990 survey of all nonprofit primary care clinics conducted by the Oregon Primary Care Association, a few such clinics reported patient financial and insurance information (table 4-4). Most clinics reporting data claimed that somewhere between 11 and 30 percent of their patients had Medicaid coverage. The majority also reported that the proportion of their patients with incomes below the FPL ranged from 40 to 100 percent (table 4-4). A CHD in Clackamas County reported that one-third of its operating budget came from Medicaid (261).

**Table 4-5-Number of Physicians[a] per 100,000 Population: United States and Oregon, Selected Years, 1980-90**

| Year | Number of physicians per 100,000 residents: United States | Oregon | Percent difference |
|---|---|---|---|
| 1980 | 202 | 182 | –10.0% |
| 1986 | 227 | 209 | -8.0 |
| 1988 | 231 | 219 | -5.0 |
| 1990 | 240 | 220 | -9.0 |

a Includes both allopathic (MD) and osteopathic (DO) physicians.

SOURCE: Oregon Health Sciences University, Office of Rural Health, *Physician Resources /nOregon: A Summary Report* (Portland, OR: Oregon Health Sciences University, September 1991), table 1-1.

## Professional Providers

***Physicians—As*** of December 31, 1990, there were an estimated 6,241 practicing physicians[11] in Oregon (188). Of these physicians, 84 percent practiced in the 10 Medicaid "managed care" counties (counties where Oregon currently requires most Medicaid beneficiaries to enroll in prepaid health plans—see "Current Medicaid Program," below); the remainder practiced in other areas of the State (189).

Oregon has historically lagged behind the United States in supply of physicians relative to the population. Although the gap lessened somewhat during the 1980s, 1990 data indicate that it may be growing again (table 4-5). In 1990, 117 (47.7 percent) of Oregon's 241 cities and towns had no physician (188). All of these were places of fewer than 5,000 residents (188). Three counties (Gilliam, Wheeler, and Sherman) had no physicians in either 1980 or 1990 (188).

A larger proportion of Oregon physicians are in primary care specialties than in the United States as a whole. For example, Oregon has 40 general or family practitioners per 100,000 residents, compared with 28 per 100,000 for the United States (table 4-6) (188). In Oregon's metropolitan counties (where prepaid plan enrollment is mandatory for all AFDC eligibles under the current Medicaid pro-

[8] RHC certification for purposes of Medicare and Medicaid reimbursement was authorized by the Rural Health Clinics Act of 1972 (Public Law 95-210). These clinics are entitled to reimbursement at 100 percent of reasonable cost for their services from both Medicaid and Medicare if they meet certain requirements (e.g., they must use midlevel practitioners at least 50 percent of the time).

9 Two of the clinics with community health center (section 330) funding also receive grants under section 340 of the Public Health Service Act ("health care for the homeless' ').

10 These reports are required as a condition of obtaining Federal grant dollars. They are collected by regional offices of the Department of Health and Human Services.

11 Includes both allopathic (MD) physicians and osteopathic (DO) physicians.

**Table 4-6-Number of Primary Care Physicians[a] per 100,000 Population, by Specialty: United States and Oregon, 1990**

| Specialty | United States | | Oregon | |
|---|---|---|---|---|
| | Number of physicians | Number per 100,000 residents | Number of physicians | Number per 100,000 residents |
| General/family practice | 69,339 | 28.0 | 1,119 | 40.1 |
| Obstetrics/gynecology | 32,278 | 13.0 | 346 | 12.4 |
| Pediatrics | 38,231 | 15.4 | 315 | 11.3 |
| Internal medicine | 94,674 | 38.3 | 918 | 32.9 |

a Includes both allopathic (MD) and osteopathic (DO) physicians.

SOURCE: Oregon Health Sciences University, Office of Rural Health, Physician *Resources in Oregon: A Summary Report* (Portland, OR: Oregon Health Sciences University, September 1991).

gram), 41 percent of physicians are in a primary care specialty.[12] In Oregon's nonmetropolitan counties (only two of which are currently under the Medicaid prepaid managed care system), 51 percent were in primary care (189).

Despite the relatively high prevalence of primary care physicians, a recent study by the Oregon Office of Rural Health cited a ''conspicuous [geographic] maldistribution" of physicians in the State (188). A State tax credit of $5,000 offered to physicians who practice in rural shortage areas has reportedly enhanced rural physician retention in recent years (187). Nonetheless, the study notes a declining supply of primary care physicians statewide, and a declining supply of physicians overall in rural areas between 1986 and 1990 (188).

***Medicaid Participation-In*** a recent national study of Medicaid physician participation conducted by the Physician Payment Review Commission, Medicaid officials in Oregon reported problems with physician participation in rural areas and among providers of obstetric services (203). When asked what factors inhibited participation, Medicaid directors from the 51 programs surveyed most frequently cited low fees, malpractice insurance premiums, and complex billing procedures (203).

Empirical data on Medicaid participation are scarce for Oregon physicians as well as for physicians nationally. Medicaid physician participation data typically derive from one of two sources: Medicaid claims databases, or physician surveys. Data based on Medicaid claims may overstate participation because they count physicians who submit only a single claim (203). Physician survey data are problematic because physicians themselves tend to overstate their level of participation (1 17). OTA was able to obtain data from each of these sources for Oregon physicians, as described below:

- Data from OMAP's claims database and State medical licensing board counts of practicing physicians in Oregon indicate that 76.2 percent of all practicing physicians in the State were paid directly by Medicaid for at least one service in 1990.[13] The degree of participation among these physicians can be illustrated further by examining their distribution by annual Medicaid billings (table 4-7). Approximately 40 percent of all participating physicians billed Medicaid for $5,000 or less.
- In a 1988 survey of all physician members of the Oregon Medical Association (OMA) (195),[14] 59.5 percent of responding physicians reported that they accepted all Medicaid patients; 33 percent said they restricted their Medicaid practices; and the remaining 7.5 percent said they did not accept any Medicaid patients (195). The percentage of respondents reporting unlimited Medicaid practice is shown by county in table 4-8. Physicians in rural areas tended to have a higher rate of unrestricted Medicaid practice than their urban counterparts (195). Implementation of prepaid plans for Medicaid enrollees in urban areas probably accounts for much of this difference.

***Uncompensated*** Care—Information on physicians' uncompensated care costs are similarly scarce and problematic. In the same 1988 OMA survey

12 Primary care specialties are defined here as family practice, general practice, general pediatrics, general internal medicine, and obstetrics and gynecology.

13 It was not possible to calculate separate rates by specialty due to duplication problems. Approximately 20 percent of all physicians on file at OMAP listed more than one specialty on their record (252).

14 The response rate was 28.9 percent (1,249 responses).

**Table 4-7—Distribution of Physicians Participating[a] in Oregon's Fee-for-Service Medicaid Program, by Annual Medicaid Billings (Fee-for-Service System Only), 1990[b]**

| | Annual billed charges to Medicaid for services performed and paid | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | $1 to $1,000 | $1,001 to $5,000 | $5,001 to $10,000 | $10,001 to $25,000 | $25,001 to $50,000 | $50,001 to $75,000 | Over $75,000 | Total |
| | *Percent of participating physicians* | | | | | | | |
| All physicians (MD and DO) | 17.4 | 20.3 | 13.7 | 24.7 | 15.3 | 4.6 | 3.9 | 100.0 |
| Primary care physicians | 18.1 | 23.4 | 13.9 | 22.5 | 12.5 | 4.7 | 5.0 | 100.0 |
| General/family practice | 19.8 | 22.1 | 12.9 | 23.3 | 13.7 | 5.5 | 2.7 | 100.0 |
| Internal medicine | 21.0 | 26.7 | 15.5 | 25.6 | 8.9 | 1.9 | 0.4 | 100.0 |
| Pediatrics | 14.9 | 23.9 | 11.8 | 17.4 | 16.3 | 6.5 | 9.3 | 100.0 |
| Obstetrics/gynecology[d] | 9.6 | 17.0 | 14.4 | 17.5 | 13.6 | 7.6 | 20.3 | 100.0 |
| All other physicians | 16.4 | 17.4 | 13.7 | 27.4 | 18.0 | 4.4 | 2.7 | 100.0 |

NOTE: Percentages may not add to exactly 100 due to rounding.

a "Participating physician" is defined here as a physician who performed at least one paid Medicaid service in 1990. Includes physician providers in Washington, Idaho, Nevada, and California who provided services to Oregon Medicaid patients.

b Excludes services not allowed by OMAP. Includes all Medicaid enrollees seen in the fee-for-service system, regardless of voluntary or mandatory enrollment in a prepaid plan. Average number of unduplicated enrollees seen is expected to be less in counties where enrollment in a prepaid plan is mandatory for AFDC enrollees, because physicians in prepaid plans do not bill OMAP directly for most services.

c Primary care includes MDs and DOs who listed one of their specialties as general practice, family practice, internal medicine, pediatrics, obstetrics, gynecology, Obstetrics/gyn&ZOIOgy, or did not list a specialty.

d Includes physicians who listed as one of their specialties gynecology, obstetrics, or obstetrics/gynecology.

e Includes all MDs and DOs who listed a specialty other than, or in addition to, one of the primary care specialties described in footnote c. There is duplication between primary and nonprimary care physicians because approximately 20 percent of physicians on file with OMAP list more than one specialty.

SOURCE: Oregon Department of Human Resources, Office of Medical Assistance Programs, Salem, OR, data on 1990 physician participation in Medicaid, provided to the Office of Technology Assessment Nov. 14, 1991.

**Table 4-8-Proportion of Oregon Physicians Reporting an Unlimited Medicaid Practice by County, 1988a**

| Proposed delivery system status under demonstration[b]/county | Percentage of physicians in area who do not limit their Medicaid practice[c] | Average percentage of practice devoted to Medicaid | Number of surveys sent | Percent responding |
|---|---|---|---|---|
| ***Fully capita ted health plans*** [b] | | | | |
| Benton | 63.5% | 8.9% | 121 | 28.994. |
| Clackamas | 55.0 | 10.0 | 203 | 29.6 |
| Lane | 55.8 | 11.5 | 395 | 30.4 |
| Linn | 58.6 | 15.1 | 85 | 34.1 |
| Marion | 52.9 | 10.8 | 310 | 33.5 |
| Multnomah | 48.5 | 10.2 | 1,835 | 22,9 |
| Polk | 42.9 | 15.0 | 22 | 31.8 |
| Washington | 46.7 | 5.3 | 251 | 28.7 |
| Yamhill | 76.0 | 12.7 | 74 | 33.8 |
| ***Physician care organizations (PCOs—partially capitated)*** [b] | | | | |
| Baker | 33.3 | 5.0 | 12 | 50.0 |
| Clatsop | 66.7 | 18.3 | 29 | 29.6 |
| Columbia | 80.0 | 22.3 | 14 | 35.7 |
| coos | 53.6 | 13.3 | 81 | 34.6 |
| Crook | 100.0 | 17.5 | 8 | 50.0 |
| Deschutes | 67.4 | 10.7 | 133 | 32.3 |
| Douglas | 68.9 | 11.7 | 125 | 36.0 |
| Haney | NA | NA | 5 | 0.0 |
| Hood River | 62.5 | 12.0 | 19 | 52.6 |
| Jackson | 62.5 | 10.8 | 219 | 29.2 |
| Jefferson | 100.0 | 21.7 | 5 | 60.0 |
| Josephine | 48.1 | 16.1 | 65 | 41.5 |
| Klamath | 59.1 | 12.9 | 65 | 33.8 |
| Lincoln | 58.8 | 26.0 | 35 | 48.5 |
| Malheur | 54.4 | 12.5 | 35 | 31.4 |
| Sherman | NA | NA | NA | NA |
| Tillamook | 57.1 | 12.5 | 14 | 50.0 |
| Umatilla | 60.0 | 15.0 | 63 | 47.6 |
| Union | 76.5 | 12.0 | 39 | 43.6 |
| Wasco | 62.5 | 16.1 | 41 | 39.0 |
| ***Case-managed fee-for-service*** [b] | | | | |
| Curry | 100.0 | 25.0 | 10 | 10.0 |
| Grant | 66.7 | NA | 3 | 100.0 |
| Lake | 100.0 | 40.0 | 5 | 20.0 |
| Morrow | NA | NA | NA | NA |
| Wallow | 66.7 | 7,5 | 5 | 60.0 |

NOTE: NA = not available.

a Based on a mail survey of all physician members of the Oregon Medical Association. Response rate was 28.9 percent (1,249 total responses).

b Indicates anticipated mode of Medicaid health services delivery by the end of the second year of the demonstration (according to timeline in waiver application). Although the State expects case-managed fee-for-service to be the primary mode of service delivery under the demontration in the five counties indicated, it would execute prepaid contracts in those areas with any willing and qualified providers (175). Under the current Medicaid prograrn, Aidto Families With Dependent Children (AFDC) Medicaid recipients in Clackamas, Benton, Lane, Linn, Marion, Multnomah, Polk, Washington, and Yamhill counties are required to enroll in a prepaid health plan. Prepaid plan enrollment is optional for AFDC recipients in Jackson County. In all other counties, Medicaid pays for services on a fee-for-service basis.

c Percentage of physicians who reported they accepted any Medicaid patient who came to their office.

d Of all physicians reporting unlimited Medicaid practice, the average percentage of their practice they reported was made Up of Medicaid patients.

SOURCE: Oregon Medical Association, Portland, OR, "Bridging The Gap: The Role of Oregon Physicians in Uncompensated Care," 1989.

cited above, 83 percent of responding physicians reported that they sometimes offered care at reduced fees,[15] and 68 percent reported that they waived fees for some patients.[16] Primary care physicians were more likely than specialty physicians to report reduced or waived fees. Based on the results of this survey, OMA estimated total uncollected practice revenues due to free care or reduced fees of physicians in Oregon to be approximately $239 million (195). Because physicians did not *indicate* the insurance status of patients for whom they reduced or waived fees, however, this estimate

15 "R~uA fee" relative to the individual physician's typical charge fOr a given service.

16 For all physicians reporting waived fees, the average number of patients per year for whom they waived fees was 47 (195).

probably greatly overestimates the amount of uncompensated care costs that would be offset by expanded coverage under the proposed demonstration.

***Other Professional Providers--Other*** providers eligible for direct fee-for-service (FFS) reimbursement under Oregon Medicaid include nurse practitioners, optometrists, chiropractors, naturopaths, physical therapists, occupational therapists, and speech-language pathologists.[17] Data on the supply of selected providers in Oregon follow:

- In 1990, there were an estimated 792 nurse practitioners (including nurse midwives) licensed in Oregon (163). Of these, 100 (12.6 percent) resided out-of-State; 601 (75 percent) resided in the 10 'managed care' counties (see below); and the remaining 91 (11.4 percent) resided in other Oregon counties (163).[18] Approximately 80 percent of NPs in Oregon have the authority to prescribe at least some medications (198).
- In 1990, there were 457 optometrists, 358 (73 percent) of whom are in the 10 managed care counties, with the remaining 27 percent in other areas of the State (196).
- As of 1988, there were 1,827 professionally active dentists[19] in the State, 1,466 (80 percent) of whom practiced in the 10 managed care counties (5).
- As of July 1991, there were approximately 850 chiropractors in the State (158). Their rural/urban distribution was not available, but 382 (44 percent) had addresses in either Portland, Salem, or Eugene (158).

## *Current Medicaid Program*

***The*** Oregon Medicaid program currently operates through three delivery systems. The first is the traditional FFS system. The other two are variations within Oregon Medicaid's ongoing prepaid health plan (PHP) system: one, a fully capitated[20] plan (the Kaiser Permanente-Northwest Region health maintenance organization (HMO)); the other, a system of partially capitated plans.

### Fee-for-Service Health Care

The FFS system serves individuals in all Medicaid eligibility categories in 26 of Oregon's 36 counties as well as non-AFDC[21] (and 15 to 20 percent of AFDC) enrollees in the 10 counties where prepaid plans have been implemented for AFDC eligibles (see below). AFDC eligibles enrolled in partially capitated prepaid plans in these 10 counties also receive many services through the FFS system.

In the FFS system, OMAP controls utilization through prior authorization for selected services (e.g., physical, occupational, and speech-language therapy services; home health services; selected diagnostic and treatment codes) and through other limits (e.g., an 18-day annual limit on inpatient hospitalization for adults). Case management is covered for prenatal and maternity care services.

All services are paid according to OMAP's established methods of payment, which are summarized for some key facilities in table 4-9. FFS physicians are paid according to a fee schedule. A recent comparative analysis of State Medicaid physician payment rates showed that, for a bundle of 18 services,[22] Oregon's payment was equal to the average for all States in 1989 and represented 75 percent of the Medicare allowed charge for the same services in the previous year (203).

FQHCs are exempt from fee schedule reimbursement for primary care services rendered to Medicaid patients. Instead, they receive facility-specific cost-based reimbursement on a per-encounter basis in accordance with provisions of the Omnibus Budget

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17 Physician assistants are reimbursed under the supervising physician's provider number.

18 Data on distribution of NPs by practice location or setting were not available.

19 Includes both full-time and part-time dentists.

20 "Capitated plan" refers t. a provider that receives periodic (in this case monthly) payment in advance to cover all or certain types of health care services it provides to an individual patient (i.e., per capita payment). The provider assumes financial risk for patients whose actual costs exceed the payment amount.

21 Aid to Families with Dependent Children.

22 Fees for 18 services were grouped into 9 service types: office visits, hospital visits, emergency room visits, consultations, x-ray services, electrocardiograms, psychiatric services, obstetrical services, and surgical and other procedures. Fees for total obstetrical care (vaginal and caesarean section deliveries) were excluded from this analysis because many States could not report fees for these services. Fees for each service type were combined in proportion to their Medicaid utilization to create a "typical" Medicaid fee for each State (203).

**Table 4-9-Oregon Medicaid Reimbursement Methods for Selected Services in the Fee-for-Service Delivery System, 1991**

| Type of service | Reimbursement method |
|---|---|
| Physician services | Fee schedule (fees frozen for 1991-93 biennium) |
| Hospital inpatient | Prospective, DRG-based rate for most hospitals; certain rural hospitals exempt from prospective payment and reimbursed at 100 percent of costs[a,b]; certain specialty hospitals also exempt from prospective payment and reimbursed according to special contracts with OMAP; Medicaid disproportionate share hospitals receive 5 to 25 percent DRG rate increases depending on their Medicaid caseload |
| Hospital outpatient | Percent of cost[a] (59 percent for the 1991-93 biennium); certain rural hospitals exempt from percent of cost limits and reimbursed at 100 percent of Cost[a,b] |
| Rural health clinic services[c] | Per visit, 100 percent of costs[b] |
| Federally qualified health centers[d] | Per visit, 100 percent of costs[a] |
| Durable medical equipment | Fee schedule |
| Home health services | Per-visit fee schedule |
| Physical, occupational, and speech therapy | Fee schedule |

ABBREVIATIONS: DRG = diagnosis-related group; OMAP = Office of Medical Assistance Programs.
a Costs determined from Medicare cost reports.
b Type A rural hospitals reimbursed at 100 percent of costs for inpatient and outpatient services (excluding lab and x-ray); type B rural hospitals reimbursed at 100 percent of cost for inpatient services only (excluding lab and x-ray).
c Rural health clinics as federally certified for purposes of Medicare and Medicaid reimbursement (42 CFR 440.20(b)).
d Federally qualified health centers include federally funded community health centers, migrant health centers, health centers for the homeless, and "took-alike' " clinics (see table 4-3). Public Law 101-239 and Public Law 101-508 mandate 100 percent facility-specific cost-based reimbursement for services provided in these clinics (see text).

SOURCE: Oregon Department of Human Resources, Office of Medical Assistance Programs, Salem, OR, provider services reimbursement guides and updates, provided to the Office of Technology Assessment in 1991.

Reconciliation Act of 1989 (OBRA-89).[23] OMAP has implemented these reimbursement provisions for FQHCs in the FFS system. For the two FQHCs that serve as subcontractors in the prepaid system, OMAP intends to reconcile any differences between actual reimbursement from the prepaid provider and reimbursement allowable under OBRA-89 at the close of the State fiscal year (213,259,306).[24]

currently, the vast majority of Oregon's 66 short-term general acute-care hospitals are reimbursed directly by OMAP for all covered services rendered to Medicaid patients. Exceptions are the two hospitals owned by Kaiser Foundation Hospitals, which are paid by the Kaiser Permanente HMO for services rendered to Medicaid eligibles enrolled in that HMO; and several other hospitals that are paid negotiated rates by physician care organizations (PCOs) for certain outpatient services rendered to PCO enrollees. Of the hospitals reimbursed directly by OMAP, 32[25] are reimbursed on a prospective, diagnosis-related-group (DRG)-based system for inpatient services and on a percent-of-cost[26] basis for outpatient services (2 13). Institutions exempt from prospective reimbursement for hospital inpatient and percent-of-cost limits for hospital outpatient services include:

- Specialty hospitals, which are reimbursed according to the terms of unique contracts with OMAP; and
- Rural hospitals (defined essentially as hospitals of fewer than 50 beds that are located more than 10 miles from a town of more than 10,000 residents), which are reimbursed as follows:

  *Type A rural hospitals—100* percent of cost for all inpatient and outpatient services[27] and

23 OBRA-89 (Public Law 101-239) requires State Medicaid programs to pay 100 percent of reasonable cost for services provided by FQHCs and RHCs-a provision meant to protect the financial viability of these ''safety net' primary care providers. Facility-specific per-encounter reimbursement rates are based on average costs for all patients seen at each facility in a given year.

24 The two clinics have already received interim reconciliation from OMAP; final reconciliation for the fiit year in which FQHC reimbursement protections were in effect in Oregon (State fiscal year 1991) had not yet occurred at the time this report was written.

25 Excludes the two hospitals owned by Kaiser Foundation Hospitals. These hospitals receive reimbursement directly from OMAP (at regular FFS rates) for services rendered to patients not enrolled in the Kaiser Permanence HMO.

26 Cost based on hospitals' Medicare cost reports.

27 Excludes laboratory and x-ray services, which are reimbursed according to a fee schedule.

**Table 4-10-Current Status of Physician Care Organization (PCO) Involvement in Providing and Managing Services for Medicaid Clients, 1990**

| Service | Number of PCOs that are capitated for service | PCOs required to case manage fee-for-service delivery | OMAP or OMPRO[a] prior approval required |
|---|---|---|---|
| Physician | All | | — |
| Laboratory | All | | — |
| Radiology | All | — | — |
| Hospital outpatient | None | Yes | — |
| Hospital inpatient | None | Yes | — |
| Prescription drugs | 1 | Yes[b] | — |
| Dental[c] | 4 | No | — |
| Chiropractor | 4 | Yes | — |
| Podiatrist | All | — | — |
| Nurse practitioner/nurse-midwife | All | — | — |
| physical therapy | 1 | No | — |
| Speech, language, and occupational therapy | None | No | Yes |
| Optometrist | None | No | — |
| Home health | None | No | Yes |
| Durable medical equipment/oxygen | None | No | Yes |

a OMAP = Office of Medical Assistance programs; OMPRO = Oregon Medical Peer Review Organization.
b The primary care physician must write or authorize all prescriptions. There is a built-in financial incentive to control utilization of prescription drugs. Excessive utilization of prescription drugs causes a decrease in the pool of money available for an individual plan's savings incentive payment (see text).
c Four PCOs are capitated for dental services. In addition, roughly 10,000 to 15,000 Medicaid beneficiaries are enrolled in "dental care organizations." The Kaiser Permanente-Northwest Region HMO is not capitated for dental services.

SOURCE: L. Read, Director, Prioritized Health Care Systems, Office of Medical Assistance Programs, Oregon Department of Human Resources, Salem, OR, personal communication, July 10, 1991.

*Type B rural hospitals—100* percent of cost for all inpatient services and most outpatient services.[28]

For hospitals qualifying for Medicaid disproportionate share (DSH) payments by virtue of Medicaid utilization criteria, DRG rates are increased depending on the hospital's share of Medicaid patients relative to the State average for all hospitals (144).[29] There were 10 such qualifying hospitals in Oregon in 1990 (see table 4-2) (155).[30] Total Medicaid DSH payments to hospitals in Oregon (State share only) increased by 67 percent between fiscal years (FY) 1989 and 1990 and by an additional 131 percent between FY 1990 and FY 1991 (144).[31]

American Hospital Association data show that the 1989 Medicaid hospital payment-to-cost ratio[32] was lower in Oregon than in any other State except Illinois (59 percent in Oregon compared with a national average ratio of 78 percent) (207). Medicaid outpatient hospital services reimbursement rates have decreased significantly in recent years-horn 75 percent of costs in the 1987-89 biennium to 65 percent in 1989-91, and finally to 59 percent in the current biennium (223). In a recent out-of-court settlement of a Boren Amendment lawsuit brought against the State by the Oregon Association of Hospitals, OMAP agreed to pay $64 million over the 1991-93 biennium to compensate for previous underpayment (156,157) (see ch. 2).

## Prepaid Plans

In December 1984, Oregon received a Federal regulatory waiver under section 1915(b) of the Social Security Act to implement a managed care

28 Excludes laboratory and x-ray services (reimbursed on a fee schedule) and outpatient services provided to general assistance clients (reimbursed at 59 percent of cost).

29 For hospitals with utilization between 1 and 2 standard deviations of the mean, the DRG rate increases 5 percent; fOr hospitals 2 to 3 standard deviations above the mean, 10 percent; for hospitals greater than 3 standard deviations above, 25 percent (144).

30 Hospitals can also qualify for DSH status based on their low-income utilization rates (144). In 1990, no Oregon hospitals were designated as DSH under these rules (213).

31 FY 1989 act@ FY 1990 estimated, FY 1991 projected.

32 Includes payment and cost for both inpatient and outpatient services. Data obtained from the American Hospital Association's 1989 Annual Survey of Hospitals. Medicaid costs estimated by multiplying hospitals' reported Medicaid charges by each hospital's overall cost-to-charge ratio (203).

33 See ch. 5 for a description of the various Medicaid eligibility categories.

system for its AFDC[33] Medicaid enrollees.[34] Enrollment in prepaid plans in Oregon has since increased to the current level of some 68,000 AFDC Medicaid enrollees[35] (approximately 54 percent of the total AFDC enrollment and approximately 31 percent of total Medicaid enrollment[36] in 1991), making it second only to Arizona in the proportion of its Medicaid population enrolled in PHPs (252). These PHPs include one fully capitated HMO and 15 PCOs in which selected outpatient services, but not inpatient services, are capitated. At present, enrollment of AFDC clients in a PHP is mandatory in nine counties (seven of which are in metropolitan statistical areas) and optional in a tenth county. All non-AFDC eligibles and all eligibles residing outside this 10-county area receive services on an unrestricted FFS basis.

Even in areas where enrollment in a PHP is required, some AFDC eligibles are still in the FFS system. At any given time, roughly 20 percent of the AFDC eligibles in the nine mandatory managed care counties receive health care on an FFS basis (40,212). These eligibles include:

- Individuals who have other sources of insurance coverage and are exempt from mandated enrollment in a PHP;
- Pregnant women who become Medicaid-eligible in their third trimester and who elect to continue receiving FFS services through delivery;
- New AFDC eligibles, who may take up to 2 months to become enrolled in a PCO or an HMO after becoming eligible;
- Individuals who elect to disenroll from their previous plan and have not yet been enrolled in another plan;[37] and
- Individuals who exceed their PHP's stop-loss limit in any given year (see below) (40).

***Fully Capitated Plans—A*** single HMO-Kaiser Permanence, Northwest Region-serves approximately 11,60038 AFDC eligibles under the current program. Kaiser Permanence is prepaid on a capitated basis for all acute health care services except dental services. The cavitation rate is currently set at 100 percent of FFS equivalent costs.[39]

***Partially Capitated Plans—As*** of October 1991, there were 15 PCOs serving approximately 56,400 AFDC eligibles in the 10-county area (252). PCOs are prepaid on a capitated basis for a basic package of services that includes physician services (including podiatry, osteopathic, nurse practitioner, and physician assistant services), laboratory, radiology, and EPSDT[40] services. Between 1985 and 1989, OMAP reported savings of $7.5 million relative to expected FFS payments for PCO enrollees (41).[41]

The PCOs are made up of anywhere from 4 to 280 primary care physicians (305). Some are experienced managed care providers (e.g., Capitol Health Care, a well-established independent practice association (IPA) that also has private fully capitated business), others are primary care clinics (four FQHCs currently participate as PCOs—see table 4-3), and still others are loose associations of primary care physicians who are organizationally bound merely by virtue of their contract with OMAP (245). The annual contract stipulates a maximum Medicaid caseload per PCO, based on the number of primary care physicians available. Risk is managed through a stop-loss mechanism whereby enrollees whose health care costs exceed an established threshold in a given year leave the PCO and receive the remainder of their services through the FFS system.

PCOs have the option of receiving capitated payment and assuming risk for services other than

34 Oregon has since obtained an extended waiver that permits it to expand mandatory enrollment in prepaid plain to other categories of eligibles. To date, however, Oregon has only enrolled AFDC eligibles in the prepaid system.

35 Enrollment as of October 1991. Includes 11,580 Medicaid eligibles enrolled in the Kaiser Perman ente HMO on a full-risk basis. Medicaid enrollment in Kaiser Permanence is authorized by Federal statute and hence is not officially part of Oregon's current 1915(b) waiver program.

36 Total enrollment includes elderly, blind, disabled, general assistance, medically needy, etc.

37 In the current system, AFDC eligibles in mandatory managed care counties Cm choose between at least two prepaid health plans.

38 Enrollment as of October 1991 (252).

39 Capitation rates for both partially and fully capitated plans are based on expected FFS costs of an actuarially equivalent client population, projected using utilization data for AFDC Medicaid enrollees in the FFS system (41). There is no separate administrative allowance for prepaid plans in the current system.

40 Early and periodic screening, diagnosis, and treatment services fOr children.

41 Savings were attributed primaril y to reduction of unnecessary inpatient services by PCOs, but also to reduction of unnecessary outpatient and prescription drug services (41,177).

those in the basic package, but few of them have done so to date. Currently, four PCOs are capitated for chiropractic services, four for dental services, one for physical therapy services, and one for pharmaceutical services (table 4-10) (213,252). In addition, all PCOs are required to act as gatekeepers to preapprove all nonemergency inpatient and outpatient hospital services.[42] To provide an incentive for decreased hospital inpatient and outpatient and prescription drug services utilization, OMAP shares savings relative to FFS equivalent costs[43] 50/50 with the PCOs. Utilization of certain other services is controlled by OMAP directly through prior authorization (e.g., physical, occupational, and speech-language therapy; home health services-see table 4-9).

A forthcoming U.S. General Accounting Office (GAO) study will focus more closely on the role of prepaid managed care delivery systems in the current Oregon Medicaid program. Even if the waiver is not granted, OMAP has indicated that it intends to expand its current PCO program, adding more plans and increasing enrollment (177).

***Utilization Data Collection in PHPs--One*** of the incentives for providers to serve Medicaid patients through PHPs is reduction of the paperwork and other ''red tape' associated with FFS Medicaid (17,143). However, this often comes at the expense of collecting detailed, consistent utilization data, which is useful for program evaluation. A few State Medicaid PHP demonstrations (e.g., Tennessee, Arizona) have tried "shadow billing"[44] in order to better evaluate differences in utilization and access between FFS and PHP enrollee groups. Oregon chose not to do so in the current system in order to maintain the incentive of reduced billing and data collection requirements (212). Until October 1990, in fact, PHPs in Oregon were not providing any systematic utilization data to the State. Since October 1990, PCOs have been required to submit quarterly reports to OMAP detailing utilization for selected services (166). Services identified are groups of procedure codes that reflect different services types of interest+. g., EPSDT and physician office services (166). The first data were not reported until the end of the first quarter of 1991, and data reported for the third quarter of 1991, although obtained from all PCO providers, were still incomplete and inconsistent as of December 1991 (310).[45]

Information on the utilization of noncapitated (i.e., FFS) services by PHP enrollees is available through OMAP's claims database. For noncapitated services, OMAP provides plans with monthly reports of utilization by their enrollee population by type of service (166,213). Such reports help OMAP and the PHPs confirm that all referral services were preapproved by the primary care physician.

### Dental Services

Although most Medicaid enrollees receive dental services on an unrestricted FFS basis,[46] a growing number receive them through one of two types of managed care arrangements: PCOs that are capitated for dental services, or special 'dental care organizations" (DCOs) that provide services on a prepaid, capitated basis. As of February 1992, 28,479 clients were enrolled in three DCOs and four PCOs that cover dental services (213). OMAP is in the process of expanding DCO enrollment (252).

## HEALTH CARE DELIVERY UNDER THE DEMONSTRATION

The State of Oregon projects that, in year 1 of the demonstration, an additional 46,800 people would be covered by Medicaid-a 31 percent increase over projected enrollment in the existing Medicaid pro-

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42 Originally, PCOs also case-managed physical, speech-language, and occupational therapy services, but prior authorization by OMAP is now required for these services (see table 4-9).

43 Savings are calculated by comparing utilization of these services by PCO enrollees with utilization by an actuarially equivalent group of FFS Medicaid enrollees.

44 ''Shadow billing'' is a practice in which prepaid providers are required to submit ''dummy' claims that provide data as detailed as those required on FFS claims forms (e.g., patient characteristics, date of service, diagnoses, specific procedures performed, provider identification).

45 Although &U from the last quarter of 1991 are expected t. improve (310), the broad categories represented would not be sufficient to serve as a baseline for detailed measurement of the impact of service prioritization under the demonstration (see ch. 8).

46 Under the current Medicaid program in Oregon, most dental care for adults is not covered. The proposed demonstration would expand coverage for dental care to the entire Medicaid population.

gram for that year (177).[47] By the final year, an additional 120,000 people are expected to be covered beyond projected enrollment for that year without the demonstration (42, 177).[48]

To accommodate the expanded number of Medicaid eligibles and to control the costs of providing their care, Oregon would expand its prepaid managed care system significantly. The proposed expansions would not merely entail increased enrollment in existing plans; rather, they would entail a complete restructuring of the current system and the creation of a number of entirely new fully capitated plans to provide services to a Medicaid population nearly twice as large as that currently served. The proposed expansions include:

- Converting some existing PCOs to fully capitated plans,
- Expanding enrollment in existing prepaid plans and contracting with new fully capitated plans[49] to serve the expanded Medicaid population,
- Developing new PCOs in some rural areas, and
- Implementing a case-managed FFS system in rural areas where prepaid care arrangements are not feasible.

OMAP would require that all prepaid plans have adequate referral mechanisms and subcontractual arrangements to provide the full range of services covered under the benefit package (174).

### *Providers in the Proposed System*

The levels of risk and other characteristics of providers in the proposed system, as described in the waiver application, would be as follows (177,212):

1. Fully capitated health plans (FCHPs)[50]

   FCHPs would provide and pay for all inpatient, outpatient, and ancillary services (with the exception of select optional services[51]) either directly or through subcontractors. The State would pay hospital claims on behalf of any FCHP that is permitted such an option in its contract.[52] FCHPs would be the required mode of delivery in the 9-county area currently served by PCOs and one HMO.

   *A. Full-risk* contract-Provider is at full risk for individual patient losses. Only federally qualified HMOs would be allowed to participate at this level of risk.

   *B. Buffered-risk contract—Provider* purchases insurance against high-loss patients either directly from the State or from a private insurer. A provider could choose among the following three levels of stop-loss insurance.

   1. High--Annual $10,000 deductible, 5 percent plan-paid coinsurance, and a cap of $100,000 on stop-loss eligible expenses. In other words, the plan is liable for 100 percent of per-enrollee costs up to $10,000; for 5 percent of costs between $10,000 and $100,000; and for none of the costs in excess of $100,000.
   2. *Medium—Annual $15,000* deductible, 10 percent coinsurance, and a $100,000 cap.
   3. Low--Annual $30,000 deductible, 20 percent coinsurance, and a $100,000 cap.

Other risk protections for FCHPs would include: reduced liability for persons who are hospitalized at the time of their enrollment;[53] a fixed additional

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47 Percent increase based on enrollment projections for State FY 1993. The original target date for program startup was July 1, 1992 (the beginning of State FY 1993). Because OMAP had not obtained waiver approval from the Health Care Financing Administration (HCFA) by the end of January 1992 as expected, it has announced that it will delay program startup on a month-to-month basis pending approval (e.g., if approved at the end of February 1992, startup would have been Aug. 1, 1992) (256).

48 The 120,000 projection does not assume implementation of the employer mandate (see chs. 1 and 5). If the employer mandate is fully implemented, projected Medicaid enrollment for the final year would be 96,400.

49 Some prospective fully capitated plans already have commercial HMO business; others may have no experience as full-risk providers (212).

50 Here and elsewhere in this chapter, fully capitated plans under the proposed system are referred to as FCHPs rather than HMOs. While Kaiser Permanence, the only current Medicaid prepaid provider capitated for the full range of services, is a federally qualified HMO, some fully capitated providers under the new system would probably not be.

51 Optional services for FCHP cavitation include dental, maternity case management, abortion, family planning, certain contraceptive and psychiatric prescription drugs, and patient transportation (175).

52 This option would be made available to smaller FCHPs and FCHPs located in noncompetitive hospital markets. These plans' capitation rates would be adjusted to reflect prevailing Medicaid hospital payment rates (DRG- or cost-based, depending on the hospital) and OMAP would bill the plan for the cost of claims paid (177).

53 This protection would not apply to newborns whose mothers were enrolled on the day of birth (177).

payment for each maternity case occurring above a specified average limit; and adjustment of cavitation rates by eligibility cohort (see below).

2. Physician care organizations

   PCOs would be paid on a per capita basis for all outpatient physician, laboratory, x-ray, and preventive services. Additional services such as prescription drugs, physical therapy, and dental care could be either included or excluded from the PCO cavitation rate. Hospital inpatient and outpatient services[54] would be preauthorized by the PCO but would be billed to and paid by OMAP at prevailing Medicaid FFS rates. PCOs would be the preferred mode of delivery in all non-FCHP counties where there is critical mass for enrollment.

   A. *First level of risk: fewer than 500 enrollees—These* PCOs would not be paid a cavitation rate, but would instead be reimbursed at prevailing FFS Medicaid rates for PCO services. They would still be fully responsible for managing care of enrollees according to PCO contract provisions and would still receive 40 percent of any estimated savings for hospital inpatient, hospital outpatient, and prescription drug services relative to an actuarially determined FFS target. This "no risk' approach is designed to protect new, small plans as they enter the system. OMAP does not anticipate that many PCOs would remain at this level of risk for long,

   B. *Second level of risk: 500 to 999 enrollees or 1,000 or more enrollees and less than 12 months' experience as a contractor—These* PCOs would be paid on a per capita basis for PCO services and would retain 50 percent of any estimated savings for hospital inpatient, hospital outpatient, and prescription drug services.

   C. *Third level of risk: 1,000 or more enrollees* ***and at least 12 months' experience as a contractor—These*** PCOs would be paid on a per capita basis for PCO services and would retain 60 percent of any estimated savings for hospital inpatient, hospital outpatient, and prescription drug services. They would also beat partial risk for the noncapitated services they case manage-the State would withhold a payment penalty, limited to the lesser of half of the excessive cost or 10 percent of the PCO's cavitation rate, if the cost of noncapitated services used by their enrollees is higher than actuarially targeted.

3. Case-managed fee-for-service

   Physicians and other providers would be paid on an FFS basis at prevailing Medicaid rates for all covered services. Case-managed FFS would be the mode of service delivery in those rural counties that lack a sufficient enrollee population to make the PCO model feasible, and for patients in other counties who don't enroll in PHPs. A designated primary care case manager (PCCM) would preauthorize any nonemergency care provided by other individuals or institutions. PCCMs would be paid a small flat per capita fee ($3 per enrollee per month) for the administrative costs of management. Most PCCMs would be primary care physicians, although nurse practitioners and physician assistants would also be allowed to participate. PCCMs would be required to:

   - Provide routine primary care services;
   - Deliver emergency medical treatment or refer the patient to another appropriate source of care when the PCCM is unavailable;
   - Conduct emergency admission review within 24 hours of receiving notice that a patient has undergone an emergency hospitalization, to confirm appropriateness and initiate discharge planning;
   - Develop an adequate referral network to ensure access to the full spectrum of covered services, refer patients to appropriate specialists, and preapprove all referral care;
   - If possible, admit and discharge hospital patients or oversee their admission and discharge by a specialist;
   - Maintain a central medical record for each enrollee; and
   - Participate in program-wide oversight, monitoring, and quality assurance activities as directed by OMAP (177).

For catastrophic-cost patients, OMAP itself would offer supplemental case-management services (e.g., designate central managers for patients in special

[54] Excluding professional components of hospital outpatient services.

categories, such as those with AIDS[55]). The agency would also provide oversight of PCCMs and preauthorize certain elective procedures.

The explicit goal of the State of Oregon is to encourage provider participation in prepaid managed care wherever possible (177,212). The spectrum of risk arrangements proposed for PHPs reflects this goal and provides a strategy for gradual conversion to prepaid health care for the entire State. Groups of FFS physicians are encouraged to form PCOs and, if their enrollment is below 500, can continue to receive FFS reimbursement for the first 12 months as they build their patient base and become more familiar with the system. After that, they can proceed to assume higher levels of risk under partial cavitation or become full-risk plans if they so desire. Ultimately, OMAP hopes to extend prepaid health care to even the most rural areas of the State (212).

Although not described in the waiver application, the current dental managed care system would also be expanded under the demonstration, with PCOs and FCHPs being given the option of cavitation for dental services. Enrollees in plans not capitated for dental services would receive their dental care on an FFS basis or through an expanded DCO system (212).

### *Distribution of Enrollees by Delivery System*

*In* a *nine-county* area containing seven of Oregon's eight metropolitan counties, OMAP intends to enter solely into fully capitated contractual arrangements (table 4-11 ) at one of the varying levels of risk described above. Selected other counties are targeted for PCO contract negotiations, and enrollees in the remaining counties would choose or be assigned to PCCMs. Although OMAP expects that certain counties will not have sufficient caseloads to make prepaid arrangements feasible, it intends to execute prepaid contracts with any qualified, willing providers in these counties (175).

Table 4-12 illustrates the magnitude of proposed delivery system changes. According to State sources, the over 56,000 Medicaid beneficiaries currently enrolled in PCOs would automatically be transferred to FCHPs at program startup (212). Non-AFDC current eligibles and new eligibles would be enrolled in FCHPs, PCOs, or with PCCMs, depending on their geographic location and other characteristics. By program steady state, 54.8 percent of all beneficiaries are projected to be enrolled in FCHPs; another 17.4 percent in partial-risk PCOs; and the remainder (27.8 percent) in case-managed FFS (table 4-12) (40). Implementation of the case-managed FFS system, which would affect mostly the rural areas of the State, is expected to take considerably longer than the enrollment of clients into PHPs (40). OMAP estimates that all enrollees not in a prepaid plan would be enrolled with a PCCM by the 10th month of the demonstration (212).

The frost-year cost estimates assume that some eligibles in case-managed FFS areas will receive noncase-managed FFS care for the first nine months of the demonstration (40). overall, cost estimates assume that delivery systems in each county will be operational roughly by the target dates shown in table 4-11.[56]

### *Cavitation Rate Calculation*

OMAP released preliminary cavitation rates to prospective prepaid providers on November 26, 1991 as part of an official request for application (RFA) (175). The proposed rates were revised on February 7, 1992, to correct for errors in expected length of eligibility and utilization patterns of the demonstration's eligible population (176).[57] The rates, developed by OMAP in conjunction with the actuarial firm Coopers & Lybrand, reflect the anticipated cost of providing all covered services (i.e., diagnostic services and all services in condition-treatment (CT) pairs 1 through 587) during the startup year of the demonstration within a prepaid managed care setting. While cavitation rates for prepaid providers in Oregon's current Medicaid program are based on Medicaid FFS equivalent costs, the new rates are based on a detailed actuarial

[55] Acquired immunodeficiency syndrome.

[56] The original date for program startup was July 1, 1992. OMAP intends to delay implementation of the prepaid system on a month-to-month basis pending final approval (e.g., startup date would have been Aug. 1, 1992 if waiver had been approved by the end of February 1992) (256).

[57] The corrections resulted in a substantial increase in the estimated rates for poverty level medical (PLM) women and a slight decrease in the rates for PLM children ( 175, 176).

**Table 4-1 l-Current and Proposed Oregon Medicaid Delivery System by County**

| County | Delivery system | |
|---|---|---|
| | 1991 | Proposed under demonstration |
| ***Metropolitan counties***[b] | | |
| Clackamas | PHP[c] mandatory (AFDC only) | FCHPs by startup |
| Lane | PHP mandatory (AFDC only) | FCHPs by startup |
| Marion | PHP mandatory (AFDC only) | FCHPs by startup |
| Multnomah | PHP mandatory (AFDC only) | FCHPs by startup |
| Polk | PHP mandatory (AFDC only) | FCHPs by startup |
| Washington | PHP mandatory (AFDC only) | FCHPs by startup |
| Yamhill | PHP mandatory (AFDC only) | FCHPs by startup |
| ***Nonmetropolitan counties***[b] | | |
| Baker | FFS | PCOs by start of year 3 |
| Benson | PHP mandatory (AFDC only) | FCHPs by startup |
| Clatsop | FFS | PCOs by start of year 2 |
| Columbia | FFS | PCOs by start of year 2 |
| coos | FFS | PCOs by middle of year 2 |
| Crook | FFS | PCOs by startup |
| Curry | FFS | Case-managed FFS by startup[e] |
| Deschutes | FFS | PCOs by startup |
| Douglas | FFS | PCOs by start of year 2 |
| Gilliam | FFS | Case-managed FFS by startup[e] |
| Grant | FFS | Case-managed FFS by startup[e] |
| Harney | FFS | PCOs by startup |
| Hood River | FFS | PCOs by start of year 3 |
| Jackson | PHP optional (AFDC only) | FCHPs or PCOs by startup[d] |
| Jefferson | FFS | PCOs by startup |
| Josephine | FFS | PCOs by startup |
| Klamath | FFS | PCOs by startup |
| Lake | FFS | Case-managed FFS by startup[e] |
| Lincoln | FFS | PCOs by start of year 2 |
| Lien | PHP mandatory(AFDC only) | FCHPs by startup |
| Malheur | FFS | PCOs by start of year 3 |
| Morrow | FFS | Case-managed FFS by startup[e] |
| Sherman | FFS | PCOs by start of year 3 |
| Tillamook | FFS | PCOs by startup |
| Umatilla | FFS | PCOs by start of year 3 |
| Union | FFS | PCOs by startup |
| Wallowa | FFS | Case-managed FFS by startup[e] |
| Wasco | FFS | PCOs by start of year 3 |
| Wheeler | FFS | Case-managed FFS by startup[e] |

ABBREVIATIONS: AFDC. Aid to Families With Dependent Children; FCHP = fully capitated health plan; FFS = fee-for-service; OMAP. Office of Medical Assistance Programs; PCO - physician care organization (partially capitated health plan); PHP - prepaid health plan.

a The dates in the far right-hand column reflect the time at which OMAP had anticipated PCO and FCHP contracts to be finalized in that county. The original anticipated date for program startup was July 1, 1992. Contract negotiations have since been delayed on a month-to-month basis pending approval of the waiver by the U.S. Health Care Financing Administration (see text).

b Metropolitan and nonmetropolitan areas as defined by the U.S. Bureau of the Census.

c In the current Medicaid managed care system, AFDC recipients are required to enroll in 1 of 15 PCOs or in the Kaiser Permanence HMO.

d The request for application sent t. providers Nov. 26, 1991 indicates that both PCO and FCHP contracts would be negotiated in Jackson County.

e Although OMAP expects case-managed FFS to be the primary mode of service delivery under the demonstration in these counties, it has indicated it would execute prepaid contracts with any willing and qualified providers.

SOURCES: L. Read, Director, Prioritized Health Care Systems, Office of Medical Assistance Programs, Oregon Department of Human Resources, Salem, OR, personal communications, July 10 and Dec. 3, 1991; Oregon Department of Human Resources, Office of Medical Assistance Programs, Salem, OR, The Oregon *Medicaid* Demonstration *Waiver Application,* submitted to the Health Care Financing Administration Aug. 16, 1991; Oregon Department of Human Resources, Office of Medical Assistance Programs, *Oregon Health Plan: Prepaid Health Plan Request for Applicafions,* (Salem, OR: OMAP, Nov. 26, 1991); L. Read, Director, Prioritized Health Care Systems, Office of Medical Assistance Programs, Oregon Department of Human Resources, Salem, OR, letter to E.J. Power, Office of Technology Assessment, Mar. 4, 1992.

analysis of both private and Medicaid claims, adjusted to exclude costs of services below line 587.[58] Although language in OMAP's waiver application suggested that rates would be negotiated with prepaid providers, *rate setting* is a more accurate description of the process outlined in the November RFA. The document indicates that inclusion or exclusion of some of the "basic' services may be negotiated, but the service-specific rates calculated by Coopers& Lybrand are *not* negotiable (175).

[58] See ch. 6 for a detailed description of the data and methods used to calculate service-specific costs under the demonstration.

**Table 4-12—Distribution of Oregon Medicaid Enrollment by Eligibility Category[a] and Health Care Delivery System: 1993 Without Demonstration, 1993 Demonstration Startup,[b] and 1993 Demonstration Steady State**

| Eligibility category | Delivery system[c] FCHP | PCO | CMFFS-Man | FFS-Man | CMFFS | FFS | Total |
|---|---|---|---|---|---|---|---|
| | | | Percent of enrollees in system | | | | |
| ***Average fiscal year 1993 without demonstration*** [b] | | | | | | | |
| AFDC | 6.17 | 38.56 | 0.00 | 0.00 | 0.00 | 36.69 | 81.42 |
| General assistance | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.76 | 1.76 |
| PLM adults | 0.00 | 0.00 | 0,00 | 0.00 | 0.00 | 3.98 | 3.98 |
| PLM children | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 12.84 | 12,84 |
| New categorical eligibles | NA | NA | NA | NA | NA | NA | NA |
| New noncategorical eligibles | N A | NA | NA | NA | NA | NA | NA |
| Total | 6.17 | 38.56 | 0.00 | 0.00 | 0.00 | 55.27 | 100,00 |
| ***Average fiscal year 1993 at demonstration startup*** [b] | | | | | | | |
| AFDC | 34.48 | 10.37 | 5.79 | 2.59 | 6.20 | 2.97 | 62.40 |
| General assistance | 0.89 | 0.19 | 0.67 | 0.08 | 0.18 | 0.08 | 2.10 |
| PLM adults | 0.96 | 0.51 | 0.70 | 0.11 | 0.36 | 0.16 | 2.80 |
| PLM children | 2.79 | 1.47 | 2.03 | 0.31 | 1,03 | 0.47 | 8.10 |
| New categorical eligibles | 2.91 | 0.93 | 0.68 | 0.00 | 0.78 | 0.00 | 5.30 |
| New noncategorical eligibles | 10.60 | 3.38 | 2.47 | 0,00 | 2.86 | 0.00 | 19.30 |
| Total | 52.63 | 16.85 | 12.33 | 3.09 | 11.41 | 3.69 | 100.00 |
| ***Average fiscal year 1993 at demonstration steady state*** [b] | | | | | | | |
| AFDC | 26.30 | 8.21 | 6.09 | 0.00 | 7.00 | 0.00 | 47.60 |
| General assistance | 0.98 | 0.21 | 0.21 | 0.00 | 0.20 | 0.00 | 1.60 |
| PLM adults | 1.05 | 0.40 | 0.26 | 0.00 | 0.39 | 0.00 | 2,10 |
| PLM children | 3.11 | 1.18 | 0.76 | 0.00 | 1.15 | 0.00 | 6.20 |
| New categorical eligibles | 4.89 | 1.56 | 1.14 | 0.00 | 1.32 | 0.00 | 8.90 |
| New noncategorical eligibles | 18.45 | 5.88 | 4.29 | 0.00 | 4.97 | 0.00 | 33.60 |
| Total | 54.78 | 17.44 | 12.75 | 0.00 | 15.03 | 0.00 | 100.00 |

ABBREVIATIONS: NA - not applicable; FCHP - fully capitated health plan; PCO = partially capitated health plan; CMFFS = case-managed fee-for-service (i.e., individuals enrolled with a primary care case manager (PCCM) who manages their fee-for-service care); CMFFS-Man - individuals in areas of the State where enrollment in a prepaid plan is mandatory who receive their care on a CMFFS basis; FFS-Man = individuals receiving services on an unrestricted fee-for-service basis in areas of the State where enrollment in a prepaid health plan is mandatory; FFS = individuals receiving services on an unrestricted fee-for-service basis in areas of the State where enrollment with a PCCM is mandatory; AFDC = Aid to Families with Dependent Children; PLM = poverty level medical.

a Eligibility categories in this table correspond to standard Medicaid eligibility categories and not to the categories used by Oregon Office of Medical Assistance Programs to calculate cavitation rates under the proposed demonstration.

b Dates reflect original anticipated program startup date of July 1, 1992. Program startup has been delayed on a month-to-month basis pending Health Care Financing Administration approval of the waiver (see text). Fiscal year 1993 startup and steady-state enrollment estimates differ due to assumptions regarding the pace of uptake of eligibles into the various delivery systems. Oregon assumes steady state would be achieved by the end of the 9th month of the demonstration.

c Enrollment distribution by delivery system was calculated by Coopers & Lybrand based on information provided by the Oregon Office of Medical Assistance Programs.

SOURCE: Coopers & Lybrand, *Oregon Medicaid Basic Health Services Program: Calculation of Per Capita Costs Report* (San Francisco, CA: Coopers & Lybrand, May 1, 1991), exhibits 24-A, 24-B; Coopers & Lybrand, San Francisco, CA, unpublished data provided to Office of Technology Assessment, September 1991.

There are a total of 40 separate basic cavitation rate estimates under the plan—a partial and full cavitation rate for each of four eligibility groups in each of five geographic regions, as follows:

*Eligibility groups:*

1. All Medicaid enrollees eligible under the demonstration with incomes below 100 percent of the Federal poverty level (FPL) except for general assistance enrollees.
2. Poverty level medical (PLM) adults with incomes between 100 and 133 percent FPL.
3. PLM children under age 6 with incomes between 100 and 133 percent FPL.
4. General assistance enrollees.

*Geographic regions:*

1. Portland tri-county area (Clackamas, Multnomah, and Washington Counties).
2. Linn, Benton, Marion, Polk, and Yamhill Counties.
3. Lane County.
4. Jackson, Josephine, and Douglas Counties.
5. All other counties.

Each cavitation rate is broken down into specific categories of mandatory (i.e., must be capitated) and optional (plans have the option of receiving capitated payment) services. Table 4-13 illustrates this breakdown for eligibility group 1 in region 1. Prospective providers can use tables such as this to

**Table 4-13-Breakdown of Preliminary Cavitation Rates for Providers in the Oregon Medicaid Demonstration in State Fiscal Year 1993: Rates for Clackamas, Multnomah, and Washington Counties for All Demonstration Eligibles Under 100 Percent of the Federal Poverty Level Except General Assistance[a]**

| Fully capitated health plan covered services | | Physician care organization covered services | |
|---|---|---|---|
| **Physician** | | ***Basic services*** | |
| Basic | $23.13 | **Physician** | |
| Therapeutic abortion[b] | 0.75 | Basic | $23.13 |
| Maternity | 8.81 | Maternity | 8.81 |
| Somatic psychiatry | 0.14 | Subtotal | 31.94 |
| Family planning[b c] | 1.12 | | |
| Subtotal | 33.95 | **Outpatient** | |
| **Outpatient** | | Professional | 1.33 |
| Basic | 11.80 | Maternity | 0.29 |
| Maternity | 0.29 | Lab and x-ray | 3.52 |
| Somatic psychiatry | 0.07 | Subtotal | 5,14 |
| Subtotal | 12.16 | | |
| **Prescription drug** | | Total of mandatory services | 37.08 |
| Basic | 6.05 | Administrative fee[g] | 4.00 |
| Family planning[b c] | 0.33 | Total with administration fee | 41.08 |
| Psychiatric[b] | 0.18 | | |
| Subtotal | 6.56 | Maternity/newborn withhold[f] | -2.30 |
| **Inpatient** | | ***Optional services*** | |
| Basic | 28.54 | | |
| Family planning[b c] | 0.01 | Dental[b] | 14,64 |
| Nursing facility | 0.00 | Maternity management | 0,19 |
| Hospice | 0.01 | Outpatient somatic psychiatry[b] | 0,07 |
| Maternity | 14.02 | Outpatient--facility[b] | 6.94 |
| Subtotal | 42.58 | Physical/occupational therapy[b] | 0.26 |
| | | Physician therapeutic abortion[b] | 0.75 |
| Dental[b] | 14.64 | Physician family planning[bc] | 1,12 |
| Maternity management | 0.19 | physician somatic psychiatry[b] | 0.14 |
| Vision | 0.88 | Prescription drugs--basic[b] | 6.05 |
| Home health service | 0.25 | Prescription drugs--family planning[b c] | 0.33 |
| Physical/occupational therapy | 0.26 | Prescription drugs--psychiatric[b] | 0.18 |
| Transportation (ambulance) | 0.69 | Transportation (ambulance)[b] | 0,69 |
| Transportation (other)[b] | 0.52 | Transportation (other)[b] | 0.52 |
| Miscellaneous medical[b] | 0.73 | Vision[b] | 0.88 |
| Total service cost[d] | 113.41 | | |
| Administrative cost[e] | 7.24 | | |
| Total with administration cost | 120.65 | | |
| Maternity/newborn withhold[f] | -8.84 | | |

a Rates shown reflect adjustments forfunding through line 587 of the prioritized list and for anticipated managed care savings.
b Indicates optional services, subject to negotiation regarding inclusionin contract.
c Reflects 6.8 percent reduction for universal client access to family planning services.
d Total based on the assumption that ail services are included in the capitation contract.
e A 6 percent administrative cost allowance for all capitated services is included for fully capitated health plans.
f To be withheld from the total capitation rate and applied toward a fund to support prepaid plans With a disproportionately high share of maternity/newborn cases.
g Administrative cost for physician care organiztions is set at a flat fee of $4 per enrollee permonth.

SOURCE: Oregon Department of Human Resources, Office of Medical Assistance Programs, *Oregon Health Plan: Prepaid Health Plan Request for Applications Additional Information* (Salem,OR:OMAP, Feb. 7,1992).

estimate the rates they would receive under the demonstration. Final rates would be different, however, because these estimates do not reflect certain applicable premium deductions (e.g., high-risk maternity and newborn care, stop-loss insurance).

In the current prepaid system in Oregon, capitation rates are set annually and are fixed for the duration of a PHP's contract (78). This would change under the demonstration in order to allow greater expenditure control by OMAP in the event of any changes in the benefit package during a contract cycle. Under the demonstration, cavitation rates would be subject to change at any time during the contract cycle, either as the result of technical

amendments to the list, legislative amendment of the benefit package, or other unspecified amendments to the prepaid contracts (174). PHPs would be entitled to a minimum of 30 to 60 days' notice[59] before the new rates went into effect, and they would be allowed to terminate their contracts on 30 days' notice on the condition that they facilitate full transfer of all their enrollees to alternative providers (173, 174). However, the model PCO/FCHP contract states that financial loss would *not* be considered sufficient cause for termination of contract (174),

## IMPLICATIONS OF DEMONSTRATION CHANGES FOR PROVIDERS

### *Delivery System Changes*

Implementation of prepaid managed care systems generally involves changes in the distribution of enrollees among existing providers; limitation of enrollees' freedom of choice among practitioners; changes in provider payment and participation; and shifts in incentives to over- or underprovide services. In Medicaid to date, mandatory enrollment of eligibles in prepaid and managed care delivery systems has been allowed only under waiver authority due to concerns about possible negative effects some of these changes might have on quality and accessibility of Medicaid services. Oregon has operated one of the largest prepaid Medicaid programs in the country for the last 7 years in and around its metropolitan areas.

Because the demonstration's predicted costs and effects depend heavily on the assumption that most enrollees will be in prepaid managed care, the capacity of this system to accommodate an estimated 120,000 new eligibles is critical. preliminary results of a study being conducted by GAO indicate that the current managed care system in Oregon appears to have avoided many of the pitfalls of similar systems in other States (238). However, GAO has recommended that the proposed demonstration not begin until Oregon has more fully developed the expanded managed care infrastructure (e.g., until it has executed provider contracts sufficient to cover projected new enrollees) (238).

Timeline and Plans for Delivery System

Development of the delivery system would be a gradual process. As of November 1991, OMAP had entered into preliminary negotiations with prepaid providers (252). PHP contract negotiations for the entirety of the proposed prepaid system, however, are not anticipated to be complete until the end of the second year of the demonstration (table 4- 11) (177). The original deadline date for contract applications was February 7, 1992, but this has been changed to 2 weeks after approval by the Health Care Financing Administration (HCFA) of the State's request for waivers (213). Awards of the first round of contracts, originally scheduled to occur between May 18 and June 15, 1992, have been delayed on a month-to-month basis pending HCFA approval (256).

OMAP requested that all providers interested in participating submit a nonbinding letter of intent to participate by February 7, 1992 (256). Based on letters of intent received as of February 12, 1992, OMAP estimated a capacity to serve 190,000 enrollees through prepaid plans at program startup (212). Actual capacity cannot be predicted until OMAP has reviewed the full applications, accounted for any duplicate counts of primary care physicians (e.g., physicians associated with more than one plan), and negotiated contracts. As of March 17, 1992, OMAP had not yet received any applications (212). However, many providers who have expressed interest in participating reportedly have their referral and subcontract mechanisms in place or are well on their way to establishing them (212).

Underestimation of enrollment increases could impede OMAP's ability to enroll the anticipated proportion of eligibles in PHPs, unless additional capacity (i.e., more prepaid providers) could be developed. The State assumes that the geographic distribution of new eligibles would be the same as the geographic distribution of current eligibles, with the demonstration leading toa31 percent increase in enrollment in each county during the first year compared with the expected enrollment without the demonstration (182). OMAP officials claim that development of additional capacity in the nine-county area where prepaid plans have already enrolled the majority of AFDC patients-and where

[59] Thirty days if changes are due to technical amendments; 60 if they are due to legislative changes in the benefit package (174).

[60] This estimate is based on plans' indication of the number of primary care physicians that they would have available to serve Medicaid enrollees, using a ratio of one primary care physician per 1,200 enrollees or fraction thereof (175,212).

the bulk of the newly eligible population would reside-would be less problematic than in some of the outlying areas where delivery has been strictly FFS to date (212).

### Distribution of PHP Enrollees by Eligibility Category

PHPs that attract a greater proportion of high-cost patients would be at a financial disadvantage compared with those that attracted lower cost patients, a phenomenon known as "adverse selection." To help protect PHPs from adverse selection, OMAP would:

- Develop a separate cavitation rate for each of four eligibility "categories," to reflect average differences in cost between patients in each category (see above) (175);
- Require each PHP to accept any enrollee that selects it, regardless of eligibility category (175);
- Adjust cavitation rates for certain "predictable" events (e.g., pregnancy) (175); and
- Provide stop-loss insurance for other cost-outlier patients (e.g., in the event of costly catastrophic conditions that cause costs per patient to exceed a predetermined threshold) (177).

At least in the early stages of the demonstration, the inability of providers to predict the distribution of their enrollees by eligibility category may affect PHPs' ability to budget and subcontract for specific services, which could in turn have an effect on beneficiary access and quality of services provided. The issue of distribution of enrollees across eligibility groups is not unique to Oregon. However, because existing prepaid providers' experience is limited to AFDC enrollees under the current benefit package, and because proposed cavitation rates are calculated for nontraditional eligibility categories, the level of uncertainty for new prepaid providers in Oregon is likely to be greater than it would be under a more traditional Medicaid managed care demonstration. To assist providers in anticipating the distribution of their own enrollment, OMAP has sent prospective providers lists of anticipated eligibles by rate category and geographic location (212).

## *Reimbursement Changes*

A major selling point of the demonstration to providers in the State has been the promise of enhanced reimbursement (177). There is little question that aggregate Medicaid payments to health care providers in Oregon would increase under the proposed demonstration, but whether individual providers would see a net increase in Medicaid revenue after costs is unclear. In both the prepaid and FFS parts of the proposed system, providers are expected to experience costly increases in administrative responsibilities. They may also be providing more services, or services to more people. Most providers in the managed FFS system would not receive payment rate increases, although expanded eligibility may reduce some of the existing uncompensated care burden.

Providers in Oregon are likely to experience changes in their gross Medicaid revenues due to increases in and redistribution of the eligible population. It can be assumed that, under the proposed demonstration, some providers who currently see Medicaid patients would lose these patients to other providers due to unwillingness or inability to participate as PHPs or subcontractors. This phenomenon is common to any shift from unrestricted FFS to prepaid managed care. At the same time, many providers who currently participate (as well as some who do not) are likely to maintain or increase their Medicaid caseload under the demonstration due to expanded eligibility and redistribution of eligibles between providers. However, increased caseloads would only bring increased net revenues if: 1) they displaced current uncompensated care losses, and/or 2) payment rates under the demonstration were greater on average than current reimbursement rates.

### Case-Managed FFS System

Payment rates for specific services in the case-managed FFS system would not increase. Most providers in the case-managed FFS system would continue to be paid according to prevailing Medicaid rates, many of which have been frozen or reduced for the current biennium (see table 4-10).[61] The only reimbursement enhancements in the case-managed

[61] Fees for physicians and certain other categories of providers were frozen for the 1991-93 biennium. OMAP does not intend to change these FFS rates under the demonstration (212). A few categories of providers received CPI (consumer price index) increases in their FFS rates. Hospitals paid on a DRG basis have seen an increase in reimbursement for inpatient care as a result of a recent out-of-court settlement of a lawsuit brought against the State (see ch. 2). Hospital outpatient reimbursement was reduced from 65 to 59 percent of costs for the 1991-93 biennium. Pharmacies will see a cost-of-goods update twice monthly, but the dispensing fee has been frozen. Dentists received increases for certain procedures (212).

FFS system would be: 1) the additional $3 per enrollee per month for primary care case managers, and 2) any additional reimbursement realized as a result of new coverage for services previously provided, or patients previously seen, free of charge. For sole providers in areas with sparse population and many newly insured persons, expanded eligibility may mean *de facto increases in* revenue.

OMAP's decision not to extend reimbursement rate increases to the FFS portion of the delivery system represents a conscious effort to move more providers into the prepaid arena (212). If they succeed in achieving and maintaining a statewide prepaid delivery system, the lack of payment increases for FFS providers would no longer be an issue. However, 25 percent of the Medicaid population is anticipated *to* be under case-managed FFS at program steady state. This 25 percent would be relatively concentrated in the more remote rural counties where OMAP is not aggressively targeting prepaid contracts. Assuming that the demonstration would entail a 31 percent increase in enrollment in each of these counties, lack of reimbursement rate increases could have negative implications for provider participation in FFS and, hence, beneficiary access to care in those areas if providers were not willing to accept additional Medicaid patients at prevailing rates. An official of the Oregon Medical Association recently characterized current FFS reimbursement rates as ''woefully inadequate, ' and suggested that the Oregon demonstration would ''penalize' rural physicians by not extending to them enhanced reimbursements (30). It is not clear how much of an incentive the additional $3 case management fee would be to participation by PCCMs.

### Prepaid System

Estimated cavitation rates appear to be roughly comparable to those currently offered to prepaid Medicaid providers (table 4-14). A true comparison is difficult, however, because the rates reflect a demographically dissimilar population, a significantly different benefit package, and a new rate-setting methodology. Current cavitation rates for PCOs, which are based on Medicaid FFS-equivalent costs for a similar population, range from $30.16 to $37.00 per month for AFDC clients.[62] For the most comparable eligibility category under the proposed system (non-general assistance clients with incomes below 100 percent of the FPL), estimated PCO rates for basic services[63] range from $36.59 to $44.42 per month ($32.59 to $40.42 per month if one excludes the $4 administrative allowance)[64] (table 4-14).

Current prepaid contractors who plan to participate under the proposed system can make a rough comparison between current and proposed rates for certain services and patients (e.g., those services and patients for which they have previously received capitated reimbursement). Both new and existing providers, however, are likely to have greater difficulty anticipating the costs of other patients (e.g., general assistance and PLM clients). The extent to which the new rates would represent increases in reimbursement to PHPs would depend on a number of factors, including:

- The extent to which PHPs are able to cut costs by curtailing the provision of noncovered services or through other means,
- The extent to which their current uncompensated care load is displaced by newly covered patients or services,
- The extent to which cavitation rates cover actual costs of patient care, and
- The extent to which new rates adequately compensate for any increased administrative tasks they must assume under the demonstration.

For subcontractors in the prepaid system (e.g., physician specialists, hospitals, providers of ancillary services), higher payment would depend on the ability of these providers to negotiate such rates with prepaid plans. There are no floors or other guidelines for subcontractor rate negotiation.[65] Under the current managed care system in Oregon, hospitals that provide outpatient services to Medicaid patients under subcontract to PCOs have generally been paid at rates equivalent to those they could expect if they were paid directly by OMAP (52). This practice,

62 There is no administrative allowance for prepaid providers under the current system.

63 See table 4-13 for a description of PCO basic services.

64 These figures reflect the withholdance for the maternity care reinsurance pool, but they do not reflect any applicable stop-loss insurance premium deductions.

65 The proposed capitation rates reflect newly calculated ''reasonable cost' for subcontracted services (e.g., hospital services, home health services, pharmacy services); however, OMAP has not established a policy whereby PHPs would be required to reimburse their subcontractors at these levels.

**Table 4-14--Capitation Rates for Prepaid Health Providers in Oregon: Current and Proposed Benefit Packages[a]**

**Monthly capitation rates *as of October 7,* 1991 *(AFDC only)*[a]**

***Fully* capitated health *plan (FCHP)--Kaiser Permanence,* Northwest Region:**
**$84.16 to $98.54**

***Physician care organizations (PCOs):*** [b]
***$30.16*** to **$37.00**

***Proposed monthly capitation rates under the demonstration for State* fiscal year 1993, including administrative *allowance:*** [c]

| | Range[d] | |
|---|---|---|
| *Eligibility category:* [e] | FCHP | PCO |
| Ail eligibles with incomes under the Federal poverty level (FPL) except general assistance | $109.32 to $129.81 | $36.59 to $44.42 |
| Poverty level medical (PLM) adults with income 100 to 133% of FPL | $603.49 to $701.10 | $234.87 to $293.40 |
| PLM children (i.e., less than 6 years of age) with income 100 to 133% of FPL | $180.64 to $209.67 | $47.16 to $58.78 |
| General assistance | $259.03 to -$287.34 | $52.91 to $63.14 |

ABBREVIATIONS: AFDC-Aidto Families with Dependent Children; FCHP = fully capitated health plan; PCO - physician care organizaton (partially cavitated health plan).
a Although presented side by side in this table, current and proposed cavitation rates are not directly comparable because they were calculated from different data sets and represent significantly different benefit packages. There is no administrative allowance in the current system.
b Rates include basic services only (physician, lab, x-ray, early and periodic screening, diagnosis, and treatment program).
c Cavitation rates as estimated by Coopers & Lybrand using a mixture of private and Medicaid claims databases (see ref. 40). They reflect FCHP covered services (including all optional services) and PCO basic services (see table 4-12) for lines 1 through 567 on the prioritized list of health services. The rates in this table do not reflect applicable premium deductions for: 1) maternity and newborn cases, or 2) stop-loss protection. They do include a 6 percent administrative allowance for FCHP services and a $4 per enrollee administrative allowance for PCO services.
d Represents range among the five different geographic areas for which OMAP has calculated separate cavitation rates (see text).

SOURCES: State of Oregon, Department of Human Resources, Office of Medical Assistance Programs, *Prepaid Health Plan Request for Applications Additional Information* (Salem, OR: OMAP, Feb. 7, 1992); Coopers& Lybrand, *Oregon Medicaid Basic Health Services Program: Calculation of Per Capita Costs* Report(San Francisco, CA: Coopers& Lybrand, May 1, 1991); B.Terhaar, Operations Project Manager, Prioritized Health Care Systems, Office of Medical Assistance Programs, Oregon Department of Human Resources, Salem, OR, personal communication, Dec. 4, 1991; L. Read, Director, Prioritized Health Care Systems, Office of Medical Assistance Programs, Oregon Department of Human Resources, Salem, OR, letter to E.J. Power, Office of Technology Assessment, Mar. 4, 1992.

however, is negotiated by the plan and the hospital rather than the result of a formal policy decision by OMAP (212).

Another potential issue for PCOs under the demonstration is the ability of OMAP to measure savings for noncapitated services due to PCO case management. Under the proposed plan, PCOs would receive a percentage of any savings achieved through reduced utilization of covered noncapitated hospital outpatient, hospital inpatient, and prescription drug services, measured against predetermined target costs for an actuarially equivalent FFS population (see above) (177). In other States, the ability to perpetuate such incentives in partial cavitation arrangements has been hampered by erosion of the FFS base against which actual utilization is measured (143). This problem might be of particular concern in Oregon, because by the time the demonstration is at steady state, the State intends to have *all* eligibles enrolled in some form of managed care. Also, measurement of total savings must be detailed enough to discount savings from service prioritization. Under the current system, savings are calculated by comparing utilization of broad service categories. OMAP claims that, although difficult, such a comparison is actuarially feasible, and that the primary purpose of such a mechanism-to provide an incentive for prepaid providers to control costs—would still be served (212).

## *Impact of the Prioritized List*

Implementation of the prioritized list of services, by design, is likely to influence the way physicians and other health care practitioners diagnose and treat their Medicaid patients. The impact of the list may differ depending on the delivery system in which the practitioner operates.

To get a better sense of how clinical practice might be affected by the list, OTA had several physicians evaluate the list in light of their own clinical experience. The contractors' findings, presented in more detail in chapter 3, include concerns regarding:

- The clinical appropriateness of ranking certain CT pairs either above or below the line,
- Dissatisfaction with the use of broadly defined service categories in the prioritization process, and
- The inadequacy of the list at valuing the relative effectiveness of specific treatments for certain patient subpopulations.

If physicians serving Medicaid patients under the demonstration share these concerns and feel the list either prevents them from providing appropriate or necessary care or forces them to provide alternative treatments they feel are less appropriate, they may respond by attempting to code claims or encounter data forms for potentially uncovered conditions into alternative CT pairs (see ch. 3). If physicians or other health care providers are unable or unwilling to code conditions into alternative CT pairs, they might either deny treatment or choose to absorb the cost of providing that treatment themselves.

According to the clinical contractor evaluations and OTA's own analyses of list coding, there appear to be many opportunities for alternative coding of below-the-line conditions into covered CT pairs. If alternative coding is more extensive than anticipated in the cost estimates (see ch. 6), savings from prioritization may not be as great as anticipated. Noncovered services range from inexpensive treatments such as elastic bandages and splints for strains and sprains to extremely costly treatments such as liver transplants for alcoholic cirrhosis of the liver (see ch. 3).[66]

### List Interpretation and Coding Issues

The ability of providers and OMAP to interpret coding used in the list has implications for program evaluation and costs, provider reimbursement and financial risk, and beneficiary access to specific services.[67] In completing claims and encounter data forms, providers *would not* indicate the CT pair into which they felt it appropriate to classify a patient. Forms would be completed and coded much as they are now, using ICD-9-CM[68] diagnostic and CPT-4[69] procedure codes (212). Based on this information, OMAP would decide whether or not to pay a claim or, in the case of encounter data, would classify encounters as either ''covered' or ''noncovered' services for purposes of program evaluation and determination of stop-loss thresholds or PCO incentive payments (88,212).

Since September 1989, OMAP has been upgrading its claims and data processing capabilities (212). As of the end of January 1992, however, OMAP officials had not yet finalized a strategy for processing FFS claims against the list (212). At that time, they were reportedly considering developing a computer program that would focus primarily on below-the-line CT pairs rather than one that would categorize each paid claim by CT pair (212).

Whether submitting FFS claims or providing OMAP with detailed encounter data, providers would need to have an intimate understanding of list coding. Providers may also need to change the way they code claims in order to more clearly associate specific diagnoses with specific treatments. There are a number of reasons why providers may have difficulty interpreting the list and coding their claims or encounter data accordingly.

First, numerous coding duplications on the list (many of them appropriate, others apparently unintentional) could lead providers to misinterpret the scope of conditions or treatments included in CT pairs, which could in turn influence their decision as to whether or not to treat the patient. The list contains many ICD-9-CM code duplications, with some codes appearing in five or more CT pairs. overall, 291 of 709 CT pairs contain at least one diagnosis code that is repeated in at least one other CT pair.

Second, the distinction between primary and secondary conditions in certain CT pairs is vague and could be misinterpreted by physicians. For example, CT pair 708 reads ''end-stage HIV[70] disease-medical therapy," and lists the full range of medical therapy CPT-4 codes. According to the

66 Cost estimates for the demonstration assume that a small portion of below-the-line services would still be provided, but it is *difficult to assess* whether these estimates are realistic. See ch. 6 for a detailed discussion of how demonstration costs were estimated and how the assumptions may affect providers in the FFS and prepaid delivery systems.

67 For a general discussion of program evaluation issues, see ch. 8.

68 *International* Classification *of Diseases, 9th* Edition, Clinical Modification (316).

69 Current Procedural Terminology (CPT) codes, 4th revision (7a).

70 Human immunodeficiency virus.

Oregon Health Services Commission (HSC), the intent was only to deny treatment for the primary diagnosis (i.e., to deny payment for azidothymidine (AZT) or any other approved drug for the treatment of HIV infection) (1 18). However, physicians might interpret the CT pair to mean treatment for a number of HIV-related conditions that are in fact included in CT pairs above the line.

Third, it remains unclear how OMAP intends to make noncodable distinctions (e.g., treatable vs. nontreatable cancer, end-stage HIV disease) when processing claims. As of late January 1992, both the HSC and officials within OMAP indicated that they were considering leaving these distinctions to the discretion of the physician (77). While such a strategy would increase physicians' autonomy in making these distinctions, it could also decrease OMAP's ability to achieve anticipated cost savings if physicians chose to code these patients liberally into covered CT pairs.

Finally, hospital claims forms typically contain multiple diagnosis and treatment codes. To accurately determine which procedures were performed for which diagnoses-a determination that could ultimately affect coverage--claims forms and encounter data requirements may have to be refined.

Ambiguities such as these suggest that development of extensive and detailed CT pair assignment guidelines is at least as important as correcting specific coding problems on the prioritized list. As of the end of January 1992, OMAP had just begun the process of revising the existing FFS provider guidelines to reflect the new benefit package (77,212). According to the OMAP official responsible for coordinating revision efforts, the strategy will be to focus on services that are not covered and to clarify potential ambiguities with specific examples (77).[71]

### Differences by Delivery System

Because they face denial of payment on a claim-by-claim basis, providers in the case-managed FFS system would be most directly affected by implementation of the prioritized list. For providers in the prepaid system, the effect could be dampened by lack of immediate claims oversight. For example, in an "independent practice association' '-type plan that subcontracts with physicians and does not internally monitor covered vs. noncovered services, physicians maybe at greater liberty to treat below-the-line conditions. On the other hand, some PHPs may adopt strict internal policies to deny payment for (or provision of) noncovered services. Whether PHI% promote or resist such policies could depend on a number of factors, including: 1) the extent to which providers believe that cutting below-the-line services can save them money, 2) the extent to which OMAP monitors line-specific utilization of PHP enrollees, and 3) providers' belief that certain noncovered services are indeed medically necessary and should be performed.

Kaiser Permanente-Northwest Region, a large HMO that has indicated an intent to participate under the demonstration, has indicated that, while it might adopt policies to deny services for certain below-the-line conditions (e.g., specific surgical treatments), it might continue to provide others--either out of moral obligation or because certain services (e.g., splints and bandages for sprains supplied during an office visit) would be practically impossible to monitor (100). Other PHPs—especially those that lack the financial resources or will to absorb costs associated with noncovered Medicaid services-might deny below-the-line treatments to a greater extent than larger providers.

Potential variability among providers in adherence to the prioritized list as a benefits package could lead to inequalities in beneficiary access to services for specific conditions. Indeed, some level of inequality in access exists already between FFS and PHP Medicaid patients. Kaiser Permanence claims that it routinely provides hospice and adult preventive services to its current Oregon Medicaid enrollees, even though these are not covered benefits under the current Medicaid program (100). An evaluation of cost savings in Oregon's PHP program between 1985 and 1989 found PHP enrollees' overall utilization of hospital (both inpatient and outpatient) and prescription drug services to be lower than that for an equivalent FFS population (41). To term these differences "inequalities" would be to ignore one of the original goals of the PHP program: to reduce utilization of unnecessary and costly services through managed care. Decreased inpatient utilization in the current PHP system is defined broadly and attributed to better

[71] For example, the medical-surgical provider guidelines might clarify that, although aggressive treatment for terminal cancer is not covered, a surgical procedure to remove a bowel obstruction ina terminal cancer patient or palliative chemotherapy would be covered (if OMAP were to adopt such a policy).

management of care by primary care physicians (41). Broadly defined differences in beneficiaries' utilization of services, however, fail to capture service- and condition-specific differences in access that could result from inconsistencies in adherence to the benefit package.

Although the list may have a more direct financial impact on FFS providers, its implementation could also affect providers in the prepaid system, who would be required to submit detailed encounter data in a format similar to FFS claims (175). Understanding the mechanics of the list would also be important for PHPs if they wanted to monitor the extent to which their subcontractors (e.g., hospitals) provide noncovered services. OMAP has no plans to develop specific tools to aid prepaid providers in their internal claims or service management (212). Each prepaid provider would presumably be responsible for interpreting and implementing the list within its own service structure.

### Implications of Future Changes in the Benefit Package

If, in the event of future budgetary constraints, the coverage line moved above 587, implications for providers would also be likely to vary by delivery system. In the FFS system, providers would be denied direct payment for specific services. In the prepaid system, the cavitation rates would decrease, with a corresponding decrease in service liability. If PHPs were unwilling and unable to make up for possible rate decreases, either by cutting additional services or through various forms of cross-subsidization, they might opt out of the program.

Providers in the State have expressed reasonable satisfaction to date with the benefit package and proposed cavitation rates at line 587. As in any prepaid health care environment, however, providers may opt out if they feel the rates are too low. It is impossible to predict the threshold (either in terms of the rate or the benefit package) below which providers would no longer be willing or able to participate in the Oregon demonstration.

### Data Collection Under the Demonstration: Issues for Providers

Collection of detailed encounter data from PHPs would be critical to evaluation of the effects of service prioritization and managed care expansions on program costs, beneficiary access to care, quality of care provided, and any relevant health outcomes measures.[72] It would also help risk-based providers in their internal financial management by enabling them to track both patient- and service-specific utilization and costs. Documenting patient-specific utilization would enable providers to avail themselves of stop-loss protections offered by the State. Efforts to track service-specific costs would enable providers to develop their own cost-containment strategies.

In late November 1991, OMAP informed potential prepaid providers that they would be required to submit detailed encounter data to OMAP for purposes of utilization monitoring and program evaluation (175). Encounter data would include the "patient's name, Medicaid ID number, treating professional, date of service, diagnosis, services provided, and plan payment amount and would have to be reported-preferably electronically-within 60 days of the date of service (175).

Because the proposed encounter data requirements are essentially the same as information requirements on current FFS claims forms, new prepaid providers who currently see patients in the FFS system would not need to undergo major adjustments to comply with encounter data collection requirements. For some existing prepaid providers, however, significant adjustment would be required. The inability of PHPs in the existing managed care system to submit even the most basic quarterly utilization data for Medicaid enrollees in a consistent manner (310) is not encouraging. Nonetheless, most current prepaid providers have reportedly accepted the need for these requirements and are willing to comply (212). At least one large prepaid provider, however, has requested that OMAP grant it a waiver from the specified encounter data reporting requirements under the demonstration. Kaiser Permanence objects to the requirement because it would entail the development of a new data collection system and the reporting of confidential patient information (19).

PHPs are expected to bear the cost of putting the necessary data collection and utilization review systems in place. The proposed cavitation rates (table 4-14) reflect increased administrative costs associated with data collection and other administra-

[72] See ch. 8 for a general discussion of program evaluation issues.

tive tasks, but OMAP acknowledges that the administrative allowances would probably only be sufficient to cover operational costs (212). OMAP intends to have staff available to provide technical assistance to PHPs to aid them in meeting data collection and other administrative requirements *(177,212).*

OMAP also intends to collect information from primary care case managers and PHPs about what noncovered services they provide to clients (175). How they would accomplish this is unclear. If providers felt that reporting the provision of noncovered services might result in either increases in the benefit package or increases in their payment rates, they might feel an incentive to overreport these services. If, however, providers felt that such reporting might jeopardize their reimbursement in any way (e.g., reduce cavitation rates or PCO incentive payments), they might tend to underreport.

### *Overall Implications for Provider Participation*

To accommodate the almost twofold increase in Medicaid enrollment under the demonstration, provider participation in both the prepaid and FFS systems would have to increase. Although it is impossible to predict with any certainty what provider participation would be like under the demonstration, factors that may influence participation deserve examination. These factors, which are discussed throughout this chapter, are summarized briefly here for the prepaid and case-managed FFS delivery systems.

#### Prepaid System

Key factors in initial participation by prepaid providers include attractiveness of payment rates, level of commitment to providing care to poor populations, capacity for increased caseloads, providers' perceptions of the appropriateness or feasibility of implementing the prioritized list of services, and the ability of providers to meet the terms of prepaid contracts. Adequate long-term participation would depend on additional factors, including the ability of prepaid providers to: 1) control costs through below-the-line exclusions and effective patient management, *2)* comply with the (not unreasonably) stringent standards of performance set forth by OMAP, and 3) adapt to possible reductions in cavitation rates mid-cycle. Participation of subcontractors would depend on their ability to negotiate acceptable arrangements and rates with prepaid plans.

PCOs in the current system have already established referral and subcontracting arrangements for basic services; however, the vast majority of these PCOs would be required to convert to FCHPs at program startup, entailing development of new subcontractual arrangements for inpatient and other care not currently capitated for PCOs. As noted earlier, OMAP has obtained letters of intent to participate as FCHPs from many of these plans. However, the plans' abilities to shoulder increased risk for patient care over the long term has yet to be tested.

#### Case-Managed FFS System

In the case-managed FFS system, financial and organizational incentives for provider participation would not differ as greatly from the current system as they would for prepaid providers. Furthermore, the case-managed FFS system would be the primary mode of service delivery only in the most rural parts of the State, where the number of providers—particularly secondary and tertiary care providers—is already limited. Referral patterns, to the extent that they exist at all, are 'fixed' by default and have already been at least informally established. For example, a primary care physician in a sole-hospital area with only a limited number of geographically accessible specialists has few options when it comes to secondary or tertiary care referrals.

Providers in rural areas who have difficulty maintaining adequate caseloads of charge-paying or otherwise insured patients are likely to welcome the opportunity to receive reimbursement for a larger number of low-income patients. Nonetheless, the additional responsibilities required of PCCMs (e.g., 24-hour availability, preauthorization of all care) could act as disincentives to participation if they are perceived as burdensome by providers. The wide geographic dispersion of patients and limited availability of secondary and tertiary care providers may present an additional challenge to PCCMs in establishing adequate referral networks for newly assigned patients. In addition, rural physicians maybe less able than their urban counterparts to take on additional administrative responsibilities because they are less likely to be able to afford support staff to assist them in these functions.

One possible advantage of case-managed over unrestricted FFS health care delivery is that it can increase beneficiary access to care by providing a guaranteed point of contact for patients (17,143), In several other States where case-managed FFS systems have been implemented, increased access (e.g., more specialty care referrals) has also led to increased per patient costs because these systems were not as successful in changing physician practice patterns as those that put physicians at risk (143)$_0$

Experience in other States also indicates that case-managed FFS and PCO systems have not always been successful at recruiting providers in underserved areas (143). A 1987 evaluation of Medicaid case-managed FFS programs in six States found that achieving adequate participation by primary care practitioners was problematic and slow and had the net effect of limiting the States' ability to achieve anticipated case management savings (17). The shortage of health professionals in rural areas is a nationwide problem, however, and not one that the Oregon proposal set out to address.

Understanding the current extent of provider participation in rural areas of Oregon would be helpful in assessing the potential impact of the proposed demonstration in the case-managed FFS delivery system. Unfortunately, little is known about the extent to which providers currently participate in the Medicaid FFS system.[73] An advisory group established by OMAP to guide case-managed FFS implementation met for the frost time in early December (212).

Implementation of the prioritized list may also present problems in case-managed FFS, at least at the outset. OMAP has indicated a commitment to minimizing the "hassle factor" for providers by keeping as many as possible of the burdens of list complexity transparent to providers and by working collaboratively with providers in the case-managed FFS system (212). However, the difficulties inherent in implementing the prioritized list of services in the FFS system may increase the "hassle factor" in claims payment somewhat during the first year or two of the demonstration.

## *Issues for Selected Providers*

### Hospitals

Under the proposed demonstration, both the amount and the immediate source of Medicaid reimbursement are likely to change for the majority of hospitals. Perhaps the most pronounced change would be the offset of current uncompensated care costs due to expanded eligibility. Hospital reimbursement would also change due to addition and elimination of services from the benefit package, changes in reimbursement rates, and reductions in inpatient and outpatient services utilization due to the expansion of managed care. The net balance of these changes for hospitals, however, is impossible to predict at this time.

Many hospitals would shift from State-set DRG rates to rates negotiated with prepaid providers. Thirty hospitals[74] would receive most of their payment for inpatient and outpatient care from FCHPs. An additional31 hospitals in the PCO areas would negotiate payment for certain outpatient hospital services rendered to PCO enrollees with the PCOs, but they would continue to receive the prevailing payment rates for inpatient services (either DRG- or cost-based) directly from OMAP.[75]

Hospitals may find it difficult to anticipate the magnitude of expected Medicaid revenues for a number of reasons. First, managed care may reduce hospital utilization. Indeed, the State has projected that, purely as a result of managed care incentives, nonmaternity/newborn-related inpatient hospital costs would decrease by 25 percent for FCHP enrollees, 13 percent for PCO enrollees, and 9 percent for case-managed FFS enrollees (178). These projections are based on its reported experience with the current PHP program and cost studies done by Coopers & Lybrand. In testimony presented before Congress in September 1991, the Congressional Budget Office and GAO questioned the validity of these estimates (237,238).

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73 A comprehensive study of primary care practitioner availability in each of the State's 125 health service areas has recently been completed by the Oregon Office of Health Policy. The results of this study should help determine whether there is sufficient capacity in the system to handle the estimated 120,000 newly eligible Medicaid enrollees.

74 Excludes the two Kaiser Foundation hospitals, which are already under full capitation arrangements with Medicaid for patients enrolled in the Kaiser-Permanente-Northwest Region HMO.

75 According t. OMAP, approximately one-third of outpatient services reimbursement for PCO enrollees is subject to negotiation. The remaining two-thirds are paid on an FFS basis by OMAP (212).

Second, although cavitation rates reflect the "reasonable cost" of hospital inpatient and outpatient services for covered CT pairs, OMAP has not established a floor for FCHPs' hospital reimbursement rates. Hospitals recently succeeded in obtaining increased Medicaid reimbursement from the State as the result of a lawsuit filed under Boren Amendment provisions (156,157) (see ch. 2)-a fact that might put hospitals in a stronger position to guard themselves against inadequate reimbursement from PHPs.

As noted earlier in this chapter, financial data indicate that a significant number of Oregon hospitals--particularly small rural hospitals-are already in financial distress. A number of these hospitals are currently exempt from prospective payment and instead receive facility-specific, cost-based reimbursement (see table 4-9). Under the demonstration, some of these hospitals would lose these statutory protections because, according to State officials, the statutes have been interpreted as applying only when payments are made directly by the State and are not likely to be upheld for hospitals receiving payment from PHPs (52,134). If the demonstration is approved, payments to these rural hospitals should be monitored closely.

For hospitals that continue to be reimbursed on a DRG basis, implementation of the prioritized list poses an additional reimbursement problem because DRGs do not adequately distinguish between covered and noncovered services provided during the course of a single hospital stay. For example, for a patient who receives treatment for several conditions during the same hospital stay (e.g., intravenous AZT for HIV infection and intravenous antibiotics for *pneumocyctis carinii* pneumonia), it may be impossible to determine from the hospital claim form which treatment is being provided for which diagnosis.

Of particular concern is the ability of the payment system to distinguish between diagnosis- and treatment-related inpatient charges. Oregon has stated that, under the demonstration, all Medicaid patients are entitled to a full diagnosis of their condition, even if treatment for that condition is not covered (177). Under the current system, however, diagnostic and treatment charges are bundled into a single diagnosis-related payment. If a treatment for a covered condition is incorrectly attributed to a noncovered condition on the basis of claims coding, payment may be inappropriately denied. There are a number of below-the-line conditions where extensive inpatient diagnostic procedures might be required to confirm the diagnosis (e.g., exploratory surgery or magnetic resonance imaging (MRI) for certain cancers). If hospitals were denied payment for these procedures, the financial consequences could be serious. As of January 1992, Oregon had not yet developed policies to address payment of diagnostic services provided in an inpatient hospital setting where treatment was also provided for a noncovered condition (212).

## Publicly Funded Primary Care Providers

Publicly funded primary care clinics (e.g., FQHCs, RHCs, county and local health departments) have played a major role to date in serving Medicaid and uninsured patients in Oregon and throughout the country. Federal, State, and local subsidies have supported them in this role, and payments from Medicaid often represent a substantial proportion of their budgets. If demonstration enrollment increases took place without any changes in the delivery system, most of these providers would probably see increases in their Medicaid revenues due to expanded eligibility. As proposed, however, the demonstration could end up having a negative rather than a positive financial impact on some of these clinics. Like other providers, they would be forced either to assume risk as primary contractors, negotiate with other prepaid plans as subcontractors, or serve an increasingly limited number of Medicaid patients in the FFS system.

A state law passed in 1991[76] would guarantee a limited role for publicly funded clinics under the proposed system by requiring prepaid providers to subcontract with them for point-of-contact services for immunizations, sexually transmitted diseases, and other communicable diseases. Their ability to participate as full-scope primary care providers, however, is less certain. Publicly funded providers are likely to have difficulty meeting requirements for participation as primary contractors for a number of reasons, the foremost of which is that they may be less able than larger providers to assume full or partial risk for patient care due to limited financial resources.

76 Oregon Senate Bill 760, 1991.

***Federally Qualified Health Centers and Rural Health*** Clinics—Implementation of the proposed managed care expansions would have significant implications for FQHCs and RHCs. All 11 FQHCs (table 4-3) and 14 of the 17 RHCs[77] are in areas where OMAP has indicated it would implement prepaid health care delivery (177,197). The 6 FQHCs in areas where FCHPs would be mandatory represent a total of 19 individual clinic sites, serving an estimated 65,586 unduplicated persons (both Medicaid and non-Medicaid) in FY 1989.[78] Four of these FQHCs operate as PCOs in the current managed care system (see table 4-3), but they would have to convert to FCHP status in order to maintain primary contracts under the demonstration. The 5 FQHCs in areas where PCOs would be implemented represent 7 individual clinic sites that served at least 8,321 unduplicated persons in 1989.[79]

OBRA-89 (Public Law 101-239) mandated that FQHCs receive facility-specific cost-based reimbursement from the State for services they provide to Medicaid patients. Each clinic's reimbursement rate is determined by calculating the average cost per patient encounter across all patients over the course of a year. RHCs are entitled to the same type of reimbursement under Public Law 95-210. The Consolidated Omnibus Reconciliation Act of 1990 (OBRA-90)[80] reinforced OBRA-89 reimbursement protections by mandating that FQHCs participating in Medicaid prepaid delivery systems receive the same payment per encounter to which they are entitled when paid directly by the State. OBRA-90 also mandated that, whenever States require Medicaid patients to enroll in prepaid plans, at least one of the plans available in any given area either be an FQHC or subcontract with an FQHC for the provision of primary care services.

Under the proposed demonstration, Oregon is seeking a waiver from cost-based reimbursement provisions for FQHCs and RHCs and from OBRA-90 FQHC guaranteed access provisions (177,257). These waivers would give the State greater latitude in choosing prepaid contractors and would enable OMAP to pay FQHCs and RHCs the same rates that they would pay other providers under the demonstration. If these waivers are granted, the impact on FQHCs and RHCs in prepaid areas would depend on a number of factors, including:

- The ability of the clinics to: 1) assume either full or partial risk for the care of their Medicaid enrollees, or 2) negotiate successfully with FCHPs and PCOs in their service area to act as subcontractors for primary care services;
- The extent to which the clinics currently depend on Medicaid revenues;
- The extent to which current sliding-scale patients in the clinics would be newly eligible under the demonstration;[81] and
- How OMAP's cavitation rates or rates negotiated with FCHPs under subcontract compare with their actual costs.

If unable to obtain prepaid contracts, FQHCs and RHCs might be able to continue serving Medicaid patients under subcontract to other prepaid providers. OMAP would encourage but not require prepaid providers to subcontract with these entities for services other than immunizations and point-of-contact services for sexually transmitted and other communicable diseases (175). However, participation as subcontractors introduces further uncertainties regarding the adequacy of reimbursement, because the proposed waiver of OBRA-89 and OBRA-90 provisions would relieve OMAP of its current obligation to reconcile differences between subcontractor rates and FQHCs actual costs for services.

In Oregon's current prepaid system, 2 of the 11 FQHCs see patients under subcontract to a PCO. Both are paid according to the PCO's fee schedule for all covered services, and both contend that their average per-encounter reimbursement from the PCO falls well below their FQHC entitled rate (219,259), although OMAP has disputed this claim (213). To comply with Federal law, OMAP intends to reconcile the difference between the amount paid by the

---

[77] Four RHCs are in areas slated for FCHP implementation the remaining 10, in areas where OMAP intends to execute prepaid contracts.

[78] Clackamas County Health Department did not report users in 1989 because it was not designated as an FQHC until October 1991 (261).

[79] Two of these five FQHCs did not report users for 1989. Similar data were not available for RHCs.

[80] Public Law 101-508.

[81] FQHCs that receive migrant health center funding may be less likely to benefit from expanded eligibility under the demonstration because many of their patients may not meet the Federal Medicaid residency requirements and thus would not be eligible for coverage (259). See ch. 5 for further discussion of eligibility issues.

PCO and the amount each clinic would have received for its services in the FFS system (212,259).

If unable to participate in the prepaid system, the remaining option for FQHCs and RHCs would be to serve as PCCMs for clients not enrolled in managed care plans (estimated to be 15 to 20 percent of clients in prepaid plan areas and 100 percent of clients in counties with no prepaid plans). In the PCCM system, FQHCs would continue to be reimbursed according to OBRA-89 provisions (257). However, the Oregon Primary Care Association and some of its member clinics have expressed concern that, should HCFA grant Oregon a blanket waiver from cost-based reimbursement provisions, OMAP could exercise this waiver in the case-managed FFS delivery system as well (259,306).

OMAP has suggested that FQHC and RHC reimbursement would be as high if not higher under the demonstration (255). If this is the case, then the only argument for waiving OBRA-89 and OBRA-90 provisions is an administrative one: it would simplify provider payment under the demonstration by removing the need for facility-specific cost estimates and payment reconciliation. However, facility-specific rates would still need to be determined for FFS payment purposes unless a blanket waiver were granted, and reconciliation could be accomplished on an annual or semiannual basis to minimize the administrative burden for OMAP.

The issue of FQHC and RHC reimbursement and participation under the demonstration is critical because, if the demonstration ended, these clinics would need to resume their significant role as safety net providers. For some clinics, loss of patients to other prepaid providers under the demonstration could mean significant losses in Medicaid revenues, which currently account for over 30 percent of the total operating budget at some sites (261). If losses of existing Medicaid patients as well as some currently indigent patients who would become eligible under the demonstration bring the operating volume of these clinics below a viable threshold, their ability to serve the remaining indigent population (e.g., migrants and individuals with incomes over 100 percent FPL but without insurance) could be compromised.

This potential problem could be remedied through year-end reconciliation by OMAP of differences between FQHC rates and PHP rates paid to qualifying clinics, as it is in the current system. Alternatively, OMAP could require PHPs themselves to pay the clinics' actual costs. In addition, OMAP could provide PHPs with stronger incentives or requirements to subcontract with publicly funded facilities.

***County and Local Health Departments--County*** and local health departments have also played a major role in providing certain services (e.g., eligibility screening, immunizations, health screening, maternity case management) to the Medicaid and uninsured population in Oregon (212,252). The ability of these and other publicly funded facilities to participate under the demonstration could be hampered by a number of factors.

First, budgetary retrenchment in the State could lead to hard dollar losses for county health departments (CHDs) and other State-funded facilities in the near future. Under Ballot Measure 5,[82] Oregon's 35 CHDs have seen and will probably continue to see decreases in direct subsidy from the State that could threaten their overall financial viability (259). This could further limit their ability and willingness to assume risk as prepaid providers in the proposed system.

In the case-managed FFS system, CHDs would be allowed to participate as PCCMs and be paid according to OMAP's prevailing FFS rates, provided they had the appropriate staff (i.e., physicians and/or nurse practitioners) to assume case management responsibilities. However, CHDs are typically not staffed or otherwise equipped to provide the full range of core primary care services required of a PCCM.

Several other issues may also present barriers to participation of publicly funded clinics in the proposed demonstration. First, their historical difficulty in recruiting and retaining physicians could limit their ability to maintain a stable primary care physician population, as required in the prepaid contract. For example, many FQHCs are staffed by physicians serving their obligations under the National Health Service Corps scholarship program (273). The attrition rate of these physicians is high, and FQHCs have difficulty competing with the salaries and benefits available in other settings (273).

82 See ch. 2 for a description of Oregon's Ballot Measure 5.

Second, a few clinics have expressed concern that the public-private differential in the State capon tort liability (an overall cap of $200,000 for public agencies[83] and a $500,000 cap on noneconomic damages for all other providers) will discourage private entities from entering into patient care arrangements with them in the prepaid system (259,261). Because of Oregon's joint and several liability[84] statute, providers not protected by the $200,000 overall cap could conceivably be vulnerable to unlimited economic liability for malpractice cases in which they shared responsibility for patient care with a publicly funded provider. It is not at all clear how much of an issue this would be under the proposed demonstration. Multnomah County Health Department, an existing PCO subject to the $200,000 liability cap, has been able to circumvent this problem, and it currently has referral arrangements with several hospitals (both public and private) in its service area (213,259). At the same time, Clackamas County Health Department, an FQHC that would like to participate as a PHP in the proposed system, claims that the sole hospital in its service area refuses to enter into arrangements and is citing liability concerns as the reason (261).

Third, some clinics have expressed concern that, even if able to negotiate prepaid contracts, they may be affected by "adverse selection" in spite of the preventive measures taken by OMAP (259,261). These clinics fear that they may attract a disproportionate number of ''high-risk' patients (e.g., migrant farm workers, homeless patients, drug abusers) *within* a given eligibility category, either because patients find it easier to access services in these settings or because these settings provide services not available elsewhere (e.g., interpreters) (153,259). This potential problem could be closely monitored by both the clinics and OMAP. If stop-loss and other protections proved inadequate, problems could be addressed through rate adjustment.

Finally, clinics are concerned that, once enrolled with a prepaid health plan, patients may still show up at their doors for care, either because they are accustomed to accessing services there, because they feel it is more convenient, or because they have had difficulty obtaining an appointment with a physician in their prepaid plan (259,261). Because publicly funded clinics are required by State and/or Federal law to see all patients regardless of insurance status or ability to pay, they fear they could be forced to see these patients but be unable to demand reimbursement from the patient's prepaid plan for services provided (259,261).[85] Again, it is not clear how much of a problem this would be under the demonstration, but it is an issue that may deserve some monitoring should the program go into effect.

## Alternative Providers of Care

In Oregon's FFS Medicaid system, enrollees who prefer nontraditional sources of care have been able to seek medically necessary care from any provider recognized by OMAP. Oregon has been more liberal than most other State Medicaid programs in allowing FFS reimbursement for services of nontraditional providers (see table 4-15). All States are required to reimburse for the services of doctors of osteopathy[86] and for pediatric and family nurse practitioners under Medicaid.[87] Under the proposed demonstration, OMAP would continue direct reimbursement for medical services delivered by these and other alternative providers in the case-managed FFS system as long as those services were preauthorized by the PCCMs. In addition, OMAP would allow nurse practitioners and physician assistants to serve as PCCMs.

Expansion of physician-controlled managed care systems, however, would probably result in reduced opportunities for participation by certain nontraditional providers of care (e.g., chiropractors, naturopaths). This phenomenon is characteristic of managed care systems generally. Some alternative provider

83 Includes county, municipal, and State facilities (including Oregon Health Sciences University), but nOt federally funded clinics specifically. For example, Multnomah County Health Department is an FQHC, but it is subject to the public agency cap by virtue of its county funding status (259).

84 Joint and several liability refers to the ability of a plaintiff to sue one or more parties for a tort and the right of a plaintiff to collect the entire compensation from a single entity.

85 Family planning services are the exception. Under the proposed demonstration, enrollees would have universal access to these services and FQHCs would be paid on an FFS basis for providing them to any Medicaid patient.

86 Doctors of osteopathy (DOs) @cup approximately 5 percent of the total physician population in the United States (273). In general, State licensing boards recognize the DO degree as equivalent to the MD (allopathic) degree.

87 As of July 1, 1990, all States were required to provide direct Medicaid reimbursement for pediatric and family nurse practitioners (Public Law 101-239). Oregon had already exercised its option to do so prior to this time.

**Table 4-15-Coverage of Selected Optional Medicaid Services, Oregon vs. Other States, October 1,1989**

| Type of service | Total number of Medicaid programs that cover service (N = 56) | | Oregon | |
|---|---|---|---|---|
| | Categorically needy only[a] | All Medicaid eligibles | Categorically needy only[a] | All Medicaid eligibles |
| Podiatrist | 12 | 32 | — | Yes |
| optometrist | 16 | 36 | — | Yes |
| Chiropractor | 8 | 21 | — | Yes |
| Other practitioner | 11 | 30 | — | Yes |
| Private duty nursing | 8 | 20 | — | Yes |
| Dental | 13 | 34 | — | Yes |
| Physical therapy | 10 | 29 | — | Yes |
| Occupational therapy | 5 | 23 | — | Yes |
| Speech/language/hearing | 8 | 28 | — | Yes |
| Case management | 6 | 25 | No | No |
| Respiratory care | 3 | 6 | — | Yes |
| Personal care | 7 | 19 | — | Yes |

[a] Includes aged, blind, or disabled individuals and families and children who meet financial eligibility requirements for Aid to Farnilies with Dependent Children, Supplemental Security Income, or an optional State supplementary coverage population.
[b] Includes both categorically needy and medically needy eligibles. Medically needy eligibles are aged, blind, or disabled individuals or families and children whose income is above the categorically needy eligibility limits but which, after deduction of expenses incurred for medical services covered under the Medicaid program, falls within limits set by the State Medicaid program, permitting the individuals to become eligible for Medicaid. States are allowed to establish separate coverage restrictions for medically needy eligibles.

SOURCE: U.S. Department of Health and Human services, Health Care Financing Administration, Office of Research and Demonstrations, *Program Statistics: Medicare and Medicaid Data Book, 1990*, HCFA Pub. No. 03314 (Washington, DC: U.S. Government Printing Office, March 1991), table 4-6.

groups have begun to organize themselves in anticipation of the managed care expansions. For example, chiropractors in Oregon have formed an independent practice association and have already entered into subcontracts with one or more of the current prepaid Medicaid providers. 88 They have also approached OMAP to discuss the possibility of becoming a full-fledged PHP (320). Within the prepaid system, however, participation of and access to these and other practitioners (both physicians and nonphysicians) would ultimately depend on the referral policies and staffing preferences of individual PHPs.

## SUMMARY OF CONCLUSIONS

### *Organizational and Financial Implications*

Oregon anticipates that 75 percent of beneficiaries under the demonstration would receive care on a prepaid basis, while the remaining 25 percent would receive case-managed FFS care. Although OMAP has a good track record in the development and management of prepaid managed care systems thus far, with approximately 31 percent of all Medicaid patients currently enrolled in prepaid plans, achieving the anticipated level of prepaid plan enrollment and maintaining it for the duration of the demonstration may be difficult. To qualify and remain viable, prepaid providers would have to be able to control costs through below-the-line exclusions and effective patient management, adapt to possible reductions in the benefit package and cavitation rates, and comply with OMAP's stringent standards of performance. Although letters of intent to participate indicate the potential to achieve the anticipated capacity, OMAP had not received any full applications as of March 1992.

Shifting from FFS to prepaid Medicaid would result in redistribution of some patients among providers, with some providers maintaining or increasing their caseloads and others seeing a decrease. If the demonstration were put into place, the effects of this redistribution on the financial viability of critical providers (e.g., publicly funded primary care clinics) should be closely monitored.

To encourage providers' support and participation in the demonstration, Oregon promised them reimbursement increases. Reimbursement increases would be focused on prepaid providers. The extent to which individual providers would see a net increase in payment relative to costs, however, is unclear. Proposed cavitation rates, which are based on estimates of average 'reasonable costs' for covered

88 As noted earlier in this chapter, 4 of the 15 existing PCOs are capitated for chiropractic services.

CT pairs, cannot be compared easily with current rates because they reflect costs of a substantially different benefit package and a demographically dissimilar population.

Furthermore, while expansion of prepaid health care would improve predictability and strengthen control of overall program costs from the State's perspective, providers may have difficulty anticipating their own net Medicaid revenues during the initial years of the demonstration. Careful tracking of utilization and costs from program startup would be essential to long-term provider viability. Providers might require significant technical assistance from OMAP in these efforts.

Subcontractors in the prepaid system would see increases relative to prevailing FFS reimbursement rates only if they were able to negotiate higher rates with prepaid plans; OMAP has not established a floor for subcontractor rates under the demonstration.

Provider participation in the case-managed FFS system, which is expected to serve approximately 25 percent of demonstration eligibles, maybe harder to increase than that in the prepaid system, since payment for individual Medicaid services would remain at prevailing FFS rates. Oregon has indicated current problems with FFS provider participation in rural areas of the State, where most FFS delivery would occur under the demonstration. To help offset additional case management responsibilities, primary care case managers would receive an additional payment of $3 per enrollee per month. How much of an incentive this additional payment might be for participation in rural areas cannot be predicted.

### *Impact of the Prioritized List*

Orienting providers to the list would not be a trivial undertaking. Diagnostic and procedure codes used in the list, although familiar to providers in current practice, are inadequate to make distinctions between many CT pairs. Detailed, extensive guidelines would be required in order for providers to accurately and consistently interpret the list. As of the end of January 1992, OMAP had just begun to develop new provider guidelines, but their level of detail is not known.

Because they face denial of payment on a claim-by-claim basis, providers (both professional and institutional) in the case-managed FFS system would feel the financial impact of the prioritized list more directly and may respond to it behaviorally in a different reamer than their counterparts in the prepaid system. Differences in providers' adherence to the prioritized list could lead to unequal access to specific benefits across as well as within the proposed delivery systems.

Under cavitation, cutting services from the benefit package would mean reducing prepaid reimbursement rates, presumably in proportion to reductions in provider service liability. It is difficult to anticipate the threshold below which prepaid providers would no longer be willing to participate. This threshold would probably vary depending on the financial and other characteristics of individual providers.

### *Issues for Selected Providers*

Publicly funded primary care clinics may find it difficult to participate in the proposed managed care system because they may lack the resources necessary to assume full or partial risk for patient care. Reductions in current Medicaid caseloads could limit the ability of some of these clinics to maintain sufficient operating volume. Closing clinics could in turn endanger access to care for the remaining medically indigent population (e.g., persons with incomes just over the poverty level who cannot qualify for Medicaid). State and Federal Medicaid officials should ensure that these safety net providers remain financially stable throughout the demonstration. Possible strategies for doing so include maintaining the Federal reimbursement and patient freedom of choice protections for rural health clinics and FQHCs and offering stronger guarantees that existing publicly funded providers could participate under the demonstration.

Most hospitals should benefit under the demonstration due to reductions in uncompensated care. However, billing and payment methods for inpatient services would need to be amended to permit distinctions between covered and noncovered services provided during the course of a single hospital stay. Hospitals that would continue to be paid according to the current DRG system under the demonstration (about half of all hospitals in the State) could face denial of payment for a number of diagnostic and other covered services for patients whose principal diagnosis falls below line 587. In

corollary, OMAP could end up paying for below-the-line services to the extent that they are masked by "covered" DRGs. OMAP has indicated that it will address this problem.

The proposed managed care expansions would probably limit opportunities for participation of nontraditional providers of care (e.g., chiropractors and naturopaths) in the Medicaid system. Physician case managers in both the prepaid and FFS systems may be less likely to allow patients to use alternative sources of care than patients might choose for themselves under an unrestricted FFS system.

## Chapter 5

# Implications for Beneficiaries

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## INTRODUCTION

This chapter examines Oregon's proposed waiver from the perspective of those who would participate in the new program. The aim of this analysis is not a defense or evaluation of the status quo. The focus here is on how the demonstration might affect *current* and, to a lesser extent, *new* Medicaid participants compared with the existing program.

The first part of the chapter analyzes in detail the effects of the State's proposed new eligibility rules and describes how the makeup of Oregon's Medicaid population would change under the demonstration. The second part examines key elements of access to care, focusing on the prioritized list, its effect on benefits, and particularly, the implications of withdrawing funding for 'below-the-line' condition-treatment (CT') pairs. It also presents available data that help assess how often current Oregon Medicaid participants might experience an uncovered condition. The final part of the chapter reviews the overall implications for beneficiaries of expanding eligibility, establishing Medicaid benefits based on the prioritized list of health services, and reforming the delivery system.

## HOW THE OREGON MEDICAID POPULATION WOULD CHANGE

Oregon proposes to extend Medicaid eligibility to all of its poor population. This reform is significant not only because it broadly expands participation in the Oregon Medicaid program (by more than 20 percent in the first year alone), but also because it eliminates the historic categorical approach to Medicaid eligibility. Oregon's demonstration, if approved, would be the first to use Federal matching funds to make Medicaid available to all *the poor* regardless of age, marital status, family relationship, or pregnancy. Oregon's proposal seeks to cover not only people in traditional assistance categories (e.g., poor single women with children) but other groups as well, including single men, childless couples, and two-parent families whose incomes are within the Federal poverty level (FPL).

This section will review the details of current Oregon Medicaid eligibility requirements, compare them with eligibility rules under the proposed waiver, and assess the implications of the new waiver rules for current Medicaid participants.

### *Current Eligibility Requirements*

Eligibility for the current Oregon Medicaid program is determined by federally defined mandatory and optional categories of the poor as well as State-determined income standards for participation. Recent congressional mandates to expand coverage of pregnant women and children have weakened the link between Medicaid and the Aid to Families with Dependent Children (AFDC) cash welfare program (see ch. 2). Still, the rules of access to Medicaid, throughout the country, remain focused on children, pregnant women, and recipients of either AFDC or Supplemental Security Income (SSI) cash assistance. Single men and childless couples, regardless of how poor or how medically vulnerable, are denied access to Medicaid unless they are also elderly or disabled.

#### Mandatory Groups

The Federal Government mandates coverage of certain groups and allows coverage of a number of optional categories. The federally mandated coverage groups include (see table 5-1) (301):

- AFDC participants-single-parent families who receive AFDC cash assistance or who have been terminated from AFDC cash assistance because of increased earnings or hours of employment within the last 12 months; [1]
- Unemployed-parent families-families whose principal breadwinner is recently unemployed and who meet AFDC income and asset requirements;
- Poverty level medical (PLM) women and children[2]—pregnant women and children up to

[1] AFDC is a Federal-State program that provides cash assistance to needy children and/or their caretaker relatives when there is deprivation of a child due to the absence, incapacity, or unemployment of a parent.

[2] "Poverty level medical" (PLM) is the term used by the Oregon Medicaid program to describe this group of pregnant women and young children, which was mandated Medicaid coverage under the Omnibus Budget Reconciliation Act of 1990 (Public Law 101-239).

## Table 5-1--Mandatory and Optional Eligibility Groups Covered by the Oregon Medicaid Program, 1991

| Federally mandated groups | Optional groups covered by Oregon | Optional groups not covered by Oregon |
|---|---|---|
| *Families and children* | *Families and children* | *Families and children* |
| • Single-parent families receiving Aid to Families with Dependent Children (AFDC) cash assistance. | . Medically needy: pregnant women and children under age 18. | • Children between 18 and 21 years old in AFDC families. |
| • Families terminated from AFDC cash assistance because of increased earnings or hours of employment (limited to 12 months). | *Other groups* | • Pregnant women and children up to age 1 between 133 percent and 185 percent FPL. |
| • Unemployed parent families who meet the State AFDC income requirements. | • Individuals in nursing facilities who would be eligible for SSI if they lived at home. | • Children aged 9 to 21 of two-parent families whose income is below AFDC standards but who do not otherwise qualify for AFDC. |
| • Children for whom adoption assistance or foster care maintenance payments are made. | • individuals in nursing facilities who are eligible for Medicaid because income Is less than 300 percent of SSI. | • Medically needy children between the ages of 18 and 21. |
| • Pregnant women and children up to age 6 whose family income is less than 133 percent of the Federal poverty level (FPL). | • Individuals receiving home and community-based services under a waiver (Oregon covers Aged and Disabled under Senior and Disabled Services Division and Mental Health and Developmental Disabilities Services Division waivers). | • Medically needy adults who are not pregnant, aged, blind, or disabled. |
| • All children born after September 30, 1983 whose family income is less than 100 percent of the FPL. | • Aged, blind, or disabled individuals receiving only optional State supplements (Oregon covers individuals receiving Oregon Supplemental Income Program payments). | *Other groups* |
| *Other groups* | • Medically needy elderly (65 or older), blind, or disabled. | . Aged, blind, or disabled individuals under 100 percent of the FPL who are not otherwise eligible for Medicaid. |
| • Aged, blind, or disabled individuals receiving Supplemental Security Income (SSI) or other more restrictive criteria established by the State under the 209(b) option. | • Medically unemployable adults who receive general assistance (not eligible for Federal funding). | . Disabled children underage 19 who are cared for at home in lieu of institutional care but whose family income is above the eligibility limits of SSI. |
| • Certain severely disabled individuals terminated from SSI because of earnings from employment. | | |
| • Medicare recipients with family incomes under 100 percent of the FPL (coverage limited to payment of Medicare premiums, coinsurance, and deductibles). | | |
| • Working disabled individuals under 200 percent of the FPL (coverage limited to payment of Medicare Part A hospital insurance premiums). | | |

SOURCE: Oregon Department of Human Resources. Office of Medical Assistance Programs. Salem. OR. "Medicaid and the State of Oregon Medical Assistance Programs," (OMAP3061 ), January, 1991 and M. Waid, "Addendum: A Brief Summary of the Medicaid Program," *Health Care Financing Review* 1990 Annual Supplement, Baltimore, MD, December, 1990.

age 6 whose family income is less than 133 percent of the FPL and all children up to age 19, born after September 30, 1983, whose family income is less than 100 percent of the FPL;
- Foster care children--children for whom adoption assistance or foster care maintenance payments are made under Title IV-E of the Social Security Act; and
- Certain aged, blind, and disabled individuals.

## Optional Groups

Of the eligibility options *allowed* under Federal Medicaid rules, Oregon covers medically needy pregnant women and children under age 18 and certain groups of the elderly, blind, and disabled (see table 5-1) (168).[3] States have the option to offer Medicaid to the medically needy when their family income and resources lie above the AFDC need standards if they also meet the categorical requirements of the program (e.g., an absent parent or disability).[4] Each State has the right to set its own medically needy eligibility standards as long as they do not exceed 133.33 percent of the maximum AFDC assistance thresholds for similarly sized families. Through a spend-down provision, individuals with incomes above the medically needy standard also may become eligible if their medical expenses are high enough to reduce their countable income below the medically needy maximum.

Oregon also provides a "general assistance" program of limited health care benefits (without Federal funding) to medically unemployable adults who would not be disabled long enough to qualify for Social Security benefits (168).[5]

Although Federal Medicaid options permit coverage, the current Oregon program does *not* cover AFDC children between 18 and 21 years of age; pregnant women and infants under age 1 with family incomes between 133 and 185 percent of the FPL; children aged 9 to 21 of two-parent families whose incomes meet income eligibility standards but who are categorically ineligible (often referred to as "Ribicoff children'');[6] and the medically needy, ages 18 and older, other than those described above (168).

## Oregon Income Standards for Medicaid Eligibility

In 1991, the FPL was *$928* per month for a family of three.[7] Figure 5-1 shows the monthly income levels required to obtain Medicaid in Oregon. Income criteria vary widely with the applicant's demographic characteristics and can even differ among individuals within the same family. Pregnant women, infants, and young children (under age 6) are eligible if their family incomes are under 133 percent of the FPL. Children from age 6 to 8 must live in families with incomes under 100 percent of the FPL to be eligible for benefits.[8] Children 9 to 17 years old who meet AFDC categorical requirements are limited by the medically needy monthly income standard of $613 for a family of three (66 percent of the FPL).[9] Young people overage 18 and nonelderly adults (unless pregnant) must meet AFDC categorical requirements and are subject to the most sbin-

[3] In July 1991, budgetary constraints led the Oregon State legislature to eliminate coverage of nonpregnant medically needy AFDC adults and curtail medically needy coverage of the aged, blind, and disabled. Benefits for the latter groups now include only: 1) prescription drugs provided in a pharmacy, and 2) mental health and alcohol/drug treatment services provided by community mental health and alcohol/drug programs (171). Although 36 States had medically needy programs in 1990, it is not known how many were as restrictive as Oregon's (4). Medicaid regulations require that States which cover the medically needy must at least provide a minimum level of services, including prenatal and delivery services for pregnant women, ambulatory services for children under 18, and home health services to those individuals entitled to skilled nursing facility services. State plans that include services in mental health institutions, or in intermediate care facilities for the mentally retarded, must offer a broader range of services to the medically needy.

4$ 'Categorically needy'' refers to those who are Medicaid-eligible because they belong to certain categories of poor people, such as those who are a member of a family with dependent children where one parent is absent, incapacitated, or unemployed.

[5] The general assistance recipients are not entitled to Medicaid-funded hospital care but are eligible for outpatient and prescription drug benefits.

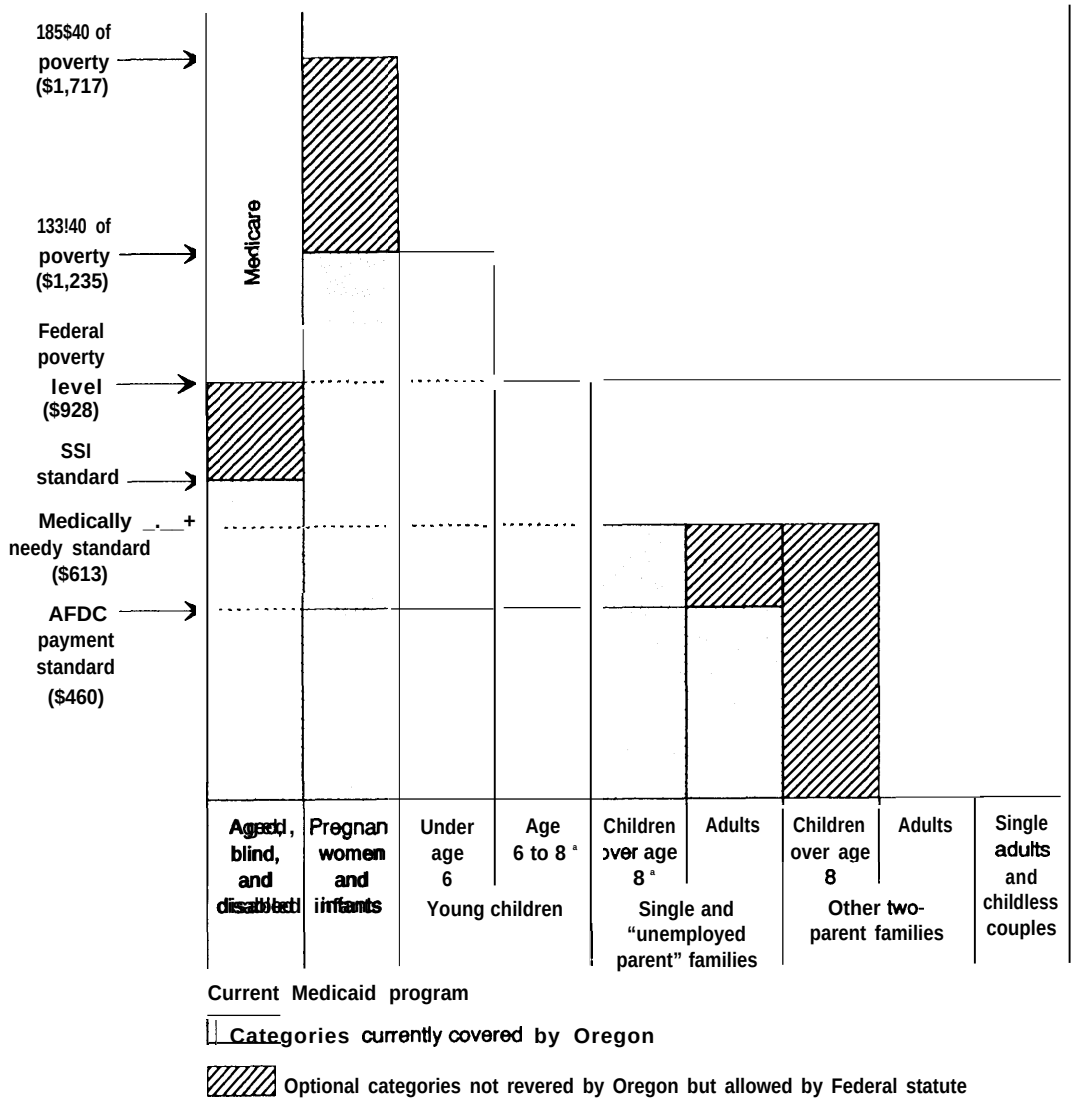
6 ''Ribicoff children'' are named for former Senator Abraham Ribicoff, the sponsor of legislation authorizing coverage for this group.

[7] The 1991 FPL is used here because it was the poverty guideline that was in place at the time Oregon submitted the waiver application. The 1992 FPLis$11,570, or $964 per month, for a family of three in the contiguous 48 States (57 FR 5456). The Federal Government has established separate poverty levels for both Alaska and Hawaii ($14,460 and $13,310, respectively) because of their unique economic conditions.

[8] The Omnibus Budget Reconciliation Act of 1990 (Public Law 101-508) mandated that State Medicaid programs cover all children under age 19 who were born after September 30, 1983 and whose family income is less than 100 percent of the FPL. By the year 2002, coverage of all children under age 19 will be universal (270). At present, only 6- to 8-year-olds are affected.

[9] Children and pregnant women can also qualify for medically needy coverage by ''spending down' to the required net income level if they also meet a mandatory asset test. Oregon's asset limits for the medically needy are $2,000 for the first household *member, $3,000* for two, and $50 for each additional household member (252).

**Figure 5-l-Current Medicaid Eligibility in Oregon (Monthly Income Levels for a Family of Three in 1991)**




KEY: SSI = Supplemental Security Income; AFDC - Aid to Families with Dependent Children

NOTE: This is a simplified presentation of eligibility. Income thresholds are net of allowable deductions including childcare expenses, work related expenses, and certain work incentive disregards. Medically needy groups can "spend down" to eligibility by incurring medical expenses. Assets also enter into eligibility. Not all eligibility groups are shown. Oregon&es, for example, cover some older children in intact families, such as those in foster care and institutions. Elderly, blind, and disabled with incomes under poverty can obtain Medicaid and Medicare copayments and deductibles.

a All Children under age 19 and born after September 30, 1983 must be covered if family income is below poverty; ages shown are as of October 1991.

SOURCE: Oregon Department of Human Resources, Office of Medical Assistance Programs, Salem, OR, *The Oregon Medicaid Demonstration Waiver Application*, submitted to the Health Care Financing Administration Aug. 16,1991.

gent income criteria of all: the AFDC monthly income standard of $460 for a family of three (less than 50 percent of the FPL). Recent entrants into the workforce are allowed certain financial work incentives (see below).

***Counting Income and Resources—But how are*** income and resources defined? State and Federal rules on how to count income and resources for AFDC and Medicaid eligibility are complex and appear to be understood in great detail by few (59). The above description of Oregon's income criteria is by necessity simplistic and masks a few critical details. For example, does the Medicaid applicant have a household member who works, and for how long has that person worked? Does the applicant have any assets? Does the individual own a car or a

home? Are there deductible child-care expenses? All of these questions and others determine what is called ''countable' income. The net result is that in some cases, families with gross incomes *greater* than the reported income eligibility standards can gain access to Medicaid. In fact, in 16 States, families with a recently employed worker and incomes *greater than the* FPL are eligible for Medicaid benefits (270).[10]

To be eligible for AFDC payments and automatically eligible for Medicaid, a family must pass both a gross income test and a ''countable' income test. Gross monthly income cannot exceed 185 percent of the State's AFDC need standard (see table 5-2). Families with no other income than their AFDC cash assistance payment must have countable income that is less than the State's AFDC need standard. For others, countable income must be less than the State's need standard after allowing for child-care costs up to $160 per child and a standard allowance of $75 per month. In addition, during the frost year on a job, AFDC recipients are allowed a work-incentive bonus based on the length of employment (i.e., the bonus varies depending on whether the working family member has been employed less than 4 months, between 5 and 12 months, or more than 12 months) (266).[11,12]

The same rules governing income counting apply to PLM women and young children, except that these mandatory coverage groups are subject to higher net income thresholds (i.e., 100 or 133 percent of the FPL).

***Oregon vs. OtherStates—in*** 1991, only 17 States had higher AFDC income standards than Oregon's (270). Very few State AFDC need standards approach the FPL and many fall short of 50 percent of the Federal poverty guideline (see table 5-2) (148,270). In many cases, States have failed to adjust the AFDC income standards for inflation and, consequently, the average income threshold as a percentage of poverty has been eroded substantially, from 71 percent in 1975 to 45 percent in January 1991 (146,148).[13] AFDC monthly eligibility thresholds in 1991 for a family of three ranged from a low of $124 in Alabama to a high of $694 in California (270).[14,15]

As of July 1991, 28 States had higher income eligibility limits for pregnant women and infants than Oregon did (i.e., between 140 and 185 percent of the FPL) (148).[16] A 1989 survey of State Medicaid programs found that 34 States covered "Ribicoff children," many through age 21 (138).[17] Oregon does not cover these children (see above).

### *Rules Under the Waiver*[18]

***All legal*** residents of Oregon, with family incomes less than the Federal poverty guideline, would be eligible for Medicaid under the proposed

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10 The 16 States are Alaska, California, Connecticut, Hawaii, Kentucky, Maine, Massachusetts, Michigan, Minnesota, New Hampshire, New York, Rhode Island, Utah, Vermont, Washington, and Wisconsin.

11 During the first 4 months of a job, the bonus is equal to the first $30 of earned income plus one-third of additional earnings after the child-care and standard deductions are taken. For the remaining 8 months, the bonus is $30. There is no work incentive bonus after 12 months, but a $75 standard deduction is allowed.

12 Despite these work incentives, longitudinal Medicaid data show that few people who leave the AFDC welfare program get the transitional Medicaid benefits they are entitled to receive (59).

13 While the Consumer Price Index rose an estimated 245 percent from July 1970 to January 1991, the AFDC income eligibility standard increased only 134 percent (270).

14 These income standards pertain to eligibility levels for the first 4 months of AFDC participation and assume work expenses of $90 per month and no child-care expenses. Eligibility levels after the first 4 months of coverage are considerably more stringent. The percentage presented in the text are based on the 1990 poverty level of $10,560 for a family of three.

15 The eligibility thresholds in Alaska is even higher (i.e., $891), but this is not comparable to the thresholds in the contiguous 48 States.

16 The 28 are Arizona, Arkansas, California, Connecticut, Delaware, District of Columbia, Florida, Hawaii, Iowa, Kansas, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, New Jersey, New Mexico, New York, North Carolina, Rhode Island, South Carolina, Tennessee, Vermont, Washington, West Virginia, and Wisconsin.

17 The 34 are Alaska, Arkansas, California, Connecticut District of Columbia, Florida, Georgia, Hawaii, Illinois, Iowa, Kansas, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, South Care@ Tennessee, Texas, Utah, Vermont, Virginia, and Wisconsin. The majority of these States cover Ribicoff children through age 21.

18 This description of eligibility rules is drawn from Oregon's waiver application unless otherwise noted.

**Table 5-2-Monthly Income Standards for Medicaid Benefits for a Family of Three as a Percentage of the Federal Poverty Level, January 1991° [b]**

| State | AFDC[c] need standard | AFDC effective first 4 months | Eligibility Level after 12 months | Medically needy standard |
|---|---|---|---|---|
| Alabama | 13.4% | 35% | 25% | NA |
| Alaska | 76.8 | 168 | 113 | NA |
| Arizona | 31.6 | 64 | 44 | NA |
| Arkansas | 22.0 | 49 | 34 | 30% |
| California | 74.8 | 134 | 90 | 101 |
| Colorado | 45.4 | 87 | 59 | NA |
| Connecticut | 62.6 | 131 | 89 | 83 |
| Delaware | 36.4 | 72 | 49 | NA |
| District of Columbia | 46.1 | 88 | 60 | 59 |
| Florida | 31.7 | 65 | 44 | 32 |
| Georgia | 45.7 | 87 | 59 | 40 |
| Hawaii | 59.2 | 123 | 83 | 72 |
| Idaho | 33.9 | 69 | 47 | NA |
| Illinois | 39.5 | 77 | 53 | 53 |
| Indiana | 31.0 | 64 | 44 | NA |
| Iowa | 45.9 | 87 | 59 | 61 |
| Kansas | 41.3 | 85 | 57 | 50 |
| Kentucky | 56.7 | 105 | 71 | 33 |
| Louisiana | 20.5 | 47 | 32 | 28 |
| Maine | 70.2 | 126 | 85 | 66 |
| Maryland | 43.7 | 84 | 57 | 50 |
| Massachusetts | 62.4 | 107 | 72 | 84 |
| Michigan | 63.1 | 105 | 71 | 55 |
| Minnesota | 57.3 | 106 | 72 | 76 |
| Mississippi | 39.6 | 77 | 53 | NA |
| Missouri | 31.5 | 64 | 44 | NA |
| Montana | 39.9 | 78 | 53 | 48 |
| Nebraska | 39.2 | 77 | 52 | 53 |
| Nevada | 35.5 | 71 | 48 | NA |
| New Hampshire | 55.6 | 103 | 70 | 66 |
| New Jersey | 45.7 | 87 | 59 | 61 |
| New Mexico | 33.4 | 67 | 46 | NA |
| New York | 62.2 | 114 | 77 | 78 |
| North Carolina | 29.8 | 61 | 42 | 40 |
| North Dakota | 43.2 | 83 | 57 | 47 |
| Ohio | 36.0 | 72 | 49 | NA |
| Oklahoma | 50.7 | 73 | 50 | 50 |
| Oregon | 47.8 | 91 | 62 | 66 |
| Pennsylvania | 45.4 | 87 | 59 | 50 |
| Rhode Island | 59.7 | 110 | 74 | 80 |
| South Carolina | 47.4 | 90 | 61 | 31 |
| South Dakota | 41.5 | 80 | 55 | NA |
| Tennessee | 44.4 | 85 | 58 | 27 |
| Texas | 19.8 | 46 | 32 | 28 |
| Utah | 57.8 | 107 | 72 | 58 |
| Vermont | 73.1 | 131 | 89 | 97 |
| Virginia | 31.3 | 75 | 51 | 39 |
| Washington | 57.2 | 106 | 72 | 70 |
| West Virginia | 26.8 | 57 | 39 | 30 |
| Wisconsin | 55.8 | 103 | 70 | 74 |
| Wyoming | 38.8 | 76 | 52 | NA |
| Average | 45.1 | 83 | 58 | 56 |

NOTE: NA = Not applicable: the State does not have a medically needy program.
[a] These calculations assume work expenses of $90 per month and no child-care expenses. The calculations are also based on a 1990 poverty level of $10,419 ($868 per month) for a family of three, and a 1991 minimum wage salary of $7,904 ($659 per month).
[b] Income level at which Medicaid eligibility ends.
[c] AFDC = Aid to Families with Dependent Children.

SOURCE: U.S. Congress, House of Representatives, Committeeon Ways and Means, *Overview of Entitlement Programs:1991 (Green Book) Background Material and Data on Programs Within the Jurisdiction of the Committee on Ways and Means,* (Washington, DC: U.S. Government Printing Office, May 7, 1991) and National Governors' Association, MCH update, OBRA-86/87/89 *Summary Status: Medicaid Coverage Options Pregnant Women and Children, Washington, DC, July 1991.*

waiver (see figure 5-2).[19 20] In addition, pregnant women and children up to age 6 with gross family incomes below 133 percent of the FPL would continue to be Medicaid-eligible.[21]

The waiver eligibility categories would be: 1) AFDC, 2) PLM pregnant women and children with family incomes between 100 and 133 percent of the FPL, 3) new eligibles, and 4) general assistance recipients.

### Simplified Rules

Oregon's waiver application outlines streamlined eligibility rules for all demonstration participants except those who receive AFDC cash assistance. Under Oregon's proposed rules, income calculations for non-AFDC demonstration participants would differ in a number of important ways:

- Gross vs. net income--Medicaid applicants would be subject to a gross income test instead of the current net income assessment. Standard deductions and work incentives, such as essential work and child-care expenses, would not be considered in counting income.
- Retroactive eligibility-Federal requirements to provide retroactive benefits up to 3 months prior to the date of application for Medicaid benefits would be waived.
- Whose income counts?—Federal rules limiting ''countable income' to that of the applicant, or a parent or spouse, would be waived to allow consideration of the incomes of other household members. Under the waiver, the definition of a family unit would be expanded to include unmarried cohabiting couples who have at least one joint child under age 19 or an unborn child.
- Assets test—The resources (or assets) of demonstration applicants would not be considered.[22]
- Medically needy—Medicaid applicants with medical expenses would no longer be able to "spend down" to become eligible under the medically needy program. In fact, the current medically needy program for pregnant women and children under age 18 would be eliminated altogether under the waiver.

These changes are expected to greatly simplify Medicaid eligibility primarily because they reduce the considerable amount of personal documentation now required. Under existing rules, proof of up to 4 months income and detailed expenses as well as evidence of family assets may be necessary to determine eligibility. It is well established that the Medicaid eligibility procedural requirements are often a significant barrier to coverage. In 1986, nationwide, 62 percent of rejected Medicaid applications were due to 'failure to comply with procedural requirements" (246).

Yet Oregon's proposed simplified procedures would not apply to a large proportion of demonstration participants. AFDC recipients, who are projected to make up 63 percent of demonstration enrollment in the first year of the waiver and as much as half the population in the final demonstration year, would continue to be subject to current AFDC rules so that they could receive cash benefits (see below for other enrollment data). Thus, although waiver rules would significant.ly improve Medicaid eligibility processing in Oregon, the program's remaining link with AFDC *means* a continued need for detailed personal income, expense, and other demographic information.

### Implications for Current Medicaid Participants

In addition to the great majority of poor, uninsured Oregonians who would gain access to Medicaid benefits under the waiver, almost all *current* Medicaid recipients would be able to participate in the demonstration. However, the simplified eligibil-

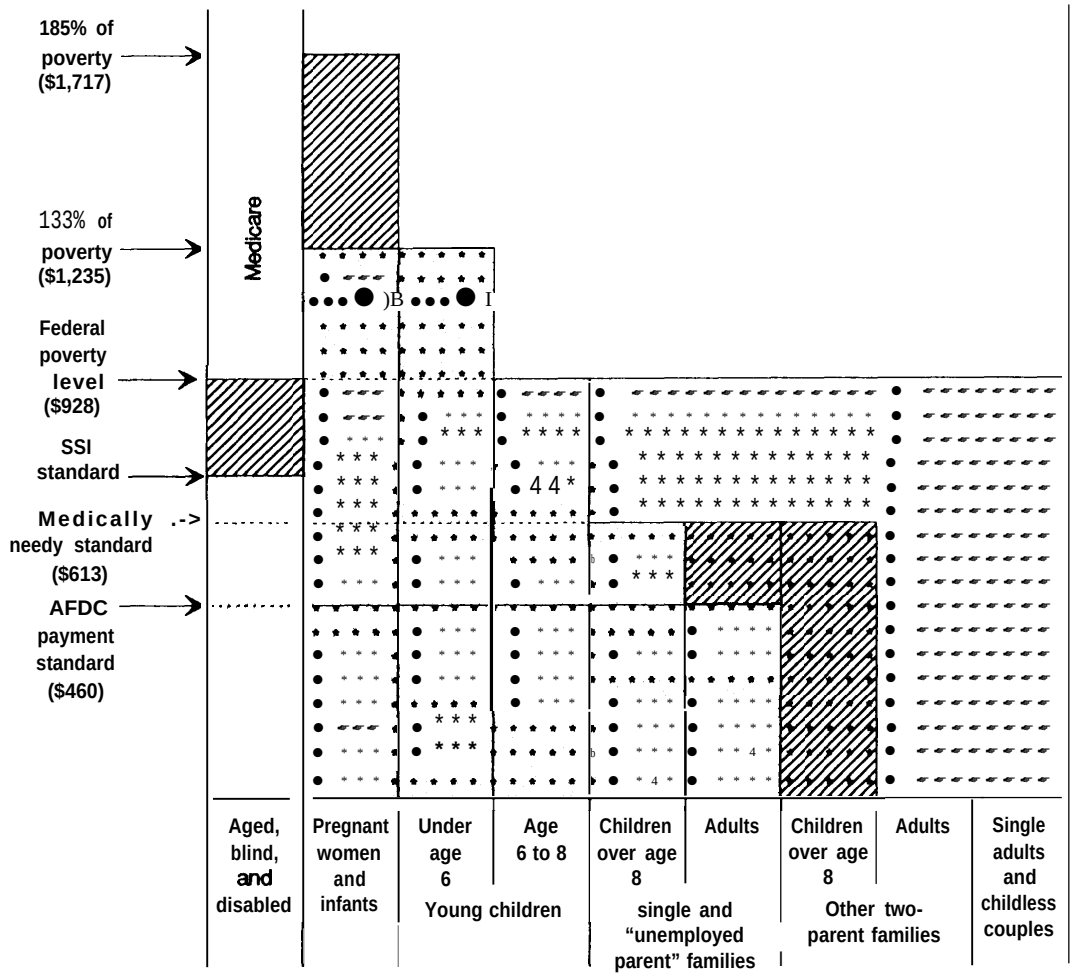
19 Because many migrant and seasonal workers are undocumented aliens, they are currently ineligible for Medicaid benefits and also would not be able to participate in the demonstration. The waiver rules maintain the current policy that Medicaid applicants be citizens or legal aliens who can demonstrate that they intend to reside in Oregon (173). There would be no required length of residency for migrant workers during the demonstration (as is current policy) (252). There were approximately 128,564 migrant and seasonal farmworkers in Oregon in 1989 (296); it is not known what proportion were undocumented aliens,

20 The aged, blind, disabled, and foster care children would be exempt from the demonstration until October 1993 (assuming the Health Care Financing Administration's approval to phase in this population). Their eligibility would continue to be determined under current rules until that time and they would continue to qualify for Medicaid and receive services under existing rules (177).

21 Pregnant women with incomes between 100 and 133 percent of the FPL would have coverage until 60 days postpartum (as is current practice).

22 The Omnibus Budget Reconciliation Act of 1986 gave States the option to omit the assets test when determining Medicaid eligibility for PLM women and children. All but five States, including Oregon, have done so. The five States that have not are California, Illinois, Iowa, North Dakota, and Texas (148).

**Figure 5-2-Proposed Demonstration Eligibility (Monthly Income Levels for a Family of Three In 1991)**




KEY: SSI - Supplemental Security Income; AFDC = Aid to Families with Dependent Children.
NOTE: This is a-simplified representation of eligibility. See text for further explanation.
a All children under age 19 and born after September 30, 1983 must be covered if family income is below poverty; ages shown are as Of October 1991.

SOURCE: Oregon Department of Human Resources, Office of Medical Assistance Programs, Salem, OR, *The Oregon Medicaid Demonstration* Waiver *Application,* submitted to the Health Care Financing Administration Aug. 16,1991.

ity rules do eliminate some individuals who could have Medicaid benefits *without the* new requirements. The most vulnerable groups appear to be PLM women and children.

***PLM Women and Children-For*** PLM eligibles, countable income *sources* would be the same as for the AFDC program, although none of the income *deductions* used in calculating AFDC eligibility, such as essential work and child-care expenses, would be allowed.

There is some uncertainty surrounding the estimates of the number of individuals who would be affected by this change in rules. The State estimates that only 215 *currently* eligible individuals (less than 1 percent) would not meet the income standards of the demonstration each year based on a recent l-day survey of all its eligibility offices (253). On the other hand, one county health provider of Medicaid services, the Clackamas County Public Health Division, has tracked PLM applications over a 12-day period and reports that more than 9 percent of its currently qualified PLM candidates would not be eligible for Medicaid under the simplified waiver rules (114).23 Most of the Clackamas County cases would be disqualified because they would be unable to use the $90 monthly earned income disregard.

Whether the Clackamas County experience would be typical for *all* PLM applicants during the demonstration is not known. Clackamas County has an active Medicaid eligibility outreach program on the site of its health clinic. In contrast, at present, most other PLM applicants must go to a county welfare office to obtain Medicaid benefits. Oregon plans for eligibility processing during the demonstration mirror Clackamas County's program in that they include a special outreach effort to avoid any welfare-related stigma of Medicaid benefits (177). The Oregon Medicaid Program plans to enroll Medicaid participants in community settings other than welfare offices, such as schools, churches, and elsewhere. If the State is successful at reaching out to a community that has no present relationship with the welfare system, the outcome of eligibility processing under the waiver may be similar to Clackamas County's current experience.

Given that the Clackamas County survey period was significantly longer than the State's survey (12 days vs. 1 day) and that the State intends to implement extensive outreach during the demonstration, it is likely that the actual denial rate of currently eligible PLM women and children would be greater than the State's current estimate of less than 1 percent.

***Retroactive*** Benefits-Although AFDC recipients would continue to be able to receive retroactive benefits for 3 months, coverage for new eligibles would commence on the date of request.[24] The number of people who would be affected and the scope of the related debt has not been well established. The State has estimated that only 154 PLM participants received retroactive coverage in 1991 (253). Continuing retroactive coverage would entail a significant burden of paperwork and could markedly increase the cost of bringing uninsured individuals into the Medicaid program. There are some who are concerned, however, that eliminating retroactive coverage may lead providers to delay treating patients until they can present a valid Medicaid card (221).

***Medically Needy--The*** State has not estimated how many medically needy recipients would lose coverage under the waiver.[25] Because Oregon's medically needy standard is only 66 percent of the FPL, many of the current medically needy who use the spend-down provision to become eligible are likely to have incomes under the waiver's 100 percent FPL income limit.

***Asset Test—While*** an asset test would not be used for new eligibles, this should have little effect on current Medicaid participants. PLMs are already exempt from asset test requirements and AFDC recipients would continue, under the waiver, to be subject to the current asset test.

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23 The Clackamas County PLM denial rate includes 10 of 109 individuals who applied for Medicaid coverage during the period January 2-17, 1992 and were determined to be eligible. Of this group, eight were pregnant women and two were children under age 6. Some of these individuals applied for coverage as part of a family unit.

24 As required by Federal statute, there would be a 45-day maximum limit between the application date and final determination of eligibility [Title 42, part 435, sec.91 1].

25 The State did examine 1 month's eligibility files and found31 individuals who became eligible for the medically needy program by spending down from family incomes above the FPL (252). Oregon reports, however, that it is unable to use this experience to develop an estimate for a 1 year period because some people may be spending down for several consecutive months. The medically needy are required to apply for coverage on a monthly basis.

***Continuity of Coverage—A*** long-held criticism of the Medicaid program has been that the constant turnover of participants hurts continuity of care, increases administrative expense, and discourages provider participation. Because eligibility hinges on personal characteristics that are often transient, such as pregnancy, marital status, and the size of medical bills compared with income, Medicaid participants become eligible and then ineligible with disruptive frequency (102). Yet, it is not clear from Federal statutory eligibility criteria whether Medicaid is intended to principally serve as a permanent source of assistance or as a safety net for those experiencing temporary hardships (239).

Oregon studies have shown that continuous Medicaid coverage is relatively brief for many program participants. A 1989 survey of Oregon AFDC recipients found that more than 45 percent had continuous coverage ranging from only 1 to 11 months. A 1990 report revealed that, despite ***guaranteed*** continuous coverage of pregnant women up to 60 days postpartum, the average length of uninterrupted Medicaid coverage for PLM pregnant women and children was only 6 months ( 159). It appears that many PLM women enroll in the Medicaid program late in their pregnancy.

National statistics indicate similar findings. One study, using the National Longitudinal Survey, reported that half of all AFDC recipients are continuously covered for 1 year or less and only 18 percent remain on AFDC for more than 5 years (154). An analysis of the Survey of Income and Program Participation showed that other groups of Medicaid participants, such as pregnant women and young children, are even more likely to have short-term coverage (239).

Short and colleagues argue that the Oregon approach of using poverty as a criterion for eligibility, instead of more narrowly defined categorical criteria, would open the Medicaid program to many more people on a short-term basis. This is because periods of poverty are often short-term and associated with intermittent participation in the labor force (15,154). Persistent turnover of Oregon's Medicaid population could be particularly troublesome to managed care providers who would be more subject to the administrative and clinical problems associated with the interruption of care when eligibility is terminated (239). On the other hand, Oregon's apparently successful managed care experience indicates that the State may be able to help new Medicaid managed care providers deal with these difficulties (238).

Table 5-3 shows the projected average length of eligibility for demonstration participants during the course of a l-year period. Oregon's waiver rules guarantee 6-month periods of continuous coverage (for all but AFDC participants) and may decrease the turnover of the Medicaid population. While AFDC eligibles would continue to be subject to current rules, those who lose AFDC benefits should be able to transfer to demonstration-only eligibility without a break in Medicaid coverage (252). PLM women and children, with family incomes below 100 percent of the FPL should also be able to transfer to demonstration-only eligibility. The State expects demonstration-only eligibles to have continuous Medicaid benefits longer than any other eligibility groups.

### *Enrollment 2627*

***The*** Oregon Medicaid population is projected to increase dramatically and its makeup would change considerably under the proposed waiver. In the first year of the demonstration (i.e., fiscal year (FY) 1993), the change in eligibility rules is forecast to increase the average monthly number of Medicaid enrollees by more than 20 percent, from 214,364 to 258,464 (see table 5-4). By the fifth and final year of the waiver, Oregon forecasts a total average enrollment of 368,700, including 120,600 beneficiaries who would not be eligible under current rules (see figure 5-3).[28] 29

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26 Enrollment data presented in this section are drawn from two sources: 1) the Oregon waiver application and 2) unpublished data provided to the Office of Technology Assessment by the Oregon Medical Assistance Programs (OMAP) office. The reader should note that OMAP data include enrollment figures for two eligibility groups, the medically needy participants in the Oregon Supplemental Income Program and Qualified Medicare Beneficiaries, that are not included in the waiver statistics. Both groups are relatively small and would not be part of the demonstration until the phase-in of the disabled and elderly populations.

27 Enrollment data are presented on a fiscal year basis. Oregon's fiscal year runs from July 1 through June 30.

28 Unless indicated otherwise, this review of enrollment data focuses on average monthly data rather than counts of the total number of unduplicated Medicaid beneficiaries. Because many beneficiaries have Medicaid benefits fora short period of time, annual unduplicated counts are significantly higher than monthly averages. Unduplicated counts show the considerable volume of individuals flowing through the Medicaid program, but they are less useful than average data for describing the program's caseload.

**Table 5-3-Oregon Medicaid Program: Estimated Average Length of Eligibility, Before and After the Proposed Demonstration in a l-Year Period**

| Eligibility category | Average length of eligibility (in months)[a] | |
|---|---|---|
| | Before the demonstration | After the demonstration |
| AFDC | 6.5[c] | 6.5 |
| PLM children | 3.4 | 4.8 |
| PLM adults | 3.9 | 3.9 |
| General assistance | 4.3 | 4.3 |
| Demonstration only | | |
| Newly eligible families | NA | 10.5 |
| Newly eligible singles | NA | 9.9 |
| Newly eligible childless couples | NA | 9.9 |

KEY: NA = not applicable; AFDC = Aid to Families with Dependent Children; PLM = poverty level medical.
a Eligibility is described in terms of person-months. individuals can appear in more than one eligibility category.
b "Before the demonstration" data are based on actual FY 1989 experience.
c Shows adjustment for 1989 welfare reform rules that was expected to result in increased length of eligibility for the AFDC program.

SOURCE: Coopers & Lybrand, *Oregon Medicaid Basic Health Services Program: Calculation of Per Capita Cost Report,* (San Francisco, CA: Coopers & Lybrand, May 1, 1991) and Oregon Department of Human Resources, Office of Medical Assistance Programs, Salem, OR, *Oregon Health Plan: Offerers Conferences Questions and Answers,* (Salem, OR: OMAP, Feb. 18, 1992).

This section will describe and compare the current and projected program enrollment.

## Current Enrollment

The average monthly Medicaid enrollment in FY 1991 was 185,709 (see table 5-4). Close to 71 percent of the participants were poor women and children who enrolled either as PLM or AFDC program participants. About 7,600 (4.3 percent) of the AFDC eligibility group became eligible through the medically needy program, which has since been significantly scaled back to include only pregnant women and children under age 18 (252).[30] The elderly, blind, disabled, and foster care children made up the remainder of the population in 1991.

***Race and Ethnicity of the Current Medicaid*** Population-Data on race/ethnicity are shown in table 5-5. Minorities make up a small proportion of Oregon Medicaid participants, reflecting their distribution in the statewide population (see ch. 2). Oregon Medicaid participants are predominately white (84.3 percent), The largest minority groups among Medicaid participants are blacks (6.2 percent) and American Indians/Alaskan Natives (5.2 percent).

***The Poor Without Access to Medicaid—Al-*** though more than 282,000 Oregonians were eligible for Medicaid some time during FY 1991, many of Oregon's poor were uninsured.[31] In FY 1990, more than 101,000 Oregonians whose family incomes were below the FPL, or about 29 percent of the State's poor population, had neither Medicaid, Medicare, nor private health insurance coverage (184). They are the target population of the proposed demonstration project. The proportion of Oregon's poor without health insurance is lower than that of the Nation overall; 35.7 percent of the U.S. population living in poverty were uninsured in 1989 (265).

## Impact of the Waiver on Enrollment

The average monthly number of Medicaid participants in the demonstration is projected to be 197,500 in FY 1993 (see table 5-4). More than 302,000 poor Oregonians would take part in the demonstration for some period during its frost year.

Oregon's demonstration enrollment projections assume that, although there are more than 101,000 uninsured poor Oregonians, only about 40 percent of the target population of new eligibles would actually enroll in the first year. On average, about 72 percent

29 The State expects total Medicaid enrollment to be 338,500 in the last year of the waiver if its mandate to employers to provide health insurance is fully implemented.

30 Although the medically needy must meet the categorical requirements of the AFDC program (e.g., an absent parent) to be eligible for Medicaid benefits, they are not eligible for AFDC cash assistance because their family incomes are too high. See the earlier discussion regarding eligibility rules.

31 Note that although 282,844 Oregon residents received Medicaid benefits in FY 1991, many were eligible for only a brief period during the year.

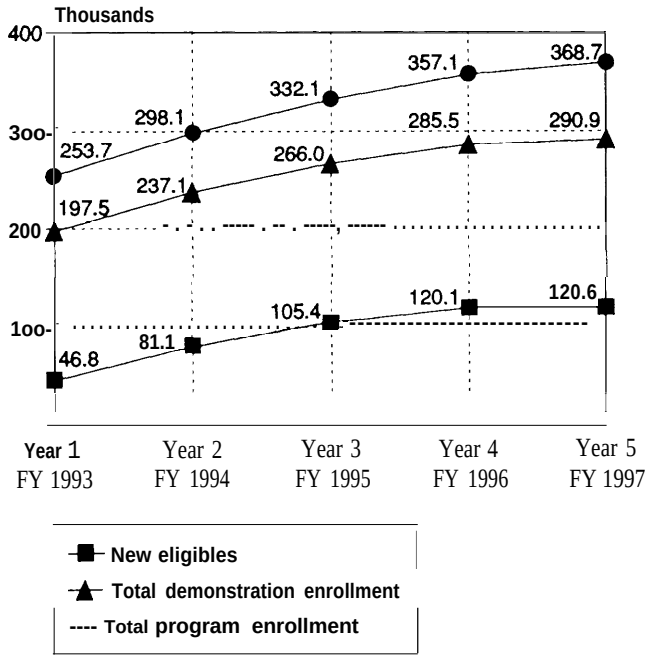
**Table 5-4--Oregon Medicaid Enrollment for FY 1991 and Projected for FY 1993, With and Without the Demonstration, by Eligibility Group**

| | FY 1991 enrollment | | Projected FY 1993 withoutS627 | | | Projected FY 1993 withS627 | | |
|---|---|---|---|---|---|---|---|---|
| | Average eligibles per month | Percent of total | ed Average eligibles per month | Percent of total | undu eli | ed Average eligibles per month | Percent of total | undu eli |
| **Medicaid eligibles (SB) 27[a]** | | | | | | | | |
| Old age assistance . | 18,877 | 10.2Y0 | 28,019 | 22,161 | 10.3% | 28,019 | 22,161 | 8.6% |
| Aid to blind/aid to di: | 22,037 | 11.9 | 35,249 | 26,465 | 12.3 | 35,249 | 26,465 | 10.2 |
| Foster care ..... | 7,409 | 4.0 | 10,526 | 7,620 | 3.6 | 10,526 | 7,620 | 2.9 |
| Medically needy OS | 2,931 | 1.6 | 5,738 | 3,934 | 1.8 | 5,738 | 3,934 | 1.5 |
| Qualified Medicare I | 550 | 0.3 | 1,504 | 784 | 0,4 | 1,504 | 784 | 0.3 |
| **Total non-SB 27** | 51,804 | 27.9 | 81,036 | 60,964 | 28.4 | 81,036 | 60,964 | 23.6 |
| **Current eligibles in** | | | | | | | | |
| AFDC[c] ..... | 115,113 | 62.0% | 189,085 | 124,900 | 58.3% | 189,085 | 124,900 | 48.3% |
| Poverty level medic: | 5,312 | 2.9 | 14,905 | 6,100 | 2.8 | 14,905 | 6,100 | 2.4 |
| Poverty level medic: | 10,880 | 5.9 | 40,389 | 19,700 | 9.2 | 40,389 | 19,700 | 7.6 |
| **Total** ..... | 131,305 | 70.7 | 244,380 | 150,700 | 70.3 | 244,380 | 150,700 | 58.3 |
| **New Medicaid eligibles** | | | | | | | | |
| **Categorical**..... NA | NA | — | NA | NA | — | 8,114 | 7,100 | 2.7% |
| **Noncategorical** ..... NA | NA | — | NA | NA | — | 44,848 | 37,000 | 14.3 |
| **General assistance**..... 4,506 | 2,600 | 1.4 | 4,679 | 2,700 | 1.3 | 4,679 | 2,700 | 1.0 |
| **Total new eligibles** ..... 4,506 | 2,600 | 1.4 | 4,679 | 2,700 | 1.3 | 57,642 | 46,800 | 18.1 |
| **Total demonstration enrollment.** .... NA | NA | — | NA | NA | — | 302,022 | 197,500 | 76.4 |
| **Total Medicaid enrollment** ..... 282,844 | 185,709 | 100.0% | 325,416 | 214,364 | 100.0% | 383,058 | 258,464 | 100.0% |

KEY: NA = Not applicable; OSIP = Oregon Supplemental Income Program; AFDC = Aid to Families with Dependent Children; FY = fiscal year.
NOTE: Percentages may not add to exactly 100.0 due to rounding error.
[a] The State intends t. ask the Health Care Financing Administration (HCFA) for an amendment to the waiver to incorporate these eligibility groups into the demonstration in October 1993.
[b] These eligibility groups were omitted from Oregon's waiver application.
[c] About 4.3 percent or 7.604 recipients, qualified for AFDC through the medically needy program (252).
[d] Oregon considers the general assistance population t. be a "new" eligibility group under the waiver because it is not eligible for Federal matching payments under current rules.

SOURCE: Oregon Department of Human Resources, Office of Medical Assistance Programs, Salem, OR, unpublished enrollment data, 1991.

**Figure %3-Oregon Medicaid Demonstration Enrollment Projections[a]**




Medicaid demonstration enrollment,

SOURCE: Oregon Department of Human Resources, Office of Medical Assistance Programs, Salem, OR, *The Oregon Medicaid Demonstration Waiver Application,* submitted to the Health Care Financing Administration Aug. 16, 1991.

of people potentially eligible for the Oregon Medicaid program have enrolled in the past. The waiver projections assume the same overall participation rate of current eligibles once the demonstration is phased in.

Oregon expects that in the waiver's first year more than three-quarters of the demonstration population would be individuals and families who could qualify for Medicaid benefits under current rules, principally through the AFDC program. Later on, current eligibles would make up a smaller proportion of the demonstration, approximately 59 percent.[32]

***New Eligibiles--New*** eligibles, who would not qualify for Medicaid under current rules, are forecast to total 46,800 in FY 1993. By the final year of the waiver, 59 percent of potentially new eligibles are expected to enroll in the demonstration, a total of 120,600.[33] Most of the new eligibles are "noncategorical' ' and would not meet the current demographic restrictions of the Medicaid program. They are principally single adults, childless couples, and two-parent families.

**Table 5-5-Race and Ethnicity of the Oregon Medicaid Population, FY 1990**

| Race/ethnicity | Total | Percent |
|---|---|---|
| Total number of eligibles | 227,198 | 100.0% |
| White, not of Hispanic origin | 191,546 | 84.3 |
| Black, not of Hispanic origin | 13,977 | 6.2 |
| American Indian or Alaskan Native | 11,921 | 5.2 |
| Asian or Pacific Islander | 3,972 | 1.7 |
| Hispanic | 5,084 | 2.2 |
| Unknown | 698 | 0.3 |

NOTE: Percentages may not add to exactly 100.0 due to rounding error.

SOURCE: U.S. Department of Health and Human Services, Health Care Financing Administration, HCFA 2082 data from the *Statistical Report on Medical Care: Eligibles, Recipients, Payments and Services,* Section D (2). Eligibles for Medical Care by Age, Race/Ethniaty, and Sex (Baltimore, MD: Dee. 24, 1990).

Table 5-6 illustrates how the newly eligible population differs from current Medicaid participants. The new eligibles are primarily a group that has been ignored by congressional efforts to expand Medicaid eligibility. More than half of new eligibles are expected to be male and 63 percent would be adults over the age of 24 years. In contrast, males make up only 41 percent of the current eligibles who would participate in the waiver and adults over 24 years make up less than 21 percent. (In addition, most of the currently eligible males are children.) Although children under age 18 would make up 17 percent of the new eligibles, they are already scheduled to be phased in (slowly) to the Medicaid population.

***Where Does the Oregon Demonstration Population*** Live?—Figure 5-4 shows Oregon's expected distribution of Medicaid eligibles by county in the first year of the proposed waiver. FY 1991 data indicate that 65 percent of Oregon's Medicaid participants live in the State's eight metropolitan counties (182).[34] The remaining Medicaid population is dispersed among 25 nonmetropolitan counties.

32 If the employer mandate is implemented, current eligibles would make up a projected 63 percent of total demonstration enrollment.

33 If the employer mandate is fully implemented, new eligibles are expected to total 96,400 in the last year of the waiver.

34 A metropolitan county is defined by the U.S. Office of Management and Budget as one that includes either: 1) a city of at least 50,000 residents, or 2) an urbanized area with at least 50,000 people tbat is itself part of a group of counties with at least 100,000 total residents.

**Table 5-6-Projected Oregon Medicaid Enrollment by Age and Sex, Under the Proposed Demonstration, FY 1993**

| | Total Medicaid population | | | | Current eligibles/group subject to the waiver | | | | Current eligibles/group not subject to the waiver | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Age | Males | Females | Total | Percent of total | Males | Females | Total | Percent of total | Males | Females | Total | Percent of total |
| &. . . . . | 34,221 | 32,899 | 67,121 | 26.5% | 32,108 | 30,849 | 62,957 | 41.870 | 1,600 | 1,537 | 3,137 | 1 .2% |
| 6-14 . . . . . | 21,823 | 21,285 | 43,108 | 17.0 | 16,925 | 16,458 | 33,383 | 22.2 | 2,566 | 2,495 | 5,062 | 2.6 |
| 15-18 . . . . . | 3,749 | 8,013 | 11,764 | 4.6 | 2,329 | 5,842 | 8,171 | 5.4 | 498 | 1,249 | 1,748 | 1.0 |
| 19-24 . . . . . | 9,248 | 17,248 | 26,496 | 10.4 | 3,598 | 11,393 | 14,990 | 9.9 | 556 | 1,761 | 2,317 | 4.8 |
| 25-34 . . . . . | 11,103 | 26,286 | 37,390 | 14.7 | 4,441 | 16,909 | 21,350 | 14.2 | 1,234 | 4,699 | 5,934 | 12.2 |
| 35-54 . . . . . | 11,341 | 22,034 | 33,375 | 13.2 | 2,292 | 7,337 | 9,629 | 6.4 | 2,557 | 8,188 | 10,745 | 22.1 |
| 55-64 . . . . . | 5,876 | 6,625 | 12,499 | 4.9 | 79 | 140 | 219 | .1 | 1,915 | 3,404 | 5,318 | 10.9 |
| 65 and over . . . . . | 5,808 | 16,184 | 21,992 | 8.7 | 0 | 0 | 0 | 0.0 | 5,804 | 16,181 | 21,985 | 45.2 |
| Total . . . . . | 103,169 | 150,575 | 253,745 | 100.0 | 61,771 | 88,929 | 150,700 | 100.0 | 16,731 | 39,515 | 56,246 | 100.0 |

| | New eligibles | | | | General assistance | | | |
|---|---|---|---|---|---|---|---|---|
| Age | Males | Females | Total | Percent of total | Males | Females | Total | Percent of total |
| 4 . . . . . | 513 | 513 | 1,027 | 2.3% | 0 | 0 | 0 | 0.0% |
| 6-14 . . . . . | 2,332 | 2,332 | 4,663 | 10.6 | 0 | 0 | 0 | 0.0 |
| 15-18 . . . . . | 922 | 922 | 1,845 | 4.2 | 0 | 0 | 0 | 0.0 |
| 19-24 . . . . . | 4,936 | 3,969 | 8,905 | 20.2 | 158 | 125 | 284 | 10.5 |
| 25-34 . . . . . | 5,091 | 4,410 | 9,501 | 21.5 | 337 | 268 | 605 | 22.4 |
| 35-54 . . . . . | 5,733 | 5,907 | 11,640 | 26.4 | 759 | 602 | 1,361 | 50.4 |
| 55-64 . . . . . | 3,635 | 2,885 | 6,519 | 14.8 | 247 | 196 | 443 | 16.4 |
| 65 and over . . . . . | 0 | 0 | 0 | 0.0 | 4 | 3 | 7 | 0.3 |
| Total . . . . . | 23.162 | 20.937 | 44.100 | 100.0 | 1.505 | 1.195 | 2.700 | 100.0 |

SOURCE: Oregon Department of Human Resources, Office of Medical Assistance Programs, Salem, OR, unpublished enrollment data, 1991.

## ACCESS TO CARE UNDER THE DEMONSTRATION

Access has been defined as "those dimensions which describe the potential and actual entry of a given population group to the health care delivery system' (2). Would Oregon's demonstration enable its participants to gain greater access to health care services than they have at present? Two key components to this answer are the number of people covered and the health services for which they are covered. As noted in the previous sections on eligibility and enrollment, the numbers clearly show that this proposal makes significant inroads into resolving the dilemma of insuring the uninsured poor. The role of benefits is examined below after a brief review of why Oregon's proposal may be so valuable to the State's uninsured poor. To examine the potential implications of the waiver's change in benefits for *current* Medicaid eligibles, an analysis of common diagnoses that would *not* be covered under the waiver is also provided.

### *The Newly Insured* [35]

Although much of this chapter focuses on current Medicaid beneficiaries, it is important to review the significance of Oregon's initiative for the uninsured poor. While there are limited data regarding differences in health outcomes between uninsured and insured persons, a growing body of research documents that people without health insurance are less likely to seek medical care and, if they do, are often more seriously ill than the insured (88, 124,263,303). People without health care coverage are also likely to be treated less aggressively than the insured (88,319). The eventual effects can be unnecessary deaths, more serious illness, and possible higher overall costs of health care.

A recent study of more than half a million hospital admissions found that uninsured people had a 44 to 124 percent higher risk of in-hospital mortality than did insured people (89). In addition, uninsured patients were sometimes treated less aggressively and had shorter lengths of stay in the hospital. Other studies have examined differences in how aggressively insured versus uninsured patients with AIDS, lung cancer, and cardiovascular disease were treated (86,87,319).

The uninsured population's access to primary care is also poor relative to others. Recent findings from the National Medical Expenditure Survey (NMES) indicate that public insurance, such as Medicaid, improves access to care; at each income level, the nonelderly with public insurance were about 20 percent more likely to use health services than the uninsured nonelderly (124).[36] This disparity was found even among those who reported that they were only in fair or poor health.

Having a usual source of care is an important factor in predicting the use of health services (2). NMES findings show that only 65 percent of the uninsured population had a usual source of medical care in 1987, compared with 87 percent of those with any Medicaid or similar public coverage (297). In addition, the benefits of free care have been shown to be particularly important for low-income people who have specific conditions with well-established treatments (e.g., hypertension) (24). NMES data further indicate that Medicaid coverage made a significant difference in the use of preventive care by preschool children. For low-income preschoolers who would be uninsured without Medicaid coverage, a full year of Medicaid benefits was found to increase the probability of having any well-child visits by 17 percentage points (240).

It is apparent that, despite the restriction of coverage to medically necessary treatments above line 588, low-income uninsured Oregonians stand to gain considerably under the proposed demonstration.

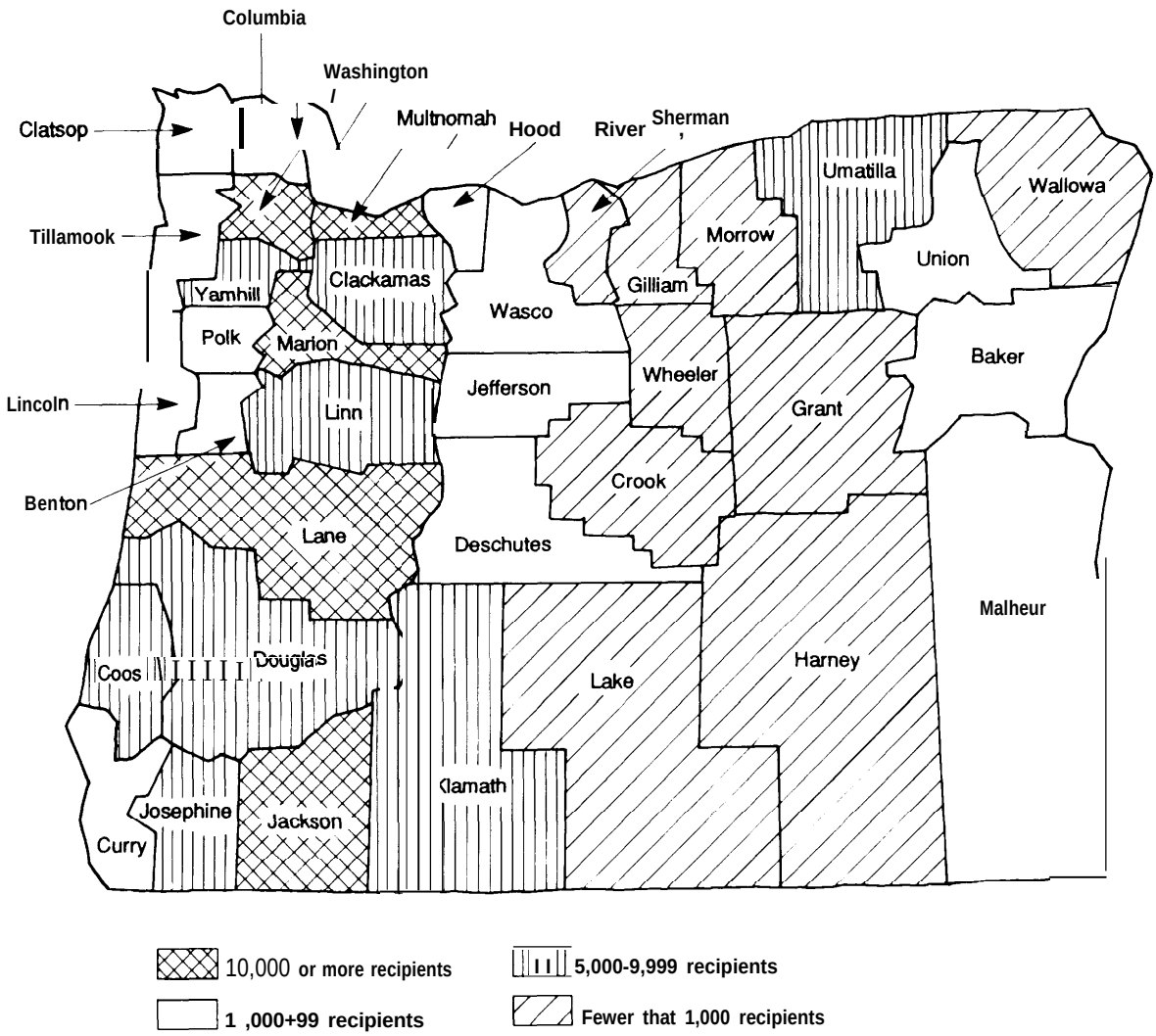
### *How Oregon Medicaid Benefits Would Change Under the Waiver*

***One*** of the most controversial aspects of the Oregon waiver proposal is its change in the scope of health benefits for Medicaid participants. Under the waiver, benefits would not be based on traditional health service categories, such as hospital care, physician services, prescription drugs, etc. Instead,

35 The Office of Technology Assessment is currently conducting a study examining the relationships between technology, health insurance, and the health care system. An interim document examining the literature on the relationship between health insurance status and health outcome will be published in summer 1992. The full report is scheduled for publication in spring 1993.

36 The National Medical Expenditure Survey was conducted in 1987 and provides nationally representative estimates of health care use for the U.S. civilian noninstitutionalized population (124).

**Figure 5-4-Projected Concentration of Medicaid Eligibles in Oregon, FY 1992 (under the demonstration)**




SOURCE: Oregon Department of Human Resources, Office of Medical Assistance Programs, Salem, OR, *The Oregon Medicaid Demonstration Waiver Application,* submitted to the Health Care Financing Administration Aug. 16,1991.

coverage would be defined in new terms: the CT pairs formulated by the Oregon Health Services Commission (HSC).[37] The HSC's list of 709 CT pairs is intended to include all primary and acute medical care.[38] The waiver proposal restricts covered health services to those falling above line 588 of the list, as well as diagnostic, ancillary, and some mental health and chemical dependency services.[39]

Unlike any existing private or public health insurance benefit package, Oregon's Medicaid proposal does not contain a core set of basic health benefits, nor does it guarantee any essential benefits during the course of the 5-year demonstration. At the outset, coverage would be clearly defined by the first 587 CT pairs. Medical and surgical treatments that fall below line 587 would not be covered. But if at

37 See ch. 3 for an analysis of the list and the methodology used to develop it.

38 Mental health and chemical dependency services would be incorporated into the list by October 1993. Until that time, they would be provided under current rules. It is not yet known how the addition of these services would affect coverage of benefits related to physical health.

39 Some health services would continue to be subject to prior authorization.

any time during the course of the waiver there are not enough funds to cover the related costs, benefits would be cut, in descending order of priority, until the necessary savings have been achieved.[40] There is no statutorily established line on the list beyond which coverage could not be dropped.

Under current rules, budget shortfalls can and have led to unexpected cuts in *optional* benefits and *optional* eligibility groups (254). However, mandatory Medicaid benefits (see below) as well as mandatory eligibility groups are *protected* from budget shortfalls.

This section describes current Federal and Oregon Medicaid benefit rules, compares them with coverage given implementation of the list, and assesses the implications of the change in benefits for current Medicaid participants.

### *Current Oregon Medicaid Benefits*

Federal Medicaid rules permit each State to define its own benefit package within broad guidelines. All States are required to offer a core package of mandatory services that includes basic hospital, ambulatory, long-term care, and ancillary services (see chapter 2 for a complete list). States must also pay for coinsurance for Medicare participants with family incomes under 100 percent of the FPL.

Although Medicaid law authorizes Federal matching funds for necessary medical services, it does *not* require coverage of all medically necessary services. Federal law defines a service as medically necessary:

> . . . if it is reasonably calculated to prevent, diagnose, correct, cure, alleviate, or prevent the worsening of conditions that endanger life, cause suffering or pain, result in illness or infirmity, threaten to cause or aggravate a handicap, or cause physical deformity or malfunction, and if there is no other equally effective (although more conservative or less costly) course of treatment available or suitable for the recipient requesting the service (36).

States are required to provide services that are sufficient in amount, duration, and scope to reasonably achieve their purpose (266). Although Medicaid programs may place limits on services, they may not arbitrarily deny or reduce coverage of a required service solely because of the diagnosis, type of illness, or condition.

Oregon currently covers a wide range of optional Medicaid benefits, such as prescription drugs, physical and occupational therapy, certain organ transplants, and services of other licensed practitioners (such as chiropractors, psychologists, and podiatrists) (168). (See chapter 2 for a complete list.) Although Federal statute allows it, Oregon does not cover adult dental services, hospice services, screening services for adults, or Christian Science nurse services (168,301).

Oregon's ability to finance optional benefits is currently in question due to Ballot Measure 5, a statewide referendum passed in November 1990. Measure 5 calls for a rollback of local property taxes earmarked for schools and requires the State's general fired to replace any revenue lost by public schools due to these limits (250). Significant budget reductions in nonschool State services will be required. As a consequence, in July 1991, the State eliminated coverage of all medically needy groups except pregnant women and children, eliminated coverage of adult emergency dental care, and curtailed benefits for the medically needy aged, blind, and disabled (259). State officials are currently evaluating how to further reduce the Medicaid budget and are considering a number of potential cutbacks, including dropping every optional adult service, cutting provider reimbursement, and adding a client copayment requirement (200).

### *Coverage Under the Waiver*

#### *New* Benefits

The list introduces several important new benefits for adult Medicaid participants, including preventive health services, dental care, numerous organ transplants, and comfort and hospice care for the terminally ill (see table 5-7).[41] Because Medicaid coverage of children is already quite extensive, the waiver would add little to their benefit package. In fact, all of the new demonstration benefits, except

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40 See ch. 6 for an analysis of program expenditures and cost issues.

41 Current Medicaid participants who are enrolled in the Kaiser Permanente medical care program already receive preventive health services and hospice care (100).

42 Most of the new demonstration benefits are also currently available to 18- to 20-year-olds if provided within the Context of the Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) program. See below for more information on EPSDT.

**Table 5-7—Proposed New Benefits Under the Oregon Medicaid Demonstration**

| Type of service | Condition-treatment pair(s) | Affected population |
|---|---|---|
| Preventive services | 167 | Adults |
| Comfort and hospice care | 164 | Terminally ill |
| Organ transplants, including heart, liver, bone marrow, and pancreas/kidney[a,b,c] | 209,214,249,294,307,31 1,365,366-368,523-4 | Adults |
| Dental care | 165,166,398,479,548-50 | Adults |
| Tissue expanders | 49,115,136,205,258,171 ,215 | Adults |
| Hyperbaric oxygen pressurization | 77,133 | Adults |

NOTE: Akt to Families with Dependent Children and poverty level medical children under age 18 are already eligible for all the above services except comfort/hospice care.

a Although heart/lung and liver/kidney transplants are currently covered for children, it is not clear whether they would be covered under the waiver. The heart/lung transplant CPT-4 code does not appear on the list. There is no CPT-4 code for liver/kidney transplants.

b Transplant recipients must meet strict medical eligibility criteria. Under current policy all transplants, except those provided on an emergency basis, require prior approval and must be provided in a transplant center that provides quality care (OMAP, 1990). Emergency transplants are subject to post-transplant review to confirm that the patient and the transplant center met State-set eligibility and medical criteria at the time of the transplant. This policy is likely to continue under the waiver.

C Liver transplants would not be available to beneficiaries with alcoholic cirrhosis. Bone marrow transplants would not be covered for non-Hodgkins lymphoma.

SOURCE: Oregon Health Services Commission, Salem, OR, *Prioritization of Health Services: A Report to the Governor and Legislature,* 1991.

comfort and hospice care, are currently available to children under age 18.[42]

***Preventive Services for Adults—The*** list incorporates the guidelines of the U.S. Preventive Services Task Force in CT pair 167 (see table 5-8).[43] It is clear that this represents a significant expansion in coverage for adults. Although State Medicaid programs have the option to cover adult screening services, Oregon has not covered them except for selected procedures (i.e., immunizations, Pap smears, and mammograms).

Because many adults would be eligible for Medicaid benefits for less than a year, it is not clear how much they could gain from this expansion in coverage. Quick access to appointments and actual receipt of preventive services would be essential if there is to be any clinical benefits from early disease detection. If transfer out of Medicaid equates with transfer into an employer-sponsored health plan, there may be more potential for following up any condition that was identified during a Medicaid-funded screening exam.

***Adult Dental*** Care-Coverage of dental care also makes an important addition to Oregon's Medicaid benefits. In July 1991, due to fiscal constraints, the Oregon State legislature discontinued finding for adult dental care (254).[44] Up until that time, adults were able to receive emergency dental services, and available data indicate that those services were widely utilized (42). In fact, the data show that, despite Oregon's intent to restrict dental coverage to emergency care only, a significant volume of dental care was funded by the Oregon Medicaid program until the dental benefit was eliminated (42).

***Organ Transplants for Adults—Under*** current policy, children are eligible for a wide range of organ and tissue transplants, including bone marrow, cornea, heart, heart/lung, kidney, liver, liver/kidney, and pancreas/kidney transplants (168). Adult transplant coverage is restricted to kidney and cornea transplants. The waiver would provide additional funding for bone marrow, heart, pancreas/kidney, and liver transplants for adults.[45,46] Given the success of organ transplants in treating many indi-

42 Most of the new demonstration benefits are also currently available to 18- to 20-year-olds if provided within the context of the Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) program. See below for more information on EPSDT.

43 The U.S. Preventive Services Task Force was a 20-member, nonfederal panel charged in 1984 by the Assistant Secretary for Health with reviewing the scientific evidence in support of clinical preventive services and developing age-and sex-specific recommendations for their delivery (123) The guide was presented to the U.S. Department of Health and Human Services in 1989.

44 Dental services are funded in all but four State Medicaid programs (287).

45 Transplant recipients must meet strict medical eligibility criteria. Undercurrent rides, all transplants, except those provided on an emergency basis, require prior approval and must be performed in a transplant center that provides quality care (165). Emergency transplants are subject to post-transplant review to confirm that the patient and transplant center met OMAP eligibility and medical criteria at the time of the transplant (212). This policy is likely to continue under the waiver.

46 Bone marrow transplants would not be covered for children or adults with non-Hodgkins lymphoma. The HSC is currently considering whether to recommend to the State legislature that the list be modified to cover bone marrow transplants for non-Hodgkins lymphoma (244). If the commission moves to take such action, the modification would be subject to the final approval of the State legislature (or its Emergency Board).

**Table 5-8--Oregon Medicaid Coverage of Adult Preventive Services: Demonstration vs. Current Benefits**

| Adult preventive services benefits under the demonstration [a] | Current Oregon Medicaid coverage for adults during preventive visits [b] |
|---|---|
| ***Screening:*** | |
| History | No |
| Physical exam | No |
| Brief mental status exam | No |
| Lab/diagnostic procedures [c] | |
| Nonfasting total blood cholesterol | No |
| Mammogram [d] | Yes |
| Papsmear [e] | Yes |
| *For high-risk groups[f]* | |
| Fasting plasma glucose | No |
| Rubella antibodies [g] | *No* |
| VDRL/RPR | No |
| Urinalysis for bacteriuria | No |
| Chlamydial testing | No |
| Gonorrhea culture | *No* |
| Counseling/testing for HIV infection | No |
| Hearing | No |
| Tuberculin skin test | No |
| Electrocardiogram | No |
| Fecal occult blood/colonoscopy [h] | No |
| Fecal occult blood/sigmoidoscopy [h] | No |
| Bone mineral content | No |
| ***Counseling:*** | |
| Diet/exercise | No |
| Substance use | No |
| *For high-risk groups[f]* | |
| Sharing/using unsterilized needles | No |
| Sexual practice | No |
| Injury prevention | No |
| *For high-risk groups[f]* | |
| Back conditioning exercises | No |
| Fails in the elderly | No |
| Prevention of childhood injury | No |
| Dental health | No |
| Other primary preventive measures | |
| *For high-risk groups [f]* | |
| Skin protection from ultraviolet light | No |
| Discussion of hemoglobin testing | No |
| Discussion of aspirin therapy | No |
| Discussion of estrogen replacement therapy | No |
| ***Immunizations:*** | |
| Tetanus-diphtheria booster | Yes |
| *For high-risk groups[f]* | |
| Hepatitis-B vaccine | Yes |
| Measles-mumps-rubella vaccine | Yes |
| Pneu mococcal vaccine | Yes |
| Influenza vaccine | Yes |

KEY: VDRL/RPR = Venereal Disease Research Laboratory/Rapid Plasma Reagin; HIV = human immunodeficiency virus.
[a] The frequency of the individual preventive services is left to clinical discretion unless otherwise noted in other footnotes.
[b] Shows coverage for adults for services provided in the context of a preventive medicine visit. All of the services listed are covered when provided for diagnostic rather than screening purposes. Note also that children currently have comprehensive preventive services coverage under the Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) benefit.
[c] All laboratory and diagnostic procedures are *not* covered as part of routine health exam for adults, with the exception of pap smears and mammograms.
[d] Every 1 to 2 years for women beginning at age 50 or age 35 for those at increased risk.
[e] Every 1 to 3 years.
[f] Criteria for high-risk groups are detailed in "Guide to Clinical Preventive Services: Report of the U.S. Preventive Services Task Force" (see ref. 123).
[g] Suggested only for adults, ages 19 to 39.
[h] Suggested only for adults, ages 40 to 64.

SOURCE: Office of Technology Assessment, 1992.

viduals, this is an important expansion in coverage (31,32,64,210,218,262).

Liver transplants for alcoholic cirrhosis (CT pair 690) would not be covered despite success rates similar to as those for nonalcoholic liver failure (CT pair 366) (294,299).[47] It is important to note that, after considering available outcomes data, the Health Care Financing Administration (HCFA) approved Medicare payment for liver transplants for alcoholic cirrhosis in 1991 (294; 56 FR 15006). It is especially troublesome that the well-established and effective medical therapy (e.g., prescription medications, special diet) for alcoholic cirrhosis (31 1) is missing from the list altogether.

While current policy covers heart/lung and liver/kidney transplants for children, it is not clear whether these transplants would be covered under the waiver. Neither joint transplant type appears separately on the list.

***Comfort and Hospice Care—The*** list indicates that the demonstration would allow Medicaid funding of hospice care in Oregon for the first time. Because the details of the hospice program are currently under development, the scope of the benefit is not yet known. Covered comfort care services presumably would include at least pain medication and pain management devices, in-home and day care services, and medical equipment and supplies (e.g., beds, wheelchairs, bedside commodes, etc.).

***Hyperbaric Oxygen Pressurization--This costly*** treatment is currently covered only for children. It can be lifesaving for individuals seriously exposed to carbon monoxide fumes (e.g., in a house free) (45). It is also an important treatment for some anaerobic infections (e.g., gangrene), decompression sickness, and other conditions.

***Tissue Expanders—Tissue*** expanders, also referred to as temporary inflatable devices, are widely used in reconstructive surgery and are currently covered for Oregon Medicaid children. The principal advantage of this technology is that it allows the use of adjacent tissue in restoring a congenital or acquired deformity (201). Tissue expanders are used throughout the body in all age groups, particularly in breast reconstruction, head and neck reconstruction, and correction of defects in the scalp and extremities (133).

## Coverage of Diagnostic and Ancillary Services

The State intends that every Medicaid participant receive all "services and tests required to identify, *within reason, the* patient's condition to be treated' (emphasis added) (193). While this policy pertains to all patients, even those who are ultimately diagnosed with a below-the-line condition, it is not clear what limits would be placed on diagnostic procedures.

There is reason to be concerned about access to some diagnostic procedures provided in a hospital setting. Although OMAP intends to do so, it has not yet developed a mechanism for paying for inpatient diagnostic care for CT pairs below line 587 (212). This is a critical matter, because Oregon hospital reimbursement is based on diagnosis-related groups (DRGs) and does not allow diagnostic or any other type of inpatient service to be "carved out" for payment purposes. Without a change in current hospital billing and payment rules, patients with an uncovered condition might not receive (or the hospital might not be paid for) related inpatient diagnostic services. A significant proportion of demonstration participants may be affected since, for many, inpatient care would be provided on a subcontracted or fee-for-service (FFS) basis.

There is a similar incongruity between practical billing matters and the coverage of some ancillary services. In this case, the effect may be to ***enable*** **access** to uncovered services. Ancillary services, such as physical therapy, prescription drugs, and medical supplies and equipment, are not included on the list, but they would be fully covered if associated with a covered CT pair and found to be medically necessary based on Oregon's usual Medicaid rules. (See table 5-9 for a list of covered ancillary services.) However, it is not clear whether the State would be able to fully restrict the coverage of certain ancillary services to those associated with CT pairs 1 through 587. Pharmacies, for example, may not have the means to easily identify which CT pair relates to a

[47] The HSC is currently considering whether to recommend to the State legislature that the list be modified to cover liver transplants for alcoholic cirrhosis (244). If the commission moves to take such action, the modification would be subject to the final approval of the State legislature (or its Emergency Board).

prescription presented by a Medicaid patient participating in the demonstration.[%]

### Early and Periodic Screening, Diagnosis, and Treatment (EPSDT)

The EPSDT program was broadened considerably and has been described as the most expansive preventive services program for children in the country (267). The Omnibus Budget Reconciliation Act of 1989 (OBRA-89) amendments dramatically expanded Medicaid coverage of children and adolescents by essentially eliminating any State Medicaid limitations on diagnosis or treatment for any health condition identified during the course of an EPSDT screen as long as the services are within the limits of Federal Medicaid guidelines and are deemed medically necessary (271 ,272).

Coverage of children's preventive services would not change under the proposed demonstration, but the Federal mandate to treat all conditions identified during the course of an EPSDT screening visit would be restricted to CT pairs 1 through 587. It is difficult to say whether this threatens an important gain for children's health under the Medicaid program. There are no reliable data describing access to EPSDT services among Oregon's Medicaid children. Nor is it known to what extent these children are screened by an EPSDT provider and then actually receive followup treatment. Some common medically necessary pediatric services would not be covered under the waiver, but most are acute conditions that are not the focus of EPSDT screens (see utilization data below).

### Uncovered Conditions[49]50

A CT pair's low rank on the prioritized list is intended to reflect lower relative importance but not necessarily complete ineffectiveness. Consequently, it should not be surprising that some below-the-line CT pairs include conditions with effective therapies. Nevertheless, most uncovered CT pairs do *not* have significant clinical implications (see table 5-10).

**Table 5-9-Oregon Medicaid Coverage of Ancillary Services Under the Proposed Demonstration**

- **Anesthesia services**
- **Case management services, i.e., services that are designed to obtain health care services necessary to maintain an optimal level of physical and emotional development and health. Examples of case management services include: maternity case management that involves management of non medical services which address social, economic, and nutritional factors; and targeted case management for at-risk/vulnerable children, individuals with catastrophic illness or injury such as AIDS or cancer, Individuals with developmental disorders, and individuals with chronic mental illness.**
- **Home health services, i.e., skilled nursing; home health aide services; speech, occupational, or physical therapy; and equipment and supplies provided through a certified home health agency.**
- **Laboratory services**
- **Medical supplies and equipment prescribed by a practitioner (e.g., prosthetic devices, wheelchairs, respirators, ventilators, apnea monitors, diabetic testing strips, ostomy supplies, oxygen and related equipment, and ophthalmic materials).**
- **Nutritional counseling (e.g., diabetic counseling, counseling for improved pregnancy outcomes).**
- **Personal care services (e.g., health care aide services)**
- **Physical, occupational, speech, language, hearing, and vision therapy**
- **Prescription drugs (to include outpatient, inpatient, intravenous, and enteral therapy and limited over-the-counter drugs)**
- **Private duty nursing services**
- **Radiology and Imaging services**
- **Transportation, meals, lodging, and day care necessary for recipients to access revered services**

SOURCE: Oregon Department of Human Resources, Office of Medical Assistance Programs, Salem, OR, *The Oregon Medicaid Demonstration Waiver Application,* submitted to the Health Care Financing Administration Aug. 16, 1991.

In fact, some below-the-line CT pairs clearly reflect treatments that are generally considered ineffective or would make little difference to exclude from coverage given current clinical practice. This is particularly true of three neonatal-related CT pairs: intraventricular and subarachnoid hemorrhage of fetus or neonate (CT pair 687), extremely premature (under 23 weeks gestation) and low-birthweight (under 500 grams) infants (CT pair 708), and

48 OMAP and Coopers & Lybrand (which performed many of the financial analyses for the State) have recognized the difficulty in determining how pharmacy claims would be handled relative to the prioritized list. They increased the demonstration's projected list-related costs by 5 percent to account for this problem (see ch. 6).

49 This analysis is based on the latest available version of Oregon's list of prioritized health services. It is OTA'S understanding that the Oregon Health Services Commission is preparing to vote on a number of changes to the list. The relevant list changes are noted in footnotes below.

50 In addition to the references noted in the text, much of the analysis related to uncovered conditions is W on contract work prepared for OTA by D. Asch, J. Patton, A. Giardino, and M.A. Schuster (see refs. 14,80,235).

**Table 5-10-Examples of Below-the-Line Condition-Treatment (CT) Pairs With Limited Anticipated impact on Beneficiaries' Health**

| CT pair | Description | Comments | Reference[a] |
|---|---|---|---|
| *606* | Hepatorenal syndrome--medical therapy | Treatment is usually ineffective | (Punukoilu, 1990) (208) |
| *610* | Cancer of liver and intrahepatic bile ducts--liver transplant | Treatment is usually ineffective | (Trans. Proceedings, 1991) (299) |
| *639* | Herpes simplex without complications--medical therapy | Treatment is often ineffective | (Hurst 1988; Edwards, 1991) (56,99) |
| *646* | Lymphedema--medical therapy, other operation on lymph channel | Treatment is usually ineffective | (Hurst, 1988) (99) |
| *649* | Diaper or napkin rash-medical therapy | Treatment advice can be offered during the diagnostic visit; complications can be treated using other CT pairs | |
| *671* | Preventive services for adults with questionable or no proven effectiveness--medical therapy | Services are not effective; benefit is not covered under the current program | (USPSTF, 1989) (123) |
| 681 | Gallstones without cholecystitis--medical therapy, cholecystectomy | Inappropriate treatment | (Hurst, 1988) (99) |
| **687** | Intraventricular hemorrhage and subarachnoid hemorrhage of fetus or neonate-medical therapy | "Empty" CT pair [b] | (Ehrenhaft, 1991) (57) |
| **695** | Acute upper respiratory infection and common cold-medical therapy | Self-limited condition; advice regarding relief of symptoms can be provided during the diagnostic visit | (Hurst, 1988) (99) |
| **708** | Extremely low birth weight (under 500 gm) and under 23 week gestation-life support | "Empty" CT pair [b] | (Ehrenhaft, 1991) (57) |
| **709** | Anencephalous and similar anomalies and reduction deformities of the brain-life support | "Empty" CT pair [b] | (Ehrenhaft, 1991) (57) |

a See references 56, 57, 99, 123, 20S, and 299 for full citations.
b The term "empty" is used h-et. describe CT pairs that are not likely to occur. See the accompanying text for further explanation of the related CT pairs.

SOURCE: Office of Technology Assessment, 1992.

anencephalous and similar anomalies and reduction deformities of the brain (CT pair 709).[51]

Extreme prematurity and very low birth weight are very rare; only an estimated five infants (regardless of insurance status) who have both characteristics are born in Oregon each year (57). Similarly, very few anencephalic infants (13 in 1989) are delivered annually in Oregon. Extremely premature and underweight infants and anencephalic infants are not viable, and medical treatment, other than comfort care, is typically not provided. Most physicians agree that a very short gestation with delivery at less than 23 weeks makes any birth virtually nonviable (215). Although the exact time at which the fetus becomes viable is not known, before 23 weeks of gestation the skin is gelatinous and the kidneys and several other organs are not developed sufficiently to sustain life (57,58,215). In fact, these infants are usually not admitted to Oregon's neonatal intensive care units. As a result, their low priority on the list should have little, if any, effect on provided services or cost of care.

Intraventricular hemorrhages are fairly common among very premature and low-birth-weight infants. Each year, these hemorrhages affect an estimated 110 low-birth-weight (under 1500 grams) infants cared for in Oregon's neonatal intensive care units (NICUs) (215). Of these, about 45 infants might suffer severe life-threatening hemorrhages that are often accompanied by stroke, seizures, and shock. If extensive brain damage occurs, there is little medicine can offer to improve the diagnosis. Since there is no therapy for the intraventricular hemorrhage per se, the neonatologist's principal goal is to stabilize

51 It is important to note that if the waiver is approved, the State intends to eventually request an amendment to include the disabled population. Now, under current waiver rules, *all* infants with birth weights of less than 1,200 grams would be exempt from the demonstration. This is a result of Social Security Administration (SSA) regulations that define as disabled any infants of this size, at least until their first birthday (CFR 416.924b). Infants who are at least 4 weeks premature and weigh at least 1,200 grams but less than 2,000 grams are similarly considered disabled by SSA regulations.

the infant. Typically, the infant would be maintained on life support equipment while his or her condition is watched. Infants' treatment in the NICU continues after a hemorrhage much the same as before the hemorrhage occurred. Most importantly, all the comorbidities that these extremely premature infants experience are covered by CT pairs much higher on the list (e.g., CT pair 22). Consequently, the demonstration is not likely to have any impact on the care or cost of treating these infants.

There are also a number of clinically valuable below-the-line CT pairs that are not *now* covered by the Medicaid program. For these, implementation of the waiver would make no difference at all. Examples include bone marrow transplants for *adults* with non-Hodgkin's lymphoma (CT pair 691),52 liver transplant for alcoholic cirrhosis of the liver (CT pair 690), breast reconstruction for mastectomy patients (CT pair 600), and infertility services (CT pairs 598, 602, 603, and 696) (113,274,285,299).

But, at least 25 of the below-the-line CT pairs represent medical conditions that are currently covered and in the absence of treatment have serious clinical consequences .53 Ten include conditions that have no above-the-line alternative treatments; 15 involve diagnoses in CT pairs that could possibly be upcoded by a physician to a covered CT pair (see tables 5-11 and 5-12). Five below-the-line CT pairs include currently covered life-threatening diagnoses for which there are effective treatments for at least a subset of those who are affected; these include impetigo herpetiformis (CT pair 591),[54] myasthenia gravis (CT pair 593),[55] Schmidt's syndrome (CT pair 640), viral pneumonia (CT pair 669), and bone marrow transplant for *children* with non-Hodgkin's lymphoma (CT' pair 691) (113,131,233,294,311). Treatment for some uncovered conditions, such as trigeminal nerve disorders (CT pair 592) and chronic pancreatitis (CT pair 703), can mean relief of disabling pain for some of the affected patients (10,31 1). Treatment of other uncovered conditions can be completely curative for some of those affected, for example CT pair 615—focal surgery for generalized convulsive or partial epilepsy (67298,311). While there is no effective treatment for CT pair 609, amyotrophic lateral sclerosis (ALS), patients with this disease live longer and better lives when the complications of the disease are managed (311).56

One below-the-line CT pair (678), removal of viral warts, can be an important preventive measure against cervical and anal cancer (317).57 But treatment of condyloma acuminatum, a type of viral wart, would not be covered unless located on the cervix (CT pair 171), even though it commonly affects males and in women can be found on the vaginal wall or external genitalia as well as the cervix. Condyloma acuminatum often results from the human papillomavirus (HPV), a common sexually transmitted disease that is associated with cervical and anal cancer (317). I-WV has been found to be common among certain groups of adolescents (271,272).

There are some excluded CT pairs that although cosmetic can have important psychologic and social implications. For example, some dermatologic diseases included in CT pair 675 can cause significant psychologic and social disability and can be fully or partially responsive to therapy (206).

## Common *Medical Conditions Among Oregon Medicaid Beneficiaries*

How often would serious treatable below-the-line conditions actually occur among those in the demonstration population? Although the State has not projected the frequency of uncovered conditions under the demonstration, this may be answered in

52 It should be noted that children would lose coverage for bone marrow transplants for non-Hodgkin's lymphoma.

53 Given available data, it is not possible to estimate the number of individuals who might be affected by these uncovered CT pairs. However, see the below section, "Common Medical Conditions Among Oregon Medicaid Beneficiaries," for an analysis of recent Oregon Medicaid beneficiaries' most frequent below-the-line diagnoses.

54 Impetigo herpetiformis is a rare condition that can affect pregnant women. Whether a physician would interpret it as a covered condition because the patient is pregnant would depend on the level of detail and direction included in the provider guidelines that are ultimately developed by the Oregon Medicaid program.

55 The HSC is scheduled to vote on whether to move treatment of myasthenia gravis (CT pair 593) above the line to between CT pairs 159 and 160.

56 It is not clear which manifestations of ALS are intended to be included in CT pair 609. Many of the most common conditions related to ALS, including respiratory failure, bacterial pneumonia, bed sores, and phlebitis, are in above-the-line CT pairs. Whether a physician would feel free to treat these complications may depend on the level of detail and direction included in the provider guidelines that are ultimately developed by the Oregon Medicaid program.

57 The HSC is scheduled to vote on relabeling CT pair 171 (dysplasia of cervix and cervical carcinoma *in situ*) to include all genital warts, including condyloma acuminatum.

## Table 5-11—Examples of Uncovered Condition-Treatment (CT) Pairs With Clinical Significance and No Possible Alternatives for Coverage[a,b]

| CT pair | Description | Affected population | Comments[c] |
|---|---|---|---|
| 592 | Trigeminal nerve disorder--medical and surgical treatment | Adults | Some patients experience painful and frequent attacks that do not respond to medication and require transection of the nerve for relief, while other patients will have an occasional attack that is effectively treated with medications (31 1). |
| 593 | Myasthenia gravis--medical therapy, thymectomy[d] | Children and adults | Medical therapy (i.e., prescription medications and plasmapheresis) and thymectomy are often effective for this potentially fatal disorder (31 1). |
| 600 | Absence of breast after mastectomy as treatment for neoplast--breast reconstruction | Women | This cosmetic procedure may be of great psychological importance for some patients (285). Treatment is not now covered under Medicaid. |
| 615 | Generalized convulsive or partial epilepsy without mention of impairment of Consciousness--focal surgery | Children and adults | Focal surgery is considered to be of value for some patients and can be curative (67,298,311). Appropriate indications for surgical therapy are not included on the prioritized list (e.g., a partial or generalized seizure disorder that is unresponsive to conventional medical therapy). |
| 640 | Testicular and polyglandular dysfunction-medical therapy | Adults | This CT pair includes the ICD-9-CM code for Schmidt's syndrome, which is fatal without treatment and for which the treatment (i.e., hormone replacement) is inexpensive and completely effective (311). |
| 660 | Internal infections and other bacterial food poisoning-medical therapy | Children and adults | Most infections included here are self-limited gastrointestinal illnesses which do not require treatment (311). However, all infections can sometimes require therapy for dehydration and some patients with certain infections need to be treated. Some high-risk patients with nontyphi salmonella infections (e.g., very young infants, patients with hemoglobinopathy), for example, should be treated with antibiotics (125,314). Failure to treat in such cases would require not following the recommendations of the American Academy of Pediatrics. One infection, pasteurella multocida, appears to have been misplaced into this line item. It is not related to food poisoning and requires antibiotics (318). |
| 675 | Vitiligo, congenital pigmentary anomalies of skin--medical therapy | Children and adults | Conditions included in this line item are generally cosmetic dermatologic diseases. Some can cause significant psychologic and social disability, and some are responsive (fully or partially) to therapy (206). Skin tags, for example, are usually trivial, but they can be in locations where they become irritated and a source of discomfort or potential infection (229). Removal is simple and inexpensive. Some patients with urticaria pigmentosa suffer flushing attacks that can lead to shock (311). Antihistamines and other drugs can control the illness. |
| 678 | Viral warts--medical therapy, cryosurgery[f] | Children and adults | Some untreated viral warts can be painful and disfiguring. Condyloma accuminatum (a type of viral wart) is especially important because it is a very common sexually transmitted disease that is correlated with cervical and anal cancer (317). Viral warts are only covered if located on the cervix (CT pair 171). They also commonly occur on the vaginal wall, external genitalia, and among males (317). |
| 690 | Alcoholic cirrhosis of liver-liver transplant[g] | Adults | Liver transplants for alcoholic cirrhosis of the liver have similar success rates as liver transplants for nonalcoholic liver failure (299). Absent from the list is a CT pair for medical therapy for alcoholic cirrhosis. Such therapy, including prescription medications and special diet, is well-established and effective (311). |
| 691 | Non-Hodgkin's lymphoma--bone marrow transplant (5-6 loci match)[h] | Adults | Bone marrow transplant is the best remaining therapy for patients that fail to respond to conventional chemotherapy (more than one-half fail to respond) (113). About one-third of these patients are able to sustain a prolonged disease-free period with bone marrow transplantation. . |

NOTE: The above are examples of CT pairs that OTA considers to be of particular clinical significance. Individual clinicians might select others as well.

a The Oregon Health Services Commission is scheduled to vote on a number of changes to the prioritized list. The potential changes affecting this table are detailed in the footnotes below.

b In addition t. the references noted in the above comments, much of this table is also based on contract work prepared for OTA (see refs. 14,80, 235).

c Numbers in parentheses are references. See reference list at the end of this report.

d The HSC is scheduled to vote on moving this CT pair above the line.

e The HSC is scheduled to vote on adding a new above-the-line CT pair for disorders of fluid, electrolyte, and acid base balance (ICD-9-CM code 276). This would allow therapy fOr the dehydration sometimes experienced by patients in this CT pair.

f The HSC is scheduled to vote on relabeling this CT pair to include only *non*-genital warts and also CT pair 171 (dyplasia of cervix and cervical carcinoma *in situ*) to include all genital warts including condyloma accuminatum.

9 The HSC is currently considering whether to recommend to the State legislature that the list be modified to cover liver transplants for alcoholic cirrhosis (ref. 244). If the Commission moves to take such action, the modification would be subject to the final approval of the State legislature (or its Emergency Board).

h The HSC is currently considering whether to recommend to the State legislature that the list be modified to cover bone marrow transplants for non-Hodgkins lymphoma (ref. 244). If the Commission moves to take such action, the modification would be subject to the final approval of the State legislature (or its Emergency Board).

SOURCE: Office of Technology Assessment, 1992.

## Table 5-12-Examples of Uncovered Condition-Treatment (CT) Pairs With Clinical Significance and Possible Alternatives for Coverage[a,b]

| CT pair | Description | Affected population | Comments[c] |
|---|---|---|---|
| 591 | Impetigo herpetiformis and subcorneal pustular dermatosis--medical therapy | Pregnant women, adults | Impetigo herpetiformis is a rare condition that can affect pregnant women (and more rarely) other adults (131). It can be fatal, but recent literature suggests that there maybe treatment options available. Whether a physician would interpret it as a covered condition when the patient is pregnant would depend on the level of detail and direction included in the provider guidelines that are ultimately developed by the Oregon Medicaid program. Subcorneal pustular dermatosis is a rare disease that may occur in association with immunologic disorders (51). It is a recurrent problem that may respond, at least temporarily, to drug treatment. Such uncommon and diagnostically difficult conditions could possible be treated by using a covered CT pair (e.g., CT pair 224) that includes bullous dermatoses. |
| 609 | Amyotrophic lateral sclerosis (ALS)--medical therapy | Adults | While there is no effective treatment for the direct effects of ALS, patients with this disease live longer and better lives when the complications of the disease are managed (31 1). It appears that respirator support of ALS patients may be covered in CT pair 69 (respiratory failure) or CT pair 112 (adult respiratory distress syndrome). Other common conditions among ALS patients (e.g., pneumonia bedsores, and phlebitis) are in above-the-line CT pairs. |
| 619 | Congenital anomalies of the ear without impairment of hearing- otoplasty, repair and amputation | Children | Severe malformations of the outer ear occur rarely but can result in very disfiguring malformations (e.g., an extra ear) (27). Coverage for surgery for an ear malformation associated with other defects (e.g., cleft palate) might be possible. |
| 635 | Disorders of function of stomach and other functional digestive disorder--medical therapy | Adults | This CT pair includes postsurgical peptic ulcer patients who develop complications. Without treatment, these patients may have abdominal pain, difficulty eating, poor nutritional status, and possibly shorter life expectancies than if treatment was available (31 1). Treatment generally involves medications and dietary counseling (some patients require additional surgery) (233). Some patients could possibly be covered for treatment under CT pair 152 (ulcers, gastritis, and duodenitis). |
| 643 | Chronic bronchitis--medical therapy | Children and adults | Chronic bronchitis is a common disease that lies on a continuum with other lung diseases including emphysema (CT pair 306) and asthma (CT pair 151 ). Treatment reduces symptoms (cough and shortness of breath) and exacerbations of the illness. Without treatment, many more patients would be expected to have serious acute exacerbations (9). It would be easy for physicians to facilitate coverage of patients with chronic bronchitis by using alternative diagnostic codes in related higher ranked CT pairs. |
| 656 | Candidiasis--medical therapy | Children and adults | Treatment for candidiasis is imperative in patients such as those with HIV infection or others who are undergoing chemotherapy for cancer (46,205). Immunocompromised patients would be covered in CT pair 255. However, it is not dear what evidence of immunocompromised status would be required to ensure coverage. This issue is especially important for HIV-positive patients whose HIV status has not been confirmed. |
| 663<br>670 | Acute tonsillitis-medical therapy and acute pharyngitis and laryngitis and other diseases of vocal cords-medical therapy[d] | Children and adults | These CT pairs include many minor or self-limited conditions but also include abscesses and cellulitis, which require treatment to prevent serious systemic infections (311). In addition, it is unclear whether the common clinical practice of prescribing antibiotics for patients presenting with sore throat while awaiting diagnostic results of throat culture (for possible strep infection) could be continued. |
| 667 | Aseptic meningitis-medical therapy | Children and adults | Most viral infections included in this CT pair are self-limited and require no treatment (16). They can, however, cause pain or discomfort warranting use of non-steroidal anti-inflammatory drugs or mild narcotics (e.g., codeine). In rare cases, these infections can cause serious destabilization that can require intravenous fluids and cardiopulmonary support (99). Until a definitive diagnosis is made, patients are often provisionally treated for bacterial meningitis for several days while awaiting culture results. It is unclear whether such treatment would be covered. |

*(continued on next page)*

## Table 5-12—Examples of Uncovered Condition-Treatment (CT) Pairs With Clinical Significance and Possible Alternatives for Coverage[a,b]--Continued

| CT pair | Description | Affected population | Comments[c] |
|---|---|---|---|
| 668 | Infectious mononucleosis--medical therapy[d] | Adolescents and young adults | Infectious mononucleosis is generally a self-limited disease that requires no specific therapy (1 6). When a patient's throat is so sore that fluid intake is inadequate, however, intravenous fluids and hospitalization may be required. Whether such supportive measures to prevent dehydration and malnutrition would be covered is unclear. Treatments for some, but not all of the complications associated with infectious mononucleosis, might be covered by using above-the-line CT pairs. These complications include respiratory distress, thrombocytopenia, hemolytic anemia, and necrologic complications. |
| 669 | Other nonfatal viral infections-medical therapy[d] | Children and adults | One condition included in this CT pair, viral pneumonia can be life-threatening especially for children who were born prematurely or children with congenital heart disease (1 6). There is no specific treatment for viral pneumonia but some children need hospitalization for intravenous fluids, oxygen, or even assisted ventilation (16). Newborns and children with congenital heart problems may possibly be treated by using an above-the-line CT pair. |
| 688 | Cancer of various sites with distant metasteses where treatment will not result in a 10 percent 5-year survival--medical and surgical treatment | Children and adults | In practice, it is difficult to determine when a patient is at this stage of cancer. Many patients would probably be treated for secondary illnesses that appear above the line (e.g., bacterial pneumonia). |
| 693 | Congenital cystic lung, severe--lung resection | Infants | Mild to moderate forms of this condition appearinCTpair212. It is clinically difficult to distinguish the degrees of severity of the cystic lung, however, and clinicians would have wide latitude in determining whether to treat a patient (27). |
| 702 | End-stage HIV disease-medical therapy | Children and adults | It is unclear why end-stage HIV disease, but not end stages of other diseases (e.g., heart failure), has been listed separately toward the bottom of the list. In practice, it is difficult to determine when a patient is in the end stage of HIV disease. There are numerous opportunities for finding coverage to treat patients, including: CT pair 156 (HIV disease), CT pair 255 (opportunistic infections in immunocompromised hosts), CT pair 238 (pneumocystis carinii pneumonia), and CT pair 257 (cancer of skin, treatable [excluding malignant melanoma]). |
| 703 | Chronic pancreatitis--surgical treatment (703) | Adults | The Predominant manifestation of chronic pancreatitis is pain (31 1). Medicaltherapy, which is covered in CTpair317, is often ineffective for patients with severe pain (307). A common cause of pancreatic pain is pseudocyst, which is covered in CT pair 370. This CT pair includes a smaller subset of patients with chronic pain who would benefit from removal of all or part of their pancreas (10). |

NOTE: The above are examples of CT pairs that OTA considers to be of particular clinical significance. Individual clinicians might select others as well.

a The Oregon Health Services Commission is scheduled to vote on a number of technical changes to the prioritized list. The potential changes affecting this table are detailed in the footnotes below.

b In addition t. the references noted in the above comments, much of this table is also based on contract work prepared for the OTA (s8s refs. 14,60, 235).

c Numbers i„ parentheses are references (see reference list at the end Of this report).

d The HSC is scheduled t. vote on adding a new above-the-line CT pair for disorders of fluid, electrolyte, and acid base balance (ICD-9-CM code 276). This would allow therapy for the dehydration sometimes experienced by patients in this CT pair.

SOURCE: Office of Technology Assessment, 1992.

part by examining the most common diagnoses among current Oregon Medicaid beneficiaries. To pursue this question, OTA asked the Oregon Medicaid program's actuarial consultant, Coopers & Lybrand, to provide frequency rankings of the most common principal diagnoses among current Oregon Medicaid beneficiaries who would be subject to the waiver. These data are described below and are based on actual Oregon Medicaid claims paid in FY 1989.[58]

## Data Limitations

There are clear obstacles to identifying current utilization of services. In recent years, more than half of the Oregon AFDC population (approximately 51,500 AFDC recipients in FY 1989) have been enrolled in mandatory health maintenance organization (HMO) or physician care organization (PCO) prepaid health plans (169). Since historical utilization data is typically drawn from FFS care claims processing data, limited information is available to describe how this population uses health services.[59] No utilization data are currently available for the HMO enrollees, and only inpatient utilization records can be analyzed for PCO members. This analysis examines the use of services by PLM women and children, AFDC recipients who receive FFS care, and general assistance adults.[60] While all these Medicaid participants would be subject to the rules of the waiver, using this FFS database to project the dynamics of a managed care system is obviously problematic.

## Common Principal Diagnoses Related to Inpatient Hospital Services

The most common inpatient principal diagnoses in FY 1989 are ranked in tables 5-13 and 5-14.[61][62] Given that current Medicaid eligibility rules favor pregnant women and young mothers, it is not surprising to find that more than 72 percent of hospital stays among current participants (who would be subject to the waiver) were for newborns or pregnancy-related conditions.

A significant number of discharges (i.e., 181 for all ages and 150 for children) among the most frequent conditions were primarily for diagnostic and observational services and would be covered under the waiver.[63] These include stays for abdominal pain, convulsions, lack of expected normal physiological development, pyrexia of unknown origin (i.e., fever), and miscellaneous respiratory abnormalities.

Also relatively common were hospitalizations related to diagnoses that are currently missing from the CT pair list; these include 124 hospital stays for volume depletion (e.g., dehydration and blood loss) and nonspecific urinary tract infections.[64] [65] These conditions are not included in the list because of their lack of specificity. Nonetheless, they are very frequently coded conditions, and it is not clear how they would be handled during the demonstration.

***Inpatient Care Below Line 587-Six*** of the most frequent principal diagnoses (or diagnostic categories) would not be reimbursable, given current coding practices, because they relate to CT pairs below line 587 (see table 5-13). An estimated 407 discharges relate to these low priority conditions; the vast majority were pediatric cases. More than 40 percent of these below-the-line hospital stays were

58 Oregon's fiscal year extends from July through June.

59 The U.S. General Accounting Office is currently conducting an in-depth review of access to managed care services by Oregon's Medicaid recipients.

60 Coverage for hospital inpatient care for general assistance recipients was eliminated in April 1989.

61 Frequency of diagnoses was tallied by counting the related number of hospital discharges. Newborn, pregnancy-related, and some other diagnostic codes were aggregated into larger diagnostic groups to allow analysis of a wider range of diagnoses. See tables 5-13 and 5-14 for further details.

62 An important caveat is necessary before examining these data: the total discharges reported here represent the number of cases assigned to the specific *International Classification of Diseases, 9th Edition, Clinical Modification (ICD-9-CM) codes* appearing in tables 5-13 and 5-14. They do nor show the total number of cases that would fall into each CT pair because most CT pairs include more than one diagnostic code. Nor do they reflect any utilization by HMO enrollees. Thus the data probably *underestimate* the number of related discharges that would not be covered during the demonstration. See ch. 3 for a more detailed description of CT pairs and the prioritized list.

63 Diagnostic services are covered under a hypothetical CT pair O that doesn't actually appear on the list. "CT pair O" is a designation used to allow reimbursement of diagnostic services for inconclusive diagnoses (98).

64 The HSC is scheduled to vote on adding a new above-the-line CT pair between CT pairs 154 and 155 for disorders of fluid, electrolyte, and acid base balance (ICD-9-CM 276) that would allow therapy for dehydration.

65 Another common diagnosis, brief depressive reaction (ICD-9-CM 309.0), was also missing because mental health conditions have not yet been incorporated into the list.

**Table 5-1 3-inpatient Hospital Utilization by Oregon Medicaid Recipients Subject to the Proposed Demonstration: Most Common Principal Diagnoses, FY 1989[a]**

| Rank by frequency | CT pair(s) | ICD-9-CM diagnosis code | Description of principal diagnosis | Estimated number of discharges | Percent of total |
|---|---|---|---|---|---|
| 1 | 21 | —[c] | Single liveborn | 8,611 | 32.54 |
| 2 | 21 | —[d] | Pregnancy, childbirth, specified complications | 7,651 | 28.91 |
| 3 | 21 | 650 | Pregnancy, childbirth, normal delivery | 1,698 | 6.42 |
| 4 | 21 | —[e] | Complications of pregnancy, without delivery | 869 | 3.28 |
| 5 | 16 | 574.00,.10 | Calculus of gallbladder with cholecysitis | 189 | 0.71 |
| 5 | 1 | 486 | Pneumonia, organism unspecified | 189 | 0.71 |
| 6 | 21 | V31.0 | Twin birth | 172 | 0.65 |
| 7 | 643 | 493.90,.91 | Asthma, unspecified | 164 | 0.62 |
| 8 | 19,106 | 774.6,770.8 | Conditions of the perinatal period | 152 | 0.57 |
| 9 | 1 | 466.0,.1 | Acute bronchitis and bronchiolitis | 147 | 0.56 |
| 10 | 10 | 633.1 | Tubal pregnancy | 109 | 0.41 |
| 11 | 107 | 558.9 | Other and unspecified noninfectious gastroenteritis and colitis | 102 | 0.39 |
| 12 | 0 | 780.3,.6 | General symptoms (convulsions, pyrexia) | 95 | 0.36 |
| 13 | 5 | 540.9 | Acute appendicitis | 94 | 0,36 |
| 14 | 0 | 789.0 | Abdominal pain | 86 | 0.33 |
| 15 | —[f] | 276.5 | Volume depletion | 83 | 0.31 |
| 16 | 13,537 | 614.3,9 | Pelvic disease | 74 | 0.28 |
| 17 | 14 | 590.10 | Acute pyelonephritis, without lesion of renal medulary necrosis | 70 | 0.26 |
| 18 | | 309.0 | Brief depressive reaction | 56 | 0.21 |
| 18 | 669 | 079.9 | Unspecified viral infection | 56 | 0.21 |
| 19 | 660 | 008.8 | Intestinal infection due to other organism, not elsewhere classified | 52 | 0.20 |
| 20 | 695 | 465.9 | Acute upper respiratory infection | 48 | 0.18 |
| 21 | 588 | 722.10 | Displacement of lumbar intervertebral disc, without myelopathy | 47 | 0.18 |
| 22 | —[f] | 599.0 | Urinary tract infection, site unspecified | 41 | 0.15 |
| 23 | 669 | 480.1 | Pneumonia, viral | 40 | 0.15 |
| Total | | | | 20,895 | 78.95 |

KEY: CT = condition-treatment; ICD-9-CM = International Classification of Diseases, 9th Edition, Clinical Modification; FY = fiscal year.
NOTE: "CT O" is used to designate inconclusive diagnoses to allow reimbursement for diagnostic services.
a Excludes Kaiser Permanence Medicaid enrollees.
b Only 87 percent of claims were available for analysis; total discharges were estimated to reflect 100 percent.
c Includes codes: V30.0, V30.00, V30.01, V30.1.
d Includes codes: 641.21,642.31,642.41, 642.51,642,91, 644.21 ,645.01,646,61,647.61 ,64.21, 648.81, 648.91 ,651.01,652.21,652.81 ,653.41,654.21, 656.01,656.11,656.31, 656.41,656.01,656.11, 658.21,660.01,660.11, 660.31,660.41,661.01, 661.10, 661.21,661.31,662.21, 663.11,663.21,663.31, 664.01, 664.11,664.21, 664.31,665.41, 665.51, 666.12,669.51, 669.81,670.04.
e Includes codes: 642.43, 643.03, 643.13, 644.03, 644.13, 646.63, 648.83, 648.93.
f These m&s are missing from the list.

SOURCE: Coopers & Lybrand, San Francisco, CA, unpublished data drawn from paid Oregon Medicaid claims, 1991.

for nonspecific asthma diagnoses that under the demonstration would be coded into CT pair 643. More specific asthma codes appear in the much higher priority asthma CT pair 151. Presumably, under the demonstration, providers could assign such hospital stays to covered CT pairs by providing more specific codes in the patient's medical record. (It is important to point out that the frequent use of nonspecific codes for asthma and other common diagnoses is not unique to Oregon physicians (232).)

Low-priority viral infections led to 107 discharges, which would be coded into CT pair 669 (see table 5-14). Various viral pneumonias accounted for 61 pediatric hospitalizations that would not be reimbursable under the waiver. Most children with viral pneumonia recover uneventfully, although the course of the illness maybe prolonged, especially in infants (16). There is no specific treatment for viral pneumonia, but some children need hospitalization for intravenous fluids, oxygen, or even assisted ventilation (16). In many cases, patients are given antibiotics if bacterial pneumonia is suspected. During the demonstration, it is not clear whether children with these diagnoses would receive medically necessary treatment. Estimated hospital payments for these diagnoses totaled $123,811 in FY 1989 (see tables 5-15 and 5-16).

Fifty-two discharges were for nonclassified intestinal infections (i.e., ICD-9-CM code 008.8) which relate to CT pair 660. Forty-three of these were for children under age 18. There appears to be no opportunity to upcode such diagnoses to more

**Table 5-14-inpatient Hospital Utilization by Oregon Medicaid Recipients Subject to the Proposed Demonstration: Most Common Principal Diagnoses for Children Under Age 18, FY 1989[a]**

| Rank by frequency | CT pair(s) | ICD-9-CM diagnosis code | Description of principal diagnosis | Estimated number of discharges[b c] | Percent of total |
|---|---|---|---|---|---|
| 1 | 21 | —[d] | Single liveborn | 8,568 | 67.59 |
| 2 | 21 | —[e] | Pregnancy, childbirth, specified complications | 592 | 4.67 |
| 3 | 19,21,22,64,106 | —[f] | Conditions of the perinatal period | 247[g] | 1.95 |
| 4 | 21 | V31.0 | Twin birth | 168 | 1.33 |
| 5 | 21 | 650 | Pregnancy, childbirth, normal delivery | 159 | 1.25 |
| 6 | 1 | 486 | Pneumonia, organism unspecified | 151 | 1.19 |
| 7 | 1 | 466.0,.1 | Acute bronchitis and bronchiolitis | 128 | 1.01 |
| 8 | 643 | 493.90,.91 | Asthma unspecified | 117 | 0.92 |
| 9 | 0 | 780.3,780.6,786.09 | General symptoms (other respiratory problems, convulsions, pyrexia) | 114[g] | 0.90 |
| 10 | 107 | 558.9 | Other and unspecified noninfectious gastroenteritis and colitis | 74 | 0.58 |
| 11 | 21 | | Complications of pregnancy, without delivery | 74 | 0.58 |
| 12 | —[h] | 276.5 | Volume depletion | 67 | 0.53 |
| 13 | 669[i] | 480.1,.9 | Pneumonia, viral | 61[g] | 0.48 |
| 14 | 5 | 540.0,.9 | Acute appendicitis | 61 | 0.48 |
| 15 | 669 | 079.9 | Unspecified viral Infection | 46[g] | 0.36 |
| 16 | 695 | 465.9 | Acute upper respiratory infection, unspecified site | 46[g] | 0.36 |
| 17 | 660 | 008.8 | Intestinal infection due to other organism, not elsewhere classified | #19 | 0.34 |
| 18 | 146 | 750.5 | Congenital hypertrophic pyloris stenosis | *40* | 0.32 |
| 19 | 0 | 783.4 | Lack of expected normal physiological development | *36* | 0.28 |
| 20 | 151 | 493.00,493.01 | Extrinsic asthma | *32* | 0.25 |
| 21 | 8 | 464.4 | Croup | *31* | 0.25 |
| 22 | —[j] | 599.00 | Urinary tract infection, site unspecified | *30* | 0.24 |
| 23 | 9 | 376.01 | Orbital cellulitis | 24[g] | 0.19 |
| 24 | 1 | 485 | Bronchopneumonia, organism unspecified | 22 | 0.17 |
| 25 | —[j] | V58.I | Maintenance chemotherapy | 22 | 0.17 |
| Total | | | | 10,974 | 87.09 |

KEY: CT = condition-treatment; ICD-9-CM = International Classification of Diseases, 9th Edition, Clinical Modification; FY - fiscal year.
NOTE: "CT O" is used to designate inconclusive diagnoses to allow reimbursement for diagnostic services.
a Excludes Kaiser Permanence Medicaid enrollees.
b Because age data wer, missing from some claims, discharge totals for some ICD-9-CM codes may differ from those in table 5-13.
C Only 87 percent of claims were available for analysis; total discharges were estimated to reflect 100 percent.
d Includes codes: V30.0, V30.00, V30.01, V30.1.
e Includes codes: 642.41,64,4.21,64501, 647.61, 84&21, 652.21,653.41,654.21, 6=.31, 658.11,6~.11, 660.31 , 661.11,661.21, 661.31,662.21, 883.11, 663.31, 664.01,664.11, 664.21,664.31,665.51, 666.12,669.51, 670.04.
f Includes codes: 765.1, 768.5, 769, 770.1, 770.6, 770.8, 771.8, 774.2, 774.6.
9 Discharge totals maybe greater than those in table 5-13 because additional ICD-9-CM diagnoses occurred in the under age 18 population.
h Includes codes: 644.03,644.13, 646.63.
i These codes are missing from the list.
j Maintenance chemotherapy is considered an ancillary service and would be covered for all treatable cancers under the waiver.
SOURCE: Coopers & Lybrand, San Francisco, CA, unpublished data drawn from paid Oregon Medicaid claims, 1991.

specific codes that might appear above the line. Most of these infections are self-limited gastrointestinal illnesses that do not require treatment (311).[66] However, all such infections can sometimes require therapy for dehydration and some patients with certain infections need to be treated. Some high-risk patients with nontyphi salmonella infections (e.g., very young infants, patients with malignancy or hemoglobinopathy), for example, should be treated with antibiotics (125,314). Failure to treat in such cases would require not following the recommendations of the American Academy of Pediatrics (3).

Forty-eight hospital stays were for acute upper respiratory infections; all but two were for children. These discharges are in CT pair 695. It is not clear whether more specific coding would reassign these cases to higher priority CT pairs.

CT pair 588, the first below the line, includes 47 adult discharges for displacement of lumbar intervertebral disc without myelopathy. It is not

[66] Self-limited refers to conditions that tend to be limited in duration or course even if untreated.

## Table 5-15--Inpatient Hospital Utilization by Oregon Medicaid Recipients Subject to the Proposed Demonstration: Most Costly Principal Diagnoses, FY 1989 [b]

| Rank by cost | CT pair(s) | ICD-9-CM diagnosis code | Description of principal diagnosis | Estimated number of discharges [b] | Total paid ($thousands) [c] | Percent of total costs |
|---|---|---|---|---|---|---|
| 1 | 21 | —[d] | Single liveborn | 8,611 | $7,714,830 | 26.00 |
| 2 | 21 | —[e] | Pregnancy, childbirth, specified complications | 7,385 | 6,847,130 | 23.07 |
| 3 | 21 | 650 | Pregnancy, childbirth, normal delivery | 1,698 | 1,188,689 | 4.01 |
| 4 | 16 | 574.00,.01,.10 | Calculus of gallbladder with cholecystitis | 200 | 561,105 | 1.89 |
| 5 | 21 | V31.0, V32.O | Twin birth | 179 | 505,685 | 1.70 |
| 6 | 21 | —[f] | Complications of pregnancy, without delivery | 634 | 438,476 | 1.48 |
| 7 | 19,22,106 | —[g] | Conditions of the perinatal period | 203 | 387,722 | 1.31 |
| 8 | 1 | 486 | Pneumonia, organism unspecified | 189 | 299,254 | 1.01 |
| 9 | 5 | 540.0,.9 | Acute appendicitis | 118 | 245,585 | 0.83 |
| 10 | 643 | 493.90,.91 | Asthma unspecified | 164 | 199,523 | 0.67 |
| 11 | 10 | 633.1 | Tubal pregnancy | 109 | 175,506 | 0.59 |
| 12 | 1 | 466.0,.1 | Acute bronchitis and bronchiolitis | 141 | 166,350 | 0.56 |
| 13 | 69 | 518.81 | Respiratory failure | 6 | 145,833 | 0.49 |
| 14 | 588 | 722.10 | Displacement of lumbar intervertebral disc without myelopathy | 47 | 113,875 | 0.38 |
| 15 | 0 | 789.0 | Abdominal pain | 86 | 110,534 | 0.37 |
| 16 | —[h] | 276.5 | Volume depletion | 83 | 108,338 | 0.37 |
| 17 | 250 | 745.5 | Congenital ostium secundum type atrial septal defect | 9 | 104,652 | 0.35 |
| 18 | 107 | 558.9 | Other and unspecified noninfectious gastroenteritis and colitis | 102 | 95,499 | 0.32 |
| 19 | 64 | 998.5 | Postoperative infection | 36 | 94,605 | 0.32 |
| 20 | 14 | 590.10 | Acute pyelonephritis, without lesion of renal medullary necrosis | 70 | 94,343 | 0.32 |
| 21 | 669 | 480.1 | Pneumonia viral | 40 | 93,925 | 0.32 |
| 22 | —[h] | 572.8 | Other sequelae of chronic liver disease | 1 | 82,959 | 0.28 |
| 23 | 448 | 626.2 | Excessive or frequent menstruation | 31 | 72,044 | 0.24 |
| 24 | —[h] | 309.0 | Brief depressive reaction | 56 | 69,716 | 0.23 |
| 25 | 0 | 780.3 | General symptoms (convulsions) | 63 | 67,938 | 0.23 |
| Total | | | | 20,261 | $19,984,196 | 67.34 |

KEY: KEY: CT = condition-treatment; ICD-9-CM = International Classification of Diseases. 9th Edition, Clinical Modification; FY = fiscal year.

NOTE: "CT O" is used to designate inconclusive diagnoses to allow reimbursement for diagnostic services.

a Excludes Kaiser Permanence Medicaid enrobes.

b Most costly diagnosis based on total claims paid by Medicaid.

c Only 87 percent of claims were available for analysis; total discharges Were estimated to reflect 100 percent.

d Includes codes: V30.0, V30.00, V30.01, V30.1.

e Includes codes: 641.11, 641 .21,642 .31,642.41,642.51, 642.91,644,21,64501, 647.61,84.21,64381,651 .01,652 .21,653.41,654.21, 656.11,656.31,656.41, 656.51,658.11,658.21, 660.01, 660.11,660.31, 660.41,661.01, 661.11,661.21,661.31, 662.21,663.11,663.31, 664.01,664.11, 664.21, 664.31,665.51,666.12, 669.51, 670.04.

f Includes codes: 644.03,646.63, 648.93.

g Includes codes: 765.1, 769,770.1, 770.8,774.6.

h These codes are missing from the list.

SOURCE: Coopers & Lybrand, San Francisco, CA, unpublished data drawn from paid Oregon Medicaid claims, 1991.

## Table 5-16--Inpatient Hospital Utilization by Oregon Medicaid Recipients Subject to the Proposed Demonstration: Most Costly Principal Diagnoses for Children Under Age 18, FY 1989 [b]

| Rank by cost | CT pair(s) | ICD-9-CM diagnosis code | Description of principal diagnosis | Estimated number of discharges [c,d] | Estimated total paid ($thousands) [c,d] | Percent of total rests |
|---|---|---|---|---|---|---|
| 1 | 21 | —[e] | Single liveborn | 8,568 | $7,602,903 | 53.56 |
| 2 | 19,21,22,64,106,361,708 | —[f] | Conditions of the perinatal period | 254 | 546,594 | 3.85 |
| 3 | 21 | —[g] | Twin birth | 174 | 496,490 | 3.50 |
| 4 | 21 | —[h] | Pregnancy, childbirth, specified complications | 494 | 425,371 | 3.00 |
| 5 | 1 | 486 | Pneumonia organism unspecified | 151 | 222,561 | 1.57 |
| 6 | 210,211,250,256 | 745.10,.19,.2,.4,.5 | Congenital anomalies of cardiac septal closure | 30 | 203,707 | 1.43 |
| 7 | 151,643 | 493.90,.91,.01 | Asthma, unspecified | 136 | 145,810 | 1.03 |
| 8 | 69 | 518.81 | Other diseases of the lung, respiratory failure | 3 | 133,964 | 0.94 |
| 9 | 1 | 466.0,.1 | Acute bronchitis and bronchiolitis | 128 | 132,708 | 0.93 |
| 10 | 5 | 540.0,.9 | Acute appendicitis | 61 | 124,671 | 0.88 |
| 11 | 669 | 480.1,.9 | Pneumonia viral | 61 | 123,811 | 0.87 |
| 12 | 21 | 650 | Pregnancy, childbirth, normal delivery | 159 | 105,506 | 0.74 |
| 13 | 0 | 780.3,.6 | General symptoms (convulsions, pyrexia) | 83 | 88,453 | 0.62 |
| 14 | —[i] | 276.5 | Volume depletion | 67 | 86,426 | 0.61 |
| 15 | —[i] | 572.8 | Other sequelae of chronic liver disease | 1 | 82,959 | 0.58 |
| 16 | 146 | 750.5 | Congenital hypertrophic pyloric stenosis | 40 | 67,866 | 0.48 |
| 17 | 248 | 277.01 | Cystic fibrosis | 1 | 64,325 | 0.45 |
| 18 | 107 | 558.9 | Other and unspecified noninfectious gastroentiritis and colitis | 74 | 61,246 | 0.43 |
| 19 | 381 | 821.01 | Fracture of other and unspecified parts of femur | 21 | 51,436 | 0.36 |
| 20 | —[i] | 756.6 | Congenital anomalies of diaphragm | 2 | 50,107 | 0.35 |
| 21 | 0 | 783.4 | Lack of expected normal physiological development | 36 | 45,567 | 0.32 |
| 22 | 669 | 079.9 | Unspecified viral infections | 46 | 44,657 | 0.31 |
| 23 | 695 | 465.9 | Acute upper respiratory infection, unspecified site | 46 | 40,425 | 0.28 |
| 24 | 660 | 008.8 | Intestinal infection due to other organism, not elsewhere classified | 43 | 35,594 | 0.25 |
| 25 | —[i] | 759.8 | Other specified congenital anomalies | 1 | 35,297 | 0.25 |
| **Total** | | | | 10,680 | $11,018,454 | 77.59 |

KEY: KEY: CT - condition-treatment; ICD-9-CM - International Classification of Diseases, 9th Edition, Clinical Modification; FY - fiscal year.
NOTE: "CT O" is *used* to designate inconclusive diagnoses to allow reimbursement for diagnostic services.
a Excludes Kaiser Permanence Medicaid enrollees.
b Most costly diagnosis based on total claims paid by Medicaid.
c Only 87 percent of claims were available for analysis; total discharges were estimated to reflect 100 percent.
d Because age data were missing from some claims, discharge and dollar totals for some ICD-9-CM cedes may differ from those in table 5-15.
e Includes codes: V30.0, V30.00, V30.01, V30.1.
f Includes co&s: 765.1,765.18, 768.5, 769, 770.1,770.6,770.8, 771.2,771.8, 774.2,774.6.
9 Includes codes: V31 .0, V32.0.
h Includes codes: 642.41,644.21,645.01, 652.21,653.41,654.21, 656.31, 660.11,660.31,663.31, 664.01,664.11, 664.21, 664.31,669.51.
i These codes are missing from the list.

SOURCE: Coopers & Lybrand, San Francisco, CA, unpublished data drawn from paid Oregon Medicaid claims, 1991.

known what proportion of these patients received medical or surgical treatment. While neither would be covered by the waiver, treatment for this condition is often ineffective (44).

### Common Principal Diagnoses Related to Physician Services

Tables 5-17 and 5-18 show a frequency ranking of the most common principal diagnoses related to FFS physician visits in FY 1989.[67] These data include all FFS physician visits, by Oregon Medicaid participants who would be subject to the waiver, regardless of site (e.g., doctor's office or hospital). Almost 12 percent of visits were for routine infant exams, child health checks, or immunizations; another 8 percent were for maternity-related or newborn care. Coverage for all such care would not change during the demonstration.

A few of the most common diagnoses related to physician services are missing from the prioritized list. Three are nonspecific codes (i.e., vaginitis/vulvovaginitis, urinary tract infection, and unspecified fetal growth retardation) that may be used less often under the demonstration as providers become more sophisticated in their coding practices. A third, impetigo, accounted for 912 pediatric physician visits in FY 1989. Impetigo is a self-limited and contagious condition common among children that if treated can prevent spread to other children (16).

***Physician Services Below Line*** 587—Under current coding practices, a number of the most common principal diagnoses fall into CT pairs below line 587. Although *treatment* for these conditions is not reimbursable under the waiver, the visit or visits to establish the diagnosis would be fully covered. The proportion of these visits that are diagnostic is not known. It is likely that many of the reported visits for self-limited conditions, such as acute respiratory infections and acute pharyngitis, are essentially diagnostic encounters that typically do not require followup treatment. Denying payment for any related treatment for these diagnoses is not likely to change the volume of related physician visits or have any significant clinical consequences. For those cases that become more serious, such as a cold that develops into acute bronchitis, a return visit to the physician and treatment would be covered.

Not surprisingly, acute pharyngitis (i.e., sore throat), tonsillitis, and colds and respiratory infections (CT pairs 670, 663, and 695 respectively) are particularly common especially among children. The vast majority of the 23,283 related FFS physician visits in FY 1989 were pediatric. Under the waiver, symptomatic care (e.g., acetaminophen, gargle, etc.) could be recommended and would not require prescription medication. In rare instances, when a patient's throat is so sore that fluid intake is inadequate, intravenous fluids and hospitalization may be required. Current waiver rules do not make clear whether such supportive measures to prevent dehydration and malnutrition would be reimbursable. Dehydration (ICD-9-CM code 276.5) is missing from the list altogether.

In addition, it is uncertain whether the common clinical practice of prescribing antibiotics for patients with sore throat while awaiting results of throat culture (for possible strep infection) could be continued. Whether a change in this practice would compromise the ultimate health outcome continues to be debated in the clinical literature.

Conjunctivitis (CT pair 627) and oral candidiasis were fairly common pediatric conditions in FY 1989; together they accounted for 1,848 physician visits among patients under age 18. Oral candidiasis (commonly referred to as "thrush" in infants) would be included in CT pair 658 unless it was found to be related to an immunosuppressive condition such as HIV infection (CT pair 255). Yet, despite the immediate need for treatment for HIV-infected patients (46,205), it is not clear whether waiver rules would allow payment for treating affected patients whose HIV status is suspected to be positive but is not yet confirmed.

A number of nonspecific below-the-line diagnoses would probably be coded differently under the waiver. For example, nonspecific codes for asthma and bronchitis (CT pair 643) are frequently used by Oregon physicians serving Medicaid patients. Almost 2,900 FFS physician visits in FY 1989 were for

[67] The total visits reported here represent the number of physician encounters assigned to the specific KID-9-CM codes appearing in these tables. They do not show the total number of cases that would fall into each CT pair because most CT pairs include more than one diagnostic code. Nor do they reflect any utilization by HMO or PCO enrollees. Thus the data probably *understimate* the number of related physician visits that would not be *covered during* the demonstration.

**Table 5-17-Utilization by Oregon Medicaid Recipients Subject to the Proposed Demonstration: Most Common Principal Diagnoses, FY 1989[a]**

| Rank by frequency | CT pair(s) | ICD-9-CM diagnosis code | Description of principal diagnosis | Estimated number of Visits[b] | Estimated percent of total[b] |
|---|---|---|---|---|---|
| 1 | 143' | *V20.2* | Routine infant or child health check | 36,412 | 9.77 |
| 2 | 354 | *382,.9* | Suppurative and unspecified otitis media | 20,166 | 5.41 |
| 3 | 695 | *465,.9* | Acute upper respiratory infections; multiple or unspecified site | 12,192 | 3.27 |
| 4 | 21 | *V30.O* | Single liveborn | 8,818 | 2.37 |
| 5 | 354 | *381,.0,.01,.1,.4* | Nonsupportive otitls media and Eustachian tube disorder | 8,110 | 2.18 |
| 6 | 143,167 | V06.1 ,.3[c] | Immunizations; diphtheria-tetanus-pertussis (DTP) | 7,921 | 2.13 |
| 7 | 21 | V22,.1 | Supervision of pregnancy | 7,691 | 2.06 |
| 8 | 670 | 462 | Acute pharyngitis | 6,818 | 1.83 |
| 9 | 22,708[c] | 765.1 | Other preterm infants | 6,531 | 1.75 |
| 10 | 21 | V22.2 | Pregnant state; incidental | 5,639 | 1.51 |
| 11 | 643 | 490 | Bronchitis, not specified as acute or chronic | 5,031 | 1.35 |
| 12 | 0 | 789,0 | Abdominal pain | 4,842 | 1.30 |
| 13 | 1 | 466,.0, | Acute bronchitis and bronchiolitis | 4,308 | 1.16 |
| 14 | 107 | 558.9 | Other and unspecified noninfectious gastroenteritis and colitls | 3,699 | 0.99 |
| 15 | 391[c] | 692.9 | Dermatitis; unspecified cause | 3,609 | 0.97 |
| 16 | | 599.0 | Urinary tract infection; site not specified | 2,912 | 0.78 |
| 17 | 643 | 493.9 | Asthma unspecified | 2,891 | 0.78 |
| 18 | 669[c] | 079.9 | Unspecified viral infection | 2,812 | 0.75 |
| 19 | 163 | V25.4,.9 | Contraceptive management | 2,749 | 0.74 |
| *20* | 1 | 486 | Pneumonia, organism unspecified | 2,403 | 0.65 |
| *21* | 695 | 460 | Acute nasopharyngitis | 2,279 | 0.61 |
| *22* | 21 | 650 | Pregnancy, childbirth; normal delivery | 2,232 | 0.60 |
| *23* | 0 | 784.0 | Headache | 2,192 | 0.59 |
| *24* | 171,678 | 078.1 | Viral warts | 2,123 | 0.57 |
| *25* | 482,572' | 473.9 | Unspecified sinusitis | 2,039 | 0.55 |
| *26* | 663 | 463 | Acute tonsillitis | 1,994 | 0.54 |
| *27* | —[d] | 616.10 | Vaginitis and vulvovaginitis, unspecified | 1,965 | 0.53 |
| *28* | 534[c] | 477.9 | Allergic rhinitis; unspecified cause | 1,887 | 0.51 |
| *29* | 19 | 774.6 | Conditions In the perinatal period | 1,613 | 0.43 |
| *30* | 167 | V72.9 | Unspecified examination | 1,527 | 0.41 |
| *31* | 0 | 780.3 | General symptoms (convulsions) | 1,475 | 0.40 |
| *32* | 537 | 625.9 | Unspecified symptoms associated with female genital organs | 1,458 | 0.39 |
| *33* | 362 | 779.3 | Feeding problems in newborn | 1,379 | 0,37 |
| *34* | 292 | 770.7 | Chronic respiratory disease arising In the perinatal period | 1,368 | 0.37 |
| *35* | 1 | 487.1 | Influenza, with other respiratory manifestations | 1,361 | 0.37 |
| *36* | 171 | 662.1 | Dysplasia of cervix | 1,349 | 0.36 |
| *37* | 0 | 782.1 | Rash and other nonspecified skin eruption | 1,342 | 0.36 |
| *38* | 167 | V72.3 | Gynecological examination | 1,312 | 0.35 |
| Total | | | | 186.449 | 49.69 |

KEY: CT = condition-treatment; ICD-9-CM= International Classification of Diseases, 9th Edition, Clinical Modification; FY = fiscal year.
a Excludes Medicaid recipients enrolled in health maintenance and physician care Organizations.
b Only 77 percent of claims were available for analysis; total visits were estimated to reflect 100 percent.
c Most closely associated CT pair(s).
d Missing from the list.

SOURCE: Coopers & Lybrand, San Francisco, CA, unpublished data drawn from paid Oregon Medicaid claims, 1991.

nonspecific asthma. Specific asthma codes are ranked high in CT pair 151.

Nonspecific bronchitis accounted for more than 5,000 FFS physician visits in FY 1989. How many of these cases were actually acute or chronic is not known. Actual *acute* bronchitis cases would be coded in CT pair 1. Although *chronic* bronchitis remains in CT pair 643, such cases could often be redefined and coded into related higher ranked CT pairs (e.g., emphysema (CT pair 306) and asthma (CT pair 151) (14). If not, failure to treat chronic bronchitis could have serious clinical consequences. Untreated patients may experience various symptoms, including coughing and shortness of breath, and are likely to have frequent and more prolonged acute episodes of illness (9). Without treatment, many more chronic bronchitis patients would be expected to require hospitalization for acute exacerbations of symptoms.

There are no above-the-line alternative codes for the common nonspecific viral infections (ICD-9-CM code 079.9 in CT pair 669) that accounted for

2,812 physician visits in FY 1989 (2,395 among children). The low priority assigned to most nonfatal viral infections is appropriate, however, since related diagnostic costs would be covered, effective treatments are not available, and the conditions are self-limited (31 1). Viral pneumonia is an important exception; in some cases it can be life-threatening without treatment (230,3 11).

## SUMMARY OF IMPLICATIONS FOR THE DEMONSTRATION'S PARTICIPANTS

### *Eligibility*

Expanding Medicaid coverage to include all poor Oregonians who currently lack health coverage is a tremendous breakthrough for this population in terms of access and perhaps health outcome as well. The available literature make clear that having health insurance, including Medicaid coverage, can have a substantial effect on whether one receives health services.

Streamlining Medicaid eligibility processing would also be a considerable accomplishment of the proposed waiver, but the new rules disqualify some pregnant women and young children. This is a needless side effect of the waiver proposal and could be remedied by lifting the eligibility threshold for this group.

### *Benefits and the Prioritized List*

***The*** implications of the proposed changes in Medicaid benefits clearly depend on the individual beneficiary. Current eligibles would both gain and lose some clinically important services; their bottom line is essentially a personal one based on individual health needs. Can we say that overall the health of Oregon's poor would improve or diminish with the proposed changes in Medicaid benefits? Certainly the newly insured would be in a better position to gain access to care. But the potential effect of the prioritized list on Oregon's *current* Medicaid population is very difficult to project. Given that Medicaid benefits are typically short-term and that any evaluation effort is likely to be based on limited baseline data, it may never be possible to clearly identify how this aspect of the demonstration affected its participants' access to services or, ultimately, their health.

Some of the financial barriers to early prenatal care could be eliminated by the demonstration. The new eligibility rules enable poor women to have Medicaid benefits *before they* become pregnant. An effective prenatal outreach program would be key to realizing the potential of the demonstration to actually reduce infant mortality and the number of low-birth-weight babies among the State's poor.

Expanding Medicaid coverage to include all poor children would be an important achievement that accelerates Congress's recent efforts to bring them into the Medicaid program. It creates the potential to improve children's access to routine pediatric care, to increase immunization rates, and expedite early intervention for potentially serious and chronic conditions. Whether these goals are achieved must be monitored.

Providing benefits for adult preventive services would also markedly improve Oregon's Medicaid program. Would it *noticeably* enhance the health status of the Oregon poor? In the short term, the answer is likely to be negative, unless participants are aggressively encouraged to obtain preventive care and have the long-term coverage necessary to take advantage of any clinical benefits from early disease detection.

Making organ transplants available to adults may certainly save some lives, but the number of participants who would be affected would be small. Providing dental care is sure to enhance many adult beneficiaries' health although the consequences of going without dental treatment are less dire than forgoing treatment for some below-the-line conditions (e.g., Schmidt's syndrome in CT pair 640).

It is not surprising to find that some below-the-line CT pairs include conditions with effective therapies, since low rank on the prioritized list is intended to reflect lower relative importance but not necessarily complete ineffectiveness. Nonetheless, most uncovered CT pairs do not have significant clinical implications and clearly reflect treatment that is generally considered ineffective or would make little difference to exclude from coverage.

Yet there is some evidence that some individuals could be harmed by the demonstration. Recent utilization data show that some below-the-line conditions would occur among the waiver population rather frequently and may have serious consequences. If, for example, infants with viral

**Table 5-18—Utilization of Physician Services by Oregon Medicaid Recipients Subject to the Proposed Demonstration: Most Common Principal Diagnoses for Children Under Age 18, FY 1989[a]**

| Rank by frequency | CT pair(s) | ICD-9-CM diagnosis code | Description of principal diagnosis | Estimated number of visits[b,c] | Estimated percent of total |
|---|---|---|---|---|---|
| 1 | 143 | V20.2 | Routine infant or child health check | 36,243 | 15.32 |
| 2 | 354 | 382,.00,.9 | Suppurative and unspecified otitis media | 20,261[d] | 8.56 |
| 3 | 695 | 465,.9 | Acute upper respiratory infection; multiple or unspecified site | 10,548 | 4.46 |
| 4 | 21 | V30,.0 | Single liveborn | 8,822 | 3.73 |
| 5 | 354 | 381,.0,.00,.01,.1,.4 | Nonsuppurative otitis media and Eustachian tube disorder | 8,70@ | 3.68 |
| 6 | 143,167 | V06.1,.3 | Immunizations; diphtheria-tetanus-pertussis (DTP) | 7,862 | 3.32 |
| 7 | 22,708 | 765.1 | Other preterm infants | 6,468 | 2.73 |
| 8 | 670 | 462 | Acute pharyngitis | 5,091 | 2.15 |
| 9 | 19,22,106,292 | —[e] | Conditions of the perinatal period | 4,925 | 2.08 |
| 10 | 643 | 490 | Bronchitis, not specified as acute or chronic | 3,206 | 1.36 |
| 11 | 107 | 558.9 | Other and unspecified noninfectious gastroenteritis and colitis | 2,971 | 1.26 |
| 12 | 1 | 466,.0, | Acute bronchitis and bronchiolitis | 2,801 | 1.18 |
| 13 | 391 | 692.9 | Dermatitis; unspecified cause | 2,770 | 1.17 |
| 14 | 151,643 | 493,.9 | Asthma unspecified | 2,690 | 1.14 |
| 15 | 669 | 079.9 | Unspecified viral infection | 2,395 | 1.01 |
| 16 | 695 | 460 | Acute nasopharyngitis | 2,108 | 0.89 |
| 17 | 0 | 780.3,.6 | General symptoms (convulsions, pyrexia) | 1,982 | 0.84 |
| 18 | 1 | 486 | Pneumonia, organism unspecified | 1,874 | 0.79 |
| 19 | 663 | 463 | Acute tonsillitis | 1,645 | 0.70 |
| 20 | 0 | 789.0 | Abdominal pain | 1,579 | 0.67 |
| 21 | 482,572 | 473.9 | Unspecified sinusitis | 1,448 | 0.61 |
| 22 | 362 | 779.3 | Feeding problems in newborn | 1,375 | 0.58 |
| 23 | —[f] | 599.0 | Urinary tract infection; site not specified | 1,216 | 0.51 |
| 24 | 171,678 | 078.1 | Viral warts | 1,108 | 0.47 |
| 25 | 0 | 782.1 | Rash and other nonspecific skin eruption | 1,081 | 0.46 |
| 26 | 649 | 691.0 | Diaper or napkin rash | 1,058 | 0.45 |
| 27 | 534 | 477.9 | Allergic rhinitis, cause unspecified | 1,049 | 0.44 |
| 28 | 627 | 372.30 | Conjunctivitis, unspecified | 1,016 | 0.43 |
| 29 | 0 | 783.4 | Lack of expected normal physiological development | 994 | 0.42 |
| 30 | 1 | 487.1 | Influenza with other respiratory manifestations | 992 | 0.39 |
| 31 | —[f] | 684 | Impetigo | 912 | 0.39 |
| 32 | 255,658 | 112.0 | Candidiasis of mouth | 832 | 0.35 |
| 33 | —[f] | 764.9 | Fetal growth retardation, unspecified | 814 | 0.34 |
| 34 | 434 | 132.0 | Pediculus capitis | 777 | 0.33 |
| Total | | | | 149,621 | 63.23 |

KEY: CT = condition-treatment; ICD-9-CM = International Classification of Diseases, 9th Edition, Clinical Modification; FY = fiscal year.
NOTE: "CT O" is used to designate inconclusive diagnoses to allow reimbursement for diagnostic services.
a Excludes Medicaid beneficiaries enrolled in an HMO or PCO.
b Only 77 percent of claims were available for analysis; total visits were estimated to reflect 100 percent.
c Because age data were missing from some claims, visit totals for some ICD-9-CM codes may differ from those in table 5-17.
d Visit totals maybe greater than those in table 5-17 because additional diagnoses occurred in the under age 18 population.
e Includes codes: 770.7,770.8,769,774.6.
f These codes are missing from the list.

SOURCE: Coopers & Lybrand, San Francisco, CA, unpublished data drawn from paid Oregon Medicaid claims, 1991.

pneumonia are denied care during the demonstration, the result could be tragic. Would hospitals deny the admission or provide the care without compensation?

Other below-the-line CT pairs are less common, but at least five include currently covered life-saving treatments for conditions that have no above-the-line alternative.[68] If effective therapies are available, providers might treat patients with an uncovered potentially fatal disorder, but the lack of a guarantee is worrisome for these individuals. In the FFS sector, providers may "upcode" uncovered CT pairs if *covered* alternatives exist; prepaid providers may absorb the costs of uncovered treatments if they find it cost-effective to do so.

It is especially troublesome that the demonstration's participants would not be guaranteed a minimum package of basic benefits. If a budget

68 These CT pairs include impetigo herpetiformis, myasthenia gravis, Schmidt's syndrome, viral pneumonia and bone marrow transplants for children with non-Hodgkin's lymphoma. (Bone marrow transplants for non-Hodgkin's lymphoma are not currently covered for adults.)

shortfall eliminates coverage for some treatments above CT pair 588, the chances grow that individuals could be harmed from the demonstration. This concern is heightened by OTA's conclusion that the waiver's costs may be underestimated (see ch. 6).

### *The Role of the Delivery System*

How the delivery system is organized is key to whether demonstration participants would receive the benefits to which they would be entitled. Changes in access to primary care would depend, above all else, on provider participation in the demonstration. Oregon's proposal would affect Medicaid beneficiaries' access to almost all health services. In addition to restricting covered services to those falling above CT pair 588, it would lock in most participants to one or a group of health care providers. It is these providers who would play a critical role in each participant's access to basic primary care as well as the most specialized tertiary level services.

Participants' **usual** source of care is certain to differ with implementation of the demonstration, as the uninsured population is brought into the system and many more current eligibles are assigned a managed care provider. Having a specific provider has been associated with greater use of preventive and other health services (2,111231). The response of Oregon Medicaid providers to the new system will be critical. Proponents of Medicaid managed care suggest that it can increase provider participation and improve access to more efficient and effective services (149). Critics of Medicaid managed care argue that it creates strong incentives for underservice. In the case of Oregon, however, the U.S. General Accounting Office has reported that the State has, in its current system, "instituted financial safeguards to prevent financial incentives that would lead to inappropriate reduction in service delivery and quality" (238). As managed care providers are at financial risk for enrollees' use of health services, they should be motivated to encourage preventive care and early access to primary care. But if the rather short-term nature of Medicaid enrollment dissuades Oregon providers from considering the long-term as well as short-term needs of participants, the program may fall short of its goals.

Access to hospital services would change for many of the demonstration participants. The vast majority of Oregon's Medicaid participants currently receive FFS inpatient care. Ultimately, 55 percent of the waiver population maybe enrolled in fully capitated health plans (FCHP) that cover hospital as well as physician services. The State anticipates that, compared with FFS care, expanded FCHP enrollment would yield a 25 percent managed care-related savings in Medicaid expenditures for hospital care, presumably as a result of improved access to primary care and fewer unnecessary hospitalizations (177) (see ch. 6). Hospital stays for below-the-line CT pairs should also decline. Any increase in access to hospital care (e.g., for adult organ transplants) related to implementation of the list should be small for current beneficiaries, although there should be substantial improvement in access to inpatient care for those newly covered under the demonstration.

### *A Critical Evaluation Is Essential 69*

Would Oregon Medicaid participants get the care they need? Would they have to bear an excessive burden in waiting time to get an appointment or travel time to get care? Would there be a sufficient number of Medicaid providers of all necessary types? Unfortunately, there is very little information to rely on to help project the course of the demonstration. It is not yet known how many providers will participate in the Oregon health plan. Nor can we estimate the extent to which participating FCHPs, FFS physicians, hospitals, and others would be willing to provide uncovered services that they deem to be clinically important. These unanswered questions underline the importance of a comprehensive evaluation of Oregon's demonstration should the waiver be granted.

69 See ch. 8 for a discussion of evaluation issues.

Chapter 6

# Demonstration Program Costs

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# Demonstration Program Costs

## INTRODUCTION

Oregon's proposed Medicaid demonstration project is not expected to save program costs during the 5 years of its implementation. The waiver application submitted by the State to the Health Care Financing Administration (HCFA) predicts that the cost of conducting the demonstration (over and above the normal costs of the State's Medicaid program) would be about $25 million during its first year and about $238 million overall (table 6-1).[1] Therefore, over the 5-year project, Oregon predicts that the State must increase its Medicaid expenditures by $95 million and the Federal Government must provide $143 million in matching funds in order to carry out the program (178).

Because State law states that the employer mandate portion of the Oregon Basic Health Services Act will not go forward without the Medicaid demonstration, and because increased employer-based insurance would shift some Medicare as well as Medicaid beneficiaries to private coverage, Oregon counts savings from the employer mandate in its program cost estimates. Over the 5 years of the program, the State projects that the Federal Medicare program would save $34 million due to the employer mandate. Thus, according to the State, overall Federal expenditure increases related to the demonstration would be limited to less than $110 million (see table 6-1) (178).

A critical question for both the State and the Federal Government is whether Oregon has accurately predicted the costs of the demonstration. If the State has overestimated the costs, Medicaid beneficiaries will have been denied services to which they might have had access (because the coverage line might have been set lower on the prioritized list). More importantly, if costs have been underestimated, and the State is unable or unwilling to reallocate State funds to cover the difference, then either: 1) services must be reduced below those the Federal Government is assuming will be available, 2) Federal and State taxpayers must be prepared to pay out additional dollars, or 3) the demonstration must be curtailed. Clearly, the accuracy with which costs have been predicted has implications for Oregonians, for the Federal Government, and for other States interested in similar programs.

This chapter describes the method used by Oregon's contractors to derive the per capita costs that formed the basis for predicting program expenditures associated with the demonstration. (For simplicity's sake, in this chapter assumptions and

**Table 6-l-Oregon's Demonstration Cost Estimate (in millions of dollars)**

| | Year 1 (FY 93) | Year 2 (FY 94) | Year 3 (FY 95) | Year 4[a] (FY 96) | Year 5 (FY 97) | 5-year total |
|---|---|---|---|---|---|---|
| Projected cost of current program | $925.9 | $1,037.1 | $1,180.6 | $1,351.5 | $1,546.7 | $6,041.8 |
| Total program cost under demonstration[b] | 950.8 | 1,093.0 | 1,260,6 | 1,394.0 | 1,581.7 | 6,280.1 |
| Incremental Medicaid cost due to demonstration[c] | 24.9 | 55.9 | 80.0 | 42.5 | 35.0 | 238.3 |
| State Medicaid share | 10.1 | 21.9 | 31.2 | 17.3 | 14.5 | 95.0 |
| Federal costs (Medicaid only)[d] | 14.8 | 34.0 | 48.8 | 25.2 | 20.5 | 143.3 |
| Change in Medicare due to employer mandate | 0.0 | 0.0 | 0.0 | (16.1) | (17.6) | (33.7) |
| Total change in Federal costs | 14.8 | 34.0 | 48.8 | 9.1 | 2.9 | 109.6 |

KEY: FY = fiscal year
a The employer mandate is to take full effect by the fourth year of the demonstration, resulting in a presumed drop in Medicaid (and Medicare) costs in years 4 and 5 of the demonstration due to beneficiary coverage through employers rather than through public programs.
b Total costs of the Oregon Medicaid program, including services to the population not currently inducted under the demonstration.
C Incremental costs of the demonstration presented here do not include the costs of including mental health/chemical dependency services or the costs of services provided to elderly and disabled Medicaid beneficiaries. These services were not included in the original waiver application. Their costs would be separately calculated at the time they would be included under the demonstration.
d Does not include Federal research costs of evaluating the demonstration.

SOURCE: Baaed on data from Oregon Department of Human Resources, Office of Medical Assistance Programs, Salem, OR, The *Oregon* Medicaid *Demonstration Waiver Application*, submitted to the Health Care Financing Administration, Aug. 16, 1991.

[1] The total projected costs of the entire State Medicaid program are $951 million in the first year and nearly $6.3 billion over the 5 years the waiver would be in effect.

analyses made by contractors on behalf of the State are not distinguished from the State's own analyses and assumptions; both are attributed here to the State, which bears the responsibility for them in the waiver application.[2]) The chapter then discusses factors that might affect the per capita estimates, and other factors that might affect the broader estimates of program expenditures as set out in the waiver application. Finally, it draws conclusions about the likely accuracy of the estimates and discusses the implications of costs significantly different from those projected.

## CALCULATING DEMONSTRATION COSTS

### *Overall Demonstration Costs*

***The*** direct incremental costs of the proposed demonstration project are simply the difference between the projected costs of Oregon's Medicaid program with and without the demonstration. These incremental costs are the direct 'price' faced by the State and the Federal Government when undertaking all of the changes the State proposes under the waiver.[3]

In addition to this direct cost, the waiver would result in secondary costs and savings to non-Medicaid programs. Most of these costs/savings would occur as a result of the State mandate for minimum employer benefits that will go into effect only if the waiver is approved. These secondary costs and savings will be discussed later in this chapter.

To calculate the net (incremental) direct costs of the demonstration, Oregon first projected the costs of providing services under current rules to the existing Medicaid population that would be covered by the demonstration: i.e., persons eligible through Aid to Families with Dependent Children (AFDC), and pregnant women and young children with incomes up to 133 percent of the Federal poverty level. The projected costs were then subtracted from the costs of serving these and newly eligible persons under the demonstration program.

**Table 6-2-Oregon's Basic Assumptions for Projecting Costs of the Medicaid Program Under Current Rules (Demonstration Eligibles Only)**

- ***Participation:*** **of those eligible for Medicaid, an estimated 72 percent participate (i.e., enroll in the program). This participation rate will hold steady in the future.**
- ***Caseload*** **for the purposes of this calculation, the relevant caseloads are the expected average number of program enrollees per month. The average number of enrollees per month times 12 is assumed to be the average number of eligibles served per year.**
- ***Inflation:*** **the expected future rate of inflation in per capita costs is the average rate of inflation experienced by the Medicaid program during the past 6 years. Care-specific inflation rates are applied separately to acute and primary care (currently prioritized), mental health/chemical dependency services (to be added to the demonstration in year 2), and long-term care (outside the waiver).**
- ***population growth and composition:*** **the Medicaid caseload will grow by 4.5 percent per year due to population growth and phase-in of older children mandated by Congress (Public Law 101 -508). The overall population will grow at the rate projected by the Census Bureau for Oregon. Children will represent 39 percent of the caseload by year 5.**

**SOURCE: Based on information from Oregon Department of Human Resources, Office of Medical Assistance Programs, Salem, OR, *The Oregon Medicaid Demonstration Waiver Application,* submitted to the Health Care Financing Administration, Aug. 16, 1991.**

Conceptually, projecting program expenditures under current rules is relatively straightforward: it requires assumptions regarding inflation, unemployment, Medicaid participation, and other basic economic and program-specific factors and is subject to uncertainty and error, but the method requires no unusual manipulations. Some of the basic assumptions used in projecting current costs are listed in table 6-2.

Estimating costs over the next ***5 years*** under the demonstration, however, is much more complex. It requires projections regarding how many people will be newly eligible, how quickly they will enroll in the program, how intensely they will use services, and what the cost of the new package of services to be offered will be. The estimate must also account for the broader use of managed care under the demonstration and the administrative costs of implementing the new program.

[2] The State of Oregon contracted with the consulting firm Lewin/ICF, Inc. to provide estimates of caseloads over the course of the demonstration and overall program costs. Coopers & Lybrand was the contractor for the per capita cost analysis.

[3] The cost estimate in the waiver application assumes that all services provided to elderly and disabled Medicaid beneficiaries, and all mental health/chemical dependency services, are outside the demonstration. These costs are part of projected costs of the current program, but they do not affect the incremental demonstration cost calculation. If the waiver were approved, the State would apply for amendments to the waiver to include these additional populations and services, and the estimated incremental costs of including them would be presented to the Federal Government at that time.

To estimate the cost of services under the demonstration, Oregon separated the calculation into four steps:

1. *Estimate the new caseload; the* number of people who would be eligible under the proposal, their participation rate, and the ''uptake' rate-how quickly they would enroll. Basic assumptions regarding demonstration caseload are listed in table 6-3.
2. *Estimate the costs of providing the total package of all 709 condition-treatment (CT) pairs to this caseload. Since* different people have different utilization characteristics (e.g., pregnant women generally use more services than AFDC-qualifying eligibles), estimate these costs separately for each of six different eligibility groups. Final total costs are an average of these separate group-specific costs, weighted for the caseload represented by each group.
3. *Estimate the proportion of total costs represented at different cutoff points on the list, and specifically at line 587—i.e,, the* cost of providing the final covered benefit package for prioritized services.
4. *Add to this "per capita service cost for prioritized services" the cost of providing nonprioritized mental health, chemical dependency, and long-term care services to the demonstration caseload. Since these* costs are not initially prioritized, they must be calculated separately and added to the prioritized benefits to yield the final total cost of services under the demonstration.

**Table 6-3-Oregon's Caseload Assumptions for Projecting Costs of the Demonstration Program**

- **The potentially eligible population-those with incomes up to 100 percent of the Federal poverty level and pregnant women/ young children with incomes up to 133 percent of the poverty level-is deduced largely from the Current Population Survey (U.S. Bureau of the Census), using pooled data from the** 4 years 1985-88.
- **The overall participation rate of the newly eligible population at steady state will be 59 percent.**
- **The participation rate of current and projected pregnant women and children under age 6 will be 72 percent, the current rate.**
- **Full participation will not occur until year 4 of the demonstration. Uptake rates for years 1 through 3 will equal 40,70, and 90 percent of the steady-state participation rate, respectively.**
- **Caseloads are expressed as the expected average number of enrollees per month. The average number of enrollees per month times 12 is assumed to be the average number of enrollees served per year.**
- **Caseload will decline in year 4 with the implementation of the small business health insurance mandate, after which it will grow 2 percent per year due to general population growth. (Participation rates at steady state are assumed not to include caseload decline due to the employer mandate.)**
- **The caseload growth and decline will be uniform throughout all counties.**

**SOURCE: Based on information from Oregon Department of Human Resources, Office of Medical Assistance Programs, Salem, OR, The *Oregon Medicaid Demonstration Waiver Application,* submitted to the Health Care Financing Administration, Aug. 16, 1991.**

## *Per Capita Service Costs*

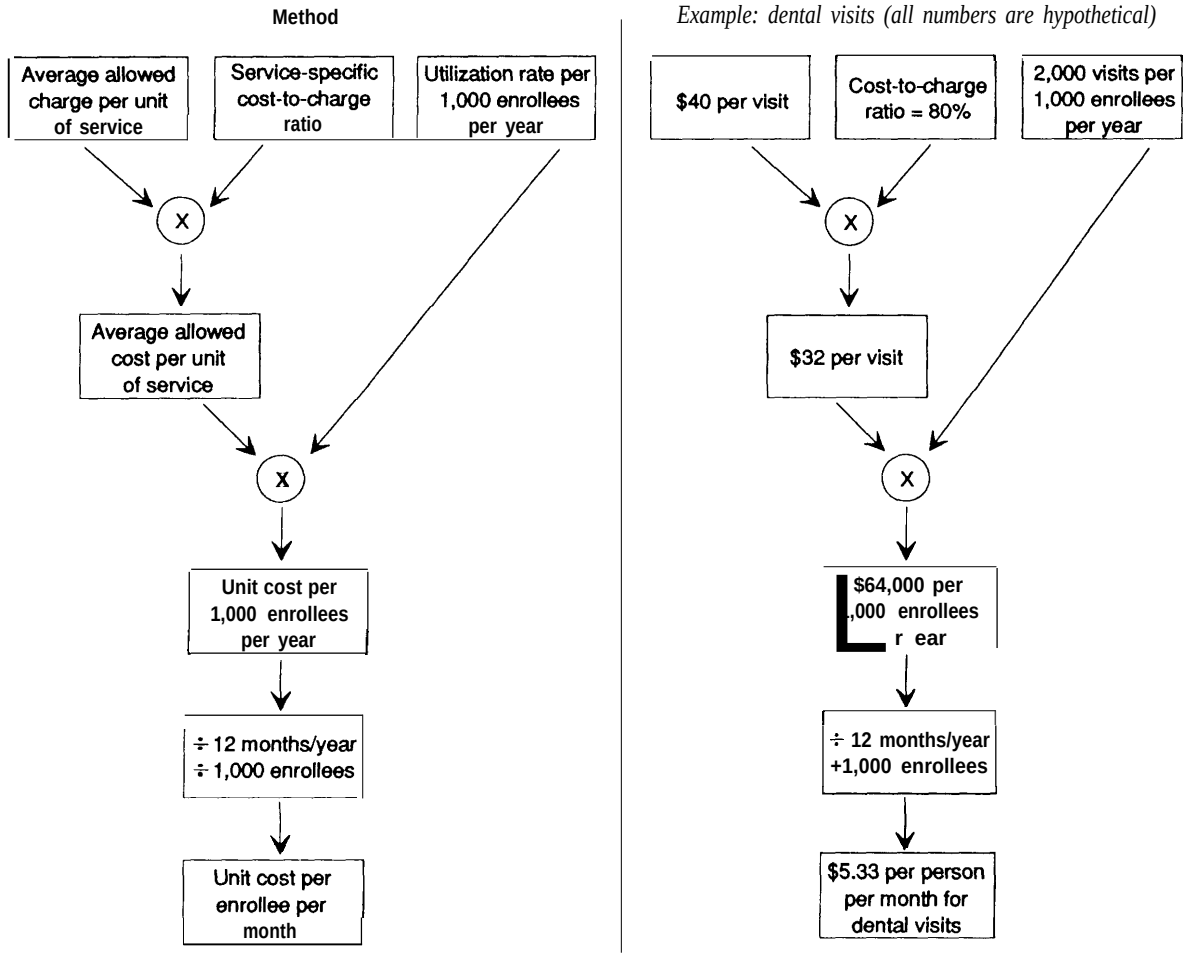
### Calculating Per Capita Costs for All 709 Services

The basic method used by Oregon to calculate the costs of providing all services on the prioritized list is summarized in figure 6-1. For each of 70 categories of service (e.g., anesthesia, emergency room, physician inpatient visits), and for each of six categories of enrollees (e.g., AFDC, new noncategorical eligibles), the State estimated the average per capita monthly cost of providing that service to that enrollee. The overall per capita monthly cost for a given eligibility category was the sum across all 70 services, with an additional allowance for provider administrative costs; the overall per capita monthly cost per enrollee was the weighted average across all six eligibility categories,

The utilization and cost information used to derive the per capita monthly costs were based largely on fee-for-service data (table 6-4). The Medicaid data used, for example, were for fee-for-service utilization for currently eligible groups. Private insurance data was used to estimate utilization for services not currently covered by Medicaid (e.g., hospice care) and to estimate utilization rates for services used by the currently uncovered groups who will be newly eligible under the demonstration. Since all demonstration participants are to be enrolled in some form of managed care, Oregon adjusted the per capita cost to accommodate its assumption, based on its past experience with prepaid managed care, that managed care saves money. Overall savings from this source were assumed to total $225 million over the 5 years of the demonstration. Most of the savings was assumed to accrue through lower emergency room and hospital inpatient utilization.

**Figure 6-1—Per Capita Cost Calculation for the Full List**

STEP 1. CALCULATE PER CAPITA COST PER SERVICE (repeat for each of 70 services)




**STEP 2. CALCULATE TOTAL PER CAPITA COSTS**

a Sum per capita cost across all 70 services for each eligibility group.
b. Add provider administrative costs for enrollees in fully capitated health plans (assume equal to 6% of total costs).
c. Total per capita cost for each eligibility group.
d. Average costs across all 6 eligibility groups, weighting according to expected caseload.
e. Average per capita cost per month per enrollee= $145.15,

SOURCE: Office of Technology Assessment, 1992; based on data from Oregon Department of Human Resources, Office of Medical Assistance Programs, Salem OR, *The Oregon Medicaid Demonstration Waiver Application,* submitted to the Health Care Financing Administration, Aug. 16, 1991.

**Table 6-4--Sources of Data for Oregon's Per Capita Cost Calculation**

| Data source | Use in calculation |
|---|---|
| Blue Shield *of* California claims data | Primary data source for allocating costs to condition-treatment pairs. Source of service-specific charge data. Source for utilization data of services not currently covered. |
| Blue Cross/Blue Shield of Oregon claims data | Comparative charge data used to adjust California data (which is a larger sample) for Oregon charges for nonhospital services. |
| Oregon Medicaid Management Information System | Source of utilization data for services and eligibility groups currently covered by Medicaid. |
| Hospital information from California Office of Statewide Health Planning, Oregon Office of Health Policy | Used to calculate cost-to-charge ratios for hospital services (inpatient and outpatient combined). (Data from Medicare Cost Reports considered not reliable because calculated ratios were below 50 percent.) |
| Physician-provided information on average compensation levels and overhead costs | Used as basis for rough estimate that cost-to-charge ratio for primary care physician services was no higher than 80 percent. (Specific data sources included American Medical Association, Warren Surveys, and Medical Group Management Association.) |
| Resource-based relative value scale | Used to calculate rest-to-charge ratios for physician services relative to primary care physicians. |
| Information on existing managed care contracts | Used to estimate cost-to-charge ratio for primary care services based on "market rate," |
| Oregon State University-provided information | Used to estimate costs associated with dispensing prescription drugs. |
| Oregon Dental Association | Overhead costs of dentists. |

SOURCE: Office of Technology Assessment, 1992. Based on data from Oregon Department of Human Resources, Office of Medical Assistance Programs, Salem, OR, The *Oregon Medicaid Demonstration Waiver Application* (app. D), submitted to the Health Care Financing Administration, Aug. 16, 1991; S. Hunt, Coopers & Lybrand, San Francisco, CA, personal communication, Jan. 6, 1992.

### Calculating Threshold-Specific Per Capita Costs

Because the legislature was unlikely to fired the entire list, the State also calculated the proportion of costs represented by different "thresholds" on the list. In contrast to the all-list per capita cost calculation, the threshold-specific calculation required actually mapping existing medical claims data (i.e., utilization and cost data) to specific CT pairs. Table 6-5 presents an overview of the threshold-specific cost calculation.

Mapping claims data to CT pairs proved to be a difficult task. CT pairs are defined in part by CPT-4[4] procedure codes, the codes physicians use to specify their services, and in part by ICD-9-CM[5] codes, which hospitals use to assign diagnoses to patients.[6] But these diagnosis (i.e., condition) and procedure (i.e., treatment) codes are often not unique to individual CT pairs; some pairs, for example, have the same condition appearing at different places on the list with different medical and surgical treatments (see ch. 3). In addition, many health care products and services-e. g., laboratory tests, therapy visits, and prescription drugs--could apply to almost every CT pair.

Since diagnostic services for any condition are to be covered regardless of whether treatment is covered, as a first step in code assignment all CPT-4 codes for diagnostic procedures were assigned to a hypothetical "CT pair O." Codes for therapeutic procedures, and services with no specific codes, were then assigned to specific CT pairs according to the basic decision rules outlined in table 6-6.

Once all claims had been assigned to CT pairs, the State could calculate the proportion of total list costs represented by each CT pair. The actual estimated cost of any given CT pair was then the percentage of costs represented by that pair, multiplied by $145.15 (the total cost as calculated by the method described above).

The final step was to determine threshold-specific cumulative costs. For any given threshold on the list (e.g., line 587), the State summed the costs of all individual CT pairs up to and including that line. It then made two specific adjustments. Both adjust-

[4] Current Procedural **Terminology, 4th Edition.**

5 International Classification of Diseases, 9th Edition, Clinical Modification.

**6 Dental codes are also used for CT pairs that include dental services.**

**Table 6-5--Oregon's Method for Estimating Threshold-Specific Costs**

1. Assemble private insurance data on utilization and charges according to ICD-9-CM diagnostic and CPT-4 procedure codes
2. Adjust billed charges to reflect Oregon providers' actual costs
3. Adjust utilization to reflect lower income population (e.g., more high-risk maternity cases)
4. Allocate claims data to appropriate condition-treatment (CT) pairs based on ICD-9-CM/CPT-4 codes (see table 6-6)
5. Calculate cost for each CT pair (= percent of total costs represented by that pair x $145.15 [from full-list per capita cost calculation])
6. Calculate cumulative threshold-specific costs at various thresholds
   - Sum costs of individual CT pairs above threshold
   - Apply CT-specific substitutions as suggested by the Health Service Commission
   - Assume that 15 percent of all rests below the threshold will be "upcoded"

SOURCE: Office of Technology Assessment, 1992. Based on data from Oregon Department of Human Resources, Office of Medical Assistance Programs, Salem, OR, *The Oregon Medicaid Demonstration Waiver Application,* submitted to the Health Care Financing Administration, Aug. 16, 1991.

**Table 6-6-Basic Rules and Assumptions Used to Assign Claims to Condition-Treatment (CT) Pairs**

| Decision steps/assumptions |
|---|
| 1. *Prepare data* |
| . Identify claims with codes that can and cannot be matched to codes specified in CT pairs |
| 2. *Assign claims with matching codes (i.e., claims for medical and surgical therapies)* |
| • Assign each surgical claim to relevant surgical CT pair |
| • Assign each medical claim with only one relevant CT pair to that pair |
| • Assign each medical claim with either multiple medical or multiple surgical matching CT pairs proportionately to relevant pairs |
| • Assign each medical claim with multiple matching CT pairs that include both surgical and medical therapies so that 90 percent of claim is distributed evenly among medical CT pairs and 10 percent of claim is distributed evenly among surgical CT pairs |
| • Summarize total treatment costs assigned to each CT pair on the list at the end of above steps |
| 3. *Assign claims for ancillary services (which cannot be matched to specific pairs)* |
| • Summarize each claim by ICD-9-CM code and identify all possible CT pairs that include that code |
| • Total the existing dollars (from medical/surgical claims) already assigned to each of the possible pair matches and calculate the proportion of treatment dollars represented by each CT pair for that ICD-9 code |
| • Allocate the ancillary costs for that ICD-9-CM code among the possible CT pairs according to the percentage of treatment costs for that code in each pair |
| • Repeat for each ancillary-related ICD-9-CM code |
| • Summarize total treatment and ancillary costs assigned to each CT pair on the list |
| 4. *Assign claims for other services that cannot be matched to specific pairs* |
| . Total the claims for prescription drugs and assign to CT pairs so that drug costs equal 7 percent of total costs for each pair |
| . Assign a cost to "comfort care" CT pairs on the assumption that this cost equals 0.5 percent of total costs |

SOURCE: Office of Technology Assessment, 1992. Based on information in Oregon Department of Human Resources, Office of Medical Assistance Programs, Salem, OR, The *Oregon Meal&id Demonstration Waiver Application,* submitted to the Health Care Financing Administration, Aug. 16, 1991; app. D.

ments were made under the assumption that if low CT pairs were not covered, some treatments that would otherwise appear low would be replaced by substitute treatments in or assigned to higher, covered CT pairs.

First, the State considered a list of services provided by the Health Services Commission (HSC) in which the Commission considered that one service (i.e., high on the list) could be substituted in whole or in part for another that was lower on the list (table 6-7). For any given threshold, the State assigned substitutable costs from lower (i.e., below-threshold) to higher (above-threshold) CT pairs. In other words, it was assumed that any patient needing one of these ''substitutable' services appearing below the cutoff line would gain coverage by receiving the substitute service above the line.

Second, the State assumed that regardless of the cutoff line, a certain amount of uncovered services would be redefined and assigned by the provider to covered CT pairs. Some of these cases might be additional cases of substituting one treatment for another, but in other cases the provider might simply define the otherwise uncovered service in such away that it could legitimately appear to fall into a covered CT pair. (Such "upcoding" could occur in response to a desire to gain payment for the service, but it could also be a natural result of physicians trying to ensure that patients receive the services they are perceived to need.) For each threshold calculated, the State assumed that 15 percent of the costs of services below that threshold would be redefined by providers in such a way as to fall into CT pairs above the threshold.

Table 6-8 presents the estimated per capita costs applicable at various thresholds. Because all diagnostic services are assumed to be covered, and because many high-cost or high-utilization services are ranked near the top of the list, per capita costs accumulate rapidly. Even at a threshold set at CT pair 200, for example, the State estimates that 60

**Table 6-7-Substitute Services Used in t he Threshold-Specific Cost Calculation**

| Line substituted | | Percentage of service costs of "substitute from" line assumed to be substitutable |
|---|---|---|
| From: | To: | |
| 209 | **189** | 100"/0 |
| 277 | **200** | 100 |
| 279 | **118** | 5 |
| 291 | 1 | 5 |
| 293 | **53** | 10 |
| 307 | **181** | 100 |
| 309 | **21** | 100 |
| 365 | **124** | 100 |
| 367 | **95** | 50 |
| 367 | **246** | 50 |
| 368 | **126** | **100** |
| 388 | **253** | 5 |
| 397 | **355** | 50 |
| 415 | **253** | 10 |
| 444 | **64** | 9 |
| 483 | **399** | 5 |
| 492 | **385** | 20 |
| 497 | **385** | 20 |
| 502 | **450** | 20 |
| 532 | **467** | 10 |
| 535 | **445** | 100 |
| 564 | **460** | 20 |
| 588 | 83 | 5 |
| 615 | 159 | 20 |
| 624 | 450 | 5 |
| 637 | 446 | 20 |
| 637 | 447 | 20 |
| 660 | 64 | 5 |
| 686 | 18 | 1 |
| 691 | 239 | 20 |

NOTE: "Line" refers to condition-treatment pair on prioritized list. Substitutes below shaded line are those that are assumed to occur at the 587 threshold determined by the Oregon legislature.

SOURCE: Adapted from P.R. Sipes-Metzler, Oregon Health Services Commission, memorandum to S. Hunt, Coopers& Lybrand, San Francisco, CA, Mar. 15, 1991.

percent of all the costs represented by providing services on the list would be incurred.

# FACTORS AFFECTING COSTS

## *Caseload Assumptions*

One of the most basic and critical assumptions underlying Oregon's analysis of the cost of its proposed demonstration project is the estimate of how many people would be served under the new plan.

### Number of Eligibles

To estimate the number of State residents who would qualify for medical assistance under the demonstration, Oregon relied on pooled estimates from several years worth of data from the Oregon

**Table 6-6-Estimated Per Capita Costs and Percent of Total List Costs at Selected Threshold** "Lines" (program startup)

| Threshold[a] | Per capita cost | Percent of total costs |
|---|---|---|
| 200 | $87.12 | 60.O% |
| 365 | 102.26 | 70.5 |
| 478 | 117.21 | 80.8 |
| 585 | 127.01 | 87.5 |
| 640 | 134.61 | 92.7 |
| 709 | 145.15 | 100.0 |

a Threshold is condition-treatment pair below which services would not be covered.

SOURCE: Based on data from Oregon Department of Human Resources, Office of Medical Assistance Programs, Salem, OR, The *Oregon Medicaid Demonstration Waiver Application,* submitted to the Health Care Financing Administration, Aug. 16, 1991.

subsample of the Current Population Survey (CPS), a national survey undertaken by the U.S. Bureau of the Census. Since any survey has a degree of uncertainty in its estimates, pooling several years worth of data is a common measure to increase accuracy.

Projecting the future number of people with incomes below the poverty level also depends on assumptions regarding the economy and the number of people who cannot find work. For its estimated eligibles through the 5 years of the demonstration, the State assumed a constant unemployment rate equal to the average U.S. unemployment rate during 1985-88-that is, the rate applicable during the period represented by the CPS data used as the basis of caseload calculations. Again, it is impossible to say that this assumption is too high or too low for Oregon in the 1990s, but if reality is significantly different the number of people eligible to participate could be very different from the prediction.

One important assumption regarding future caseload is the assumption that people currently eligible will be eligible for the demonstration in roughly the same numbers as they were in the late 1980s, with a small increase allowed for general population growth. Recent information indicates that the Medicaid population in 1991 is much larger than expected (38). Unless this upsurge in persons eligible under current rules disappears by mid-1992, the demonstration caseload estimates probably underestimate the true initial caseloads that will occur. This larger caseload would increase the total costs of the Medicaid program under the demonstration (though it would not necessarily increase the net costs of the demonstration, since program costs would be higher

than originally predicted regardless of whether the demonstration was approved).

Participation Rate

The proportion of eligible individuals who will actually participate in the program depends on two factors: the underlying participation rate at steady state, and the length of time it takes for individuals to learn about their eligibility and decide to enroll (the *uptake rate).*

Oregon has assumed that, at program steady state, the base participation rate under the demonstration for existing eligibility categories will be the same as in the existing program (72 percent). For newly eligible individuals, the State adjusted this base rate for differences in demographic characteristics between current and new eligible groups-that is, differences in age, sex, family composition, income, and employment status (177). The adjustment also accounted for differences in insurance status. (This adjustment implicitly assumes that more of the newly eligible population will be covered under private insurance.) The net result is that newly eligible persons are projected to have only 59 percent participation in the program (177).

These participation assumptions may be low. Broader studies of Medicaid programs throughout the United States have found participation to average 76 percent (95). If Oregon has underestimated both the speed of implementation and the participation rate of new eligibles in private insurance plans, then participation may be much higher than 59 percent among new eligibles.

The State expects that it would take several years to reach these steady-state participation rates. Uptake into the program is assumed to be 40 percent in the first year and 70,90, and 100 percent in years 2, 3, and 4 of the demonstration, respectively. Thus, the full expected participation rate for new eligibles is not predicted to be achieved until the fourth year the new program is in place.[7]

The uptake rates could be a slight underestimate if the unusual level of publicity received by the proposal resulted in faster-than-usual enrollment of eligible individuals. Also, according to the Congressional Budget Office (CBO), national Medicaid estimates usually assume a faster uptake rate for new programs, with 100 percent uptake (i.e., steady-state participation rate) reached by year 3 (237).

Oregon performed sensitivity analyses on its participation and uptake assumptions. If, as the above discussion implies, the baseline assumptions understate what might actually occur, these sensitivity analyses can give some sense of the magnitude of costs affected by their use.

According to the State's analysis, assuming that new-eligible participation is 69 rather than 59 percent raises the net demonstration costs by 37 percent (or $75 million). Assuming a faster uptake of that population (50, 80, and 100 percent in years 1, 2, and 3) raises net costs by 16 percent ($33 million). Participation and uptake rates that were higher than baseline but lower than the 'upper bound' rates that Oregon's sensitivity analysis examined would result in less dramatic cost increases.

The State did not perform a sensitivity analysis on both high-rate and high-uptake assumptions simultaneously. Since uptake and participation may interact, the effect of both high assumptions occurring simultaneously cannot be estimated without the model. Even without interactive effects, however, the simple effect of both assumptions in place would probably beat least $108 million ($75 million + $33 million), or an increase of over 50 percent in net demonstration costs.

### *Utilization Assumptions*

Most of the basic utilization assumptions derive from the inherent characteristics of the data sources used to estimate utilization under the demonstration. Oregon Medicaid claims data were used to estimate future utilization by current eligibles and new categorical-type eligibles and for currently covered services; in this case, the underlying assumption is that utilization for this group and these services will be unchanged. Blue Shield of California data were used for estimates of utilization of new services and for noncategorical groups newly eligible under the demonstration.[8]

If unadjusted, the use of the Blue Shield data would assume that this population would use services at the same rate as privately insured

7 It is not entirely clear from the waiver application whether these uptake rates apply only to the newly eligible population but State Medicaid officials confirm that they do (2 12).

[8] Blue Cross/Blue Shield of Oregon data were used to adjust the more comprehensive California data for State-specific differences.

individuals. The State, recognizing that it is unlikely that poor individuals who have newly received access to publicly financed health care will use services at the same rate as individuals with private insurance, adjusted the Blue Shield data to reflect certain additional assumptions about how the two populations might differ. For example, the newly eligible population should include very few pregnant women and young children, since these groups are eligible up to 133 percent of the poverty level under current rules.

In addition, the State assumed that the newly eligible Medicaid population would be both younger and have a higher prevalence of males than a standard commercially insured population. It translated this assumption into a quantitative assumption that, even after maternity and newborn claims were removed, the newly eligible population would incur health care costs of only 89 percent of what the Blue Shield population incurred. Total "list" costs for new eligibles were adjusted downward accordingly.

These adjustments to the Blue Shield data all assume that the newly eligible Medicaid population will, by nature of its demographics, use fewer services and incur fewer costs than a standard privately insured population. This assumption is a reasonable one for program steady state. What is not known, however, is the extent of 'pent-up demand' for services that may exist in the first few years of a new program targeted to a previously uninsured population. If newly eligible persons have preexisting health problems that have gone untreated while these individuals were uninsured, demonstration program costs could be higher than estimated.[9]

### *Assumptions Relating to CT Pair Assignment*

To translate existing data into the proper form for projecting demonstration costs, Oregon assigned codes for services (and associated costs) from past claims to the CT pairs on the new list that appeared to best correspond. Assigning codes correctly to the appropriate pairs above and below the line is crucial to correctly estimating the cost of covered services.

The State faced potential coding assignment errors at three different levels. First, codes could have been ''incomectly' assigned to CT pairs in the list as it stood at the time of code assignment (e.g., because of the ambiguities in how to allocate many services across CT pairs). Second, the list--or rules for assigning codes--could change after the cost estimate was made but before the program was implemented. And third, when the list is implemented, providers may code services differently than the actuaries did at the time the list was "costed." Each of these potential errors can affect whether the estimated cost of providing services through line 587 would bean accurate projection of final program costs.

#### Coding Assignment at the Time the List Was "Costed"

Given the inherent uncertainties in translating codes to CT pairs, Oregon's method for doing so appears basically sound. Treatment codes were matched as well as possible; ancillary codes were assigned proportionately to relevant pairs based on accompanying diagnosis; and drugs, for which claims carry no accompanying diagnosis, were distributed proportionately across the entire list.

Nonetheless, the inherent uncertainties remain, and the resulting cost estimates could be either exaggerated or understated. For example, it could be that in fact drugs would be prescribed disproportionately for CT pairs above line 587. If this were the case, the costs of treating patients with covered services would have been underestimated. Clearly, the converse can also be true. Neither the magnitude nor the direction of any possible error can be estimated based on existing data and analyses.

Similarly, the State's judgment regarding which diagnostic codes should be assigned to a hypothetical ''CT pair O' (and covered regardless of the cutoff threshold on the list) could result in under- or overestimates of cost. A particularly sensitive issue is whether hospital diagnostic procedures will in fact be covered when the condition ultimately established as the diagnosis lies below the line. Hospital Medicaid bills (which in Oregon are based on diagnosis-related groups) do not distinguish between services performed before and after the diagnosis is made, and all but hospitals participating

[9] **Oregon recognized the possibility of "pent-up demand' but assumed that any subpopulation of new eligibles with higher-than-expected utilization would be balanced by subpopulations with little** demand, and by low demand resulting from the time it would take new enrollees to ''learn the system. ' It seems to OTA, however, that the result will still not quite balance. The underlying data from the commercial insurance population already account for ''no demand' eligibles in their own averages, and the fact that new enrollees must learn the system simply postpones, rather than eliminates, their expected utilization.

in fully capitated plans would still bill separately for services. The State plans to devise an administrative mechanism to address this problem (212), but the solution may take time to implement and could entail its own problems. Until then, the Medicaid program must either overpay for services (e.g., by paying for any hospital service performed during the initial stay that includes the diagnostic workup), underpay for services (by denying payment for diagnostic services accompanying bills for below-the-line procedures), or incur high administrative costs (in order to estimate what proportion of the hospital bill is related to diagnostic services).

### Coding Errors in the Initial List

The prioritized list used by Oregon's contractors and by the legislature was not exactly the list that will be implemented when and if the demonstration begins. Although the number and order of CT pairs have not changed since the HSC transmitted the list to the legislature, the HSC has made technical corrections to the list as code- and service-specific errors have become apparent. These technical corrections could have implications for the accuracy of the cost analysis.

One type of technical 'error' lay in unintentionally omitting codes from the list. Those codes must still be assigned to CT pairs, since the list is to be a comprehensive one. The original code allocation method used in costing various thresholds on the list essentially assumed that services with unmatched codes were spread proportionately throughout the entire list. If, after correcting the list, these codes and their associated costs are disproportionately placed above line 587, costs will have been underestimated. Conversely, assigning more "missing" codes to CT pairs below the line will result in the cost estimate for covered services being too high.

Other codes may have appeared on the list used by the State's contractors in the cost analysis, but they may have appeared in incorrect CT pairs. For example, the HSC has informed the Office of Technology Assessment (OTA) that some above-the-line codes that appeared to be new benefits (e.g., tissue expanders) were not intended to be benefits for many of the conditions with which they are currently associated on the list, and they may be reassigned to CT pairs below the line (35). Other codes that appear in CT pairs that are below the line (e.g., codes for medical therapy for myasthenia gravis) might at some point, according to the HSC, be moved up to covered CT pairs (1 19).

Regardless of whether codes are added or moved between CT pairs, the result is that the list that providers must follow would not be identical to the list that was used in the cost analysis. No technical corrections were final as of March 1992, so again their impact on costs cannot be assessed in either magnitude or direction. However, if in the final technical corrections costs associated with added or shifted codes are disproportionately assigned to covered CT pairs, the result will be higher program costs than anticipated. (The converse may also be true, but it seems to OTA to be less likely.)

### Provider Coding

Many medical diagnoses are not clear-cut and distinct, and a patient may frequently fit logically into more than one diagnostic category. A patient with ill-defined breathing difficulties, for example, might sometimes legitimately be considered to have either chronic bronchitis or emphysema. Similarly, a patient with terminal cancer who is in respiratory failure might be described according to either the immediate problem or the underlying disease.

In each of these examples, one service (treatment for chronic bronchitis; aggressive therapy for terminal cancer) lies below the line and is uncovered, while the other (respiratory failure; emphysema) ranks higher and would be covered. Given the prioritized list as it currently stands, and absent any additional instructions or information, clinicians could legitimately choose to categorize patients into either covered or uncovered CT pairs. (The State is developing instructions for using the prioritized list, but the breadth and extent of detail to be included is not known.)

Oregon's method for allocating services for the purposes of costing the list generally assumes that physicians are neutral to financial and emotional incentives when coding the services they provide. However, the State did make one major adjustment to accommodate any changes in coding practice that might affect coverage. It assumed that 15 percent of the costs of services that would be uncovered under current medical and coding practice would be coded into covered CT pairs under the demonstration and paid accordingly (177). Of this 15 percent, 10 percent was assumed to result from general changes in medical practice and coding decisions, and the

remaining 5 percent was assumed to result from the continued prescribing of drugs for uncovered conditions (which cannot be monitored easily) (98).

Some allowance for changes in coding practice (and medical practice) as a result of implementing the list is certainly appropriate. It is impossible to say whether 15 percent would be the correct amount in reality, particularly since the State has not yet developed either detailed CT pair assignment instructions or methods for scrutinizing suspect categorization. Given the strong financial incentives to receive payment for specific services provided in the fee-for-service sector, changes in coding practice may be greater than 15 percent for the patients served outside of prepaid managed care. Prepaid providers have no financial incentive to "upcode," however, since for them upcoding is not directly linked to increased payment. Increased use of above-the-line services in the prepaid sector would be limited to actual service substitutions and any desire of physicians to justify certain services to their own administrators. Thus, the 15 percent assumption seems a reasonable middle 'best guess. The actual percentage could be lower if managed care providers are especially successful at eliminating the use of therapies associated with uncovered CT pairs; it could be higher if they are not successful at controlling such prescribing or if Oregon fails to meet its goal of enrolling the majority of eligible Medicaid beneficiaries in prepaid managed care (see below).

## *Delivery System Assumptions*

***The*** basic method used to derive costs was based on fee-for-service data. Oregon's demonstration, however, proposes that all Medicaid demonstration enrollees will be in some form of managed care, and three-fourths will be enrolled in prepaid plans. The State assumes that managed care will be associated with substantial cost savings over what fee-for-service expenditures would have been. Specific savings assumptions, as presented in the waiver application, are summarized in table 6-9.

### Savings Associated With Managed Care

The assumption that managed care (particularly prepaid managed care) lowers health care costs is the major premise behind its increasing use in Medicaid programs. Oregon assumes in its cost estimate that primary care case management will save some costs, primarily through averted emergency room use and hospital admissions. Prepaid care is assumed to have an even greater effect on hospital-associated savings and have some general efficiency-related cost savings as well.

Oregon's savings assumptions for managed care are based on its own experience with Medicaid managed care over the past few years. An analysis performed on the State's behalf estimated program savings during the 3½ year period from March 1985 through September 1988. It found that although program costs increased during the frost 6 months of the managed care program, savings were positive and increasing in each of the succeeding 3 years (41).

**Table** 6-9-Savings Assumptions **for Managed Care**
**(savings compared with fee-for-service scenario)**

| Type of provider | Percent savings[a] | Enrollees to whom savings apply |
|---|---|---|
| Fully capitated health plan. . . . . | 25% | AFDC, PLM, new eligibles |
| | 12.5% | GA |
| Partially cavitated health plan. . . . . | 13% | AFDC, PLM, new eligibles |
| | 6% | |
| | (6% average for all enrollees and services) | |
| Primary care case management . . . . . | 9% | AFDC, PLM, new eligibles |
| | 4.5% | GA |
| | (4% average for all enrollees and services) | |

KEY: AFDC = Aid to Families with Dependent Children; PLM = poverty-level pregnant women and children (incomes up to 133% of the Federal poverty level); GA = State general assistance eligibles.
a Savings apply t. all hospital care except maternity and newborn care. Medicaid maternity/newborn care is already case-managed. Physician and pharmacy services for general assistance enrollees are also case-managed.

SOURCE: Based on data from Oregon Department of Human Resources, Office of Medical Assistance Programs, Salem, OR, *The Oregon Medicaid Demonstration Waiver Application*, submitted to the Health Care Financing Administration, Aug. 16, 1991; L. Read, Office of Medical Assistance Programs, Salem, OR, personal communication, Jan. 16, 1992.

Studies of other Medicaid managed care demonstration projects have found some promising effects. An analysis of six Medicaid projects found that utilization did decrease, particularly emergency room utilization, but that cost savings were more difficult to achieve, particularly in the frost year of the demonstrations (72). A detailed analysis of Utah's Medicaid managed care program (which included both prepaid and case-managed fee-for-service components) found that the program decreased hospital outpatient utilization (including emergency room use) but increased use of primary care, specialist, and prescription drug services (130). Consequently, costs for ambulatory care in this program increased in the early years of the program.

The Congressional Budget Office (CBO) found that Oregon's savings assumptions for the various forms of managed care were generally higher than used in national estimates based on existing studies (237). CBO concluded that Oregon's savings assumptions for managed care may be optimistic. The State is confident that its past experience with Medicaid managed care makes its savings assumptions realistic (212). Still, if managed care savings under the demonstration were to differ from those assumed in the cost estimate, the literature suggests that the error would be in the direction of overestimating savings and underestimating costs.

## Implementation of Managed Care[10]

Managed care savings in the demonstration project are predicated on the assumption that a managed care system will be fully in place by the end of the first year of the new program. Meeting this goal is probably the greatest challenge to realizing the expected savings from managed care.

The greatest expected savings are to come from fully capitated prepaid care plans. Fewer than 12,000 Medicaid beneficiaries are currently enrolled in such a plan; under the waiver, over 100,000 beneficiaries are to be fidl-cavitation enrollees. The General Accounting Office has expressed skepticism regarding whether Oregon's current partially capitated Medicaid providers can organize and contract sufficiently quickly to meet this goal (238). Nonetheless, the State believes it is on schedule thus far for the expansion of fully capitated care (212).[11]

In addition to greatly expanding its contracts with fully capitated plans, the State must recruit more providers into partially capitated plans and recruit primary care case managers for the 18 rural counties of the State that are expected to be predominately fee-for-service. Health personnel shortages and the need to negotiate with public health departments and federally qualified health clinics in these counties may make recruiting case managers difficult and time-consuming (see ch. 4). Again,the State believes it is on schedule for its overall managed care expansions. If the expansion continues in a timely manner, assumptions based on managed care savings will be reasonable. Any future delay in implementation, however, would cause costs to be higher than predicted.

Any unexpected variation in the numbers of enrollees could increase (or diminish) the problem. For instance, the State assumes a uniform increase in eligible persons over time in all counties. If, due to high local unemployment or other reasons, Medicaid enrollment in certain counties were higher than the predicted average, these counties must attract more Medicaid managed care providers to fill the demand. This problem may be particularly acute in rural counties, where physicians are sometimes in short supply and primary care case management may take some time to implement in any case.

After the frost year, continued participation of both prepaid providers and primary care case managers may depend in part on whether providers continue to consider payment rates to be adequate to cover their own individual costs (see ch. 4). Continued participation would also depend on the degree of administrative costs and difficulties the providers incur. Again, if providers remain satisfied with their payments and responsibilities, Oregon's baseline cost estimate would remain valid. If they become dissatisfied, however, the result would almost certainly be to increase program costs. Constraining payment rates below what providers would be willing to accept might decrease participation, reducing the possibilities for savings through managed care. Raising rates, on the other hand, would raise program costs in its own right. Thus, for both initial provider recruitment and long-term provider

10 See ch. 4 for a more detailed discussion of the proposed managed care system.

11 The Oregon Medicaid program has letters of intent to participate as fully capitated health plans from plans with an identified start-up capacity of 158,200 enrollees (212).

participation, uncertainties operate in the direction of increasing program costs.

### *Other Program-Specific Assumptions*

#### Demonstration Administration and Management

A critical component of the original State legislation authorizing the demonstration, Senate Bill (SB) 27, was that unexpected program cost increases could be controlled by decreasing benefit coverage for enrollees. In 1993 and 1995, the State legislature meets and can, if it chooses, establish a threshold either higher or lower than CT pair 587 on the prioritized list. If costs in the interim have been higher than expected, the legislature might choose to reduce benefits to bring future costs in line with projected expenditures.

In addition, SB 27 made provisions for costs exceeding the allotted budget in the midst of the 2-year budget cycle. If, for example, it became apparent in the fall of 1994 that costs were to greatly exceed appropriated funds for the 1993-95 period, the State could reduce benefits as necessary (subject, presumably, to some level of Health Care Financing Administration (HCFA) oversight in the context of the Federal waiver). Alternatively, the State emergency fired overseers could choose to allocate funds to make up the difference if those funds were available.

A critical question is how rapidly the State could reduce expenses in mid-cycle by restricting benefits, and what the consequence of such a reduction would be. For fee-for-service providers, reducing benefits would simply mean that from that time forward, providing these services brings no payment. For prepaid providers, the model contract proposed by the State allows the State to lower the benefit package, if necessary, within 60 days of legislative approval of the change in benefits (174). The cavitation rate would be lowered to reflect the change in benefits. Prepaid providers could withdraw from participation in the program if these events occurred. In the long run, the effect of mid-cycle benefit reductions (if they occur) on program costs would thus depend heavily on whether prepaid providers withdraw their participation in the program, endangering anticipated managed care savings.

#### Health Care Cost Inflation

Any projection of costs forward in time requires some assumption regarding underlying cost inflation. Oregon assumed that Medicaid costs in any given sector (e.g., acute care, long-term care) would rise in the future at the same underlying rate as that actually experienced in recent years. This rate was calculated as the average actual and estimated program cost increases in that sector during the years 1987-91, with some additional adjustments to specifically address hospital trends for 1991-93 (212).

This approach is a reasonable and simple one, given the level of uncertainty in any forecast. Nonetheless, under- or overestimating the underlying rate of inflation could have a major effect on the difference between real and expected program costs. If, for example, costs have been increasing *at an increasing rate,* projecting forward an average of past inflation rates would probably underestimate future inflation.

In fact, nationally, this appears to be the case. The Consumer Price Index for medical care rose from a 6.6 percent increase in prices during 1987 to a 7.7 percent increase in 1989 and increases of 8.5, 9.0, and 9.3 percent in the frost three quarters of 1990, respectively (127). If Oregon's Medicaid expenditures have followed a similar pattern, future cost inflation may have been underestimated in the analysis.

### *Assumptions Affecting Nonprogram Costs*

#### Medicare Costs

Oregon's cost analysis includes an assumption that the implementation of the demonstration will reduce Federal Medicare expenditures by $33.7 million. The savings in this case would derive not directly from the Medicaid demonstration but as a consequence of the associated mandated health insurance program for small employers, which is to be implemented only if the Medicaid demonstration goes forward (see ch. 2). SB 27 required that all Medicare beneficiaries who are employed by qualifying firms will become covered under this insurance program, making Medicare a secondary payor.

The demonstration itself may also have some effect on Medicare costs by increasing Medicare disproportionate share payments to hospitals. At present, Medicare hospital reimbursements on behalf of its own beneficiaries include an adjustment

that is intended to compensate certain hospitals for extra costs associated with serving a disproportionately low-income patient population. The amount of this adjustment depends on the size and location of a hospital and the proportion of its patient days attributed to Medicare Supplemental Security Income recipients *and Medicaid beneficiaries.* Thus, as the proportion of hospital patients enrolled in Medicaid increases, Medicare payments also increase. Covering previously uninsured patients under Medicaid, as the demonstration proposes, will raise Medicare hospital payments unless accompanied by a proportionate decrease in Medicaid hospital stays due to managed care.

(Medicaid itself also makes payments to disproportionate share hospitals, although States are permitted some leeway in defining which hospitals are eligible for payments and how much additional payment they receive. It is not clear what effect a greater Medicaid-covered population will have on Oregon Medicaid payments, since many hospital stays will be covered under prepaid cavitation contracts and Oregon could choose to change payment rules to offset anticipated greater costs. Nonetheless, this is another potential source of Medicaid program costs that could be greater than anticipated.)

Other Federal Costs

From a Federal budget perspective, a potentially significant assumption of the demonstration cost estimate is that the demonstration, and the small employer insurance mandate that depends on its approval, will not reduce Federal tax revenues. CBO, challenging this assumption, has testified:

> To the extent that employers would have to pay for new [insurance] policies, their profits would be reduced, resulting in lower corporate tax payments to the federal government. Alternatively, if the costs of the insurance policies were passed back to the employees in the form of lower (or more slowly increasing) monetary wages, personal income tax and payroll tax revenues would decline by about one-fourth of the increase in health premiums (237).

The State, although acknowledging this effect, argues that the Medicaid and small employer programs will reduce the need to subsidize uninsured care through high insurance premiums and will increase the incomes of health care providers (through greater health care utilization). Thus, it argues, corporate savings (from lower insurance premiums) and higher provider incomes will result in Federal tax revenue increases that will offset the losses described by CBO (212). Although the effects described by Oregon may well occur, OTA is skeptical that the gains will entirely offset the losses.

Another legitimate Federal concern regarding demonstration funding and expenditures relates to the recent passage of Oregon Ballot Measure 5, which restricts the property taxing capability of local governments and requires the State government to redirect a greater proportion of State spending toward education in order to make up the difference. This law has caused concern regarding Oregon's ability to maintain its current level of Medicaid spending, and the State is making contingency plans for reducing spending if necessary (150). In light of this, it is unclear to OTA how the State could raise sufficient funds to pay its share of increased Medicaid costs related to the demonstration, even if the incremental demonstration cost were no higher than predicted.

## IMPLICATIONS FOR BENEFITS

If Oregon has overestimated the costs of conducting the proposed demonstration, the consequences for benefits are few and positive. The State could choose to lower the threshold below CT pair 587, enabling coverage for such conditions as back sprains, viral hepatitis, and breast reconstruction (CT' pairs 594,597, and 600, respectively). Or, the State could choose to redirect the savings toward improving outreach, expanding the eligible population, higher reimbursement for providers, or any of the myriad non-Medicaid programs funded by the State.

On balance, however, it seems more likely that Oregon has underestimated the costs and overestimated the initial savings of the program than the reverse. If this proves to be the case, the implications for program benefits could be substantial. As designed, the demonstration program has two options in the face of higher-than-predicted costs: increase expenditures, which is possible only if both the funds and the will exist; or reduce benefits by moving the threshold up the list.

Raising the threshold carries with it two implications. First, the State may need to eliminate a substantial number of CT pairs to gain even a small savings, because the bulk of program costs are accounted for early in the list. (All diagnostic

**Table 6-10-Examples of Condition-Treatment (CT) Pairs Excluded Under Four Scenarios of Higher Costs[a]**

| Scenario | New threshold | Examples of CT pairs excluded[c] |
|---|---|---|
| | *Baseline threshold: CT pair 587*<br>*Per capita monthly rest: $129.44* | |
| **1% *cost overrun*** | | |
| **Reduce per capita costs by $1.29** | **CT pair 585** | **587—Esophagitis**<br>**586--Spondylosis** |
| **5% cost *overrun*** | | |
| **Reduce per capita costs by $6.46** | **CT pair 503** | **573-Chronic sinusitis**<br>**569--Rib fracture**<br>**544-Spine deformities**<br>**533--Minor burns**<br>**515-Pituitary dwarfism**<br>**514-Acute polio**<br>**506-Muscular dystrophy**<br>**504-Hernia repair (unobstructed)**<br>***(plus all pairs listed above)*** |
| **10% *cost overrun*** | | |
| **Reduce per capita costsby$12.94** | **CT pair 475** | **503--Goiter/thyroidectomy**<br>**498-Ovarian cyst/oophorectomy**<br>**494-Tonsillectomy, adenoidectomy**<br>**492—Paraplegia/surgery**<br>**489--Stomatitis, oral abcess**<br>**483--Osteoarthritis**<br>**480--Surgery for impacted teeth**<br>**477-Hearing loss over age 3**<br>***(plus all palrs listed above)*** |
| *15% cost overrun* | | |
| **Reduce per capita costs by $19.42** | **CT pair 420** | **469--Endometriosis**<br>**466--Complicated hemmorhoids**<br>**447-Limb deformities**<br>**440-Cerebral palsy/repair, reconstruction**<br>**434-Lice**<br>**431—Migraine**<br>**425--Refraction/glasses**<br>**423--Osteoporosis**<br>***(plus all oaks listed above)*** |

a Assumes all needed cost reductions are obtained by decreasing benefits.
b New thresholds lower than CT pair 500 are approximate, based on the information in the waiver application. Detailed line-by-line costs were not available for more precise estimates.
c See app. D for complete descriptions of CT pairs.

SOURCE: Office of Technology Assessment, 1992, calculated from information in Oregon Department of Human Resources, Office of Medical Assistance Programs, Salem, OR, *The Oregon Medicaid Demonstration Waiver Application,* submitted to the Health Care Financing Administration, Aug. 16, 1991.

services are covered, for example, and many high-cost conditions rank high on the list.) Second, by design, conditions increase in presumed importance as one progresses up the list. Thus, the further up the list the threshold is drawn, the greater the presumed risk of causing harm to beneficiaries by eliminating coverage.

Table 6-10 illustrates the degree of CT pair elimination needed to redress even relatively small cost overruns through the use of the prioritized list alone. Even reducing per capita costs by 5 percent, if the State anticipated an equivalent expenditure excess, would require eliminating 84 CT pairs, or 14 percent of all CT pairs currently proposed to be covered. A 15 percent cost overrun in the first 2 years could, in the absence of greater funding, require the State legislature to eliminate approximately 167 CT pairs (28 percent of currently covered pairs).

Despite the apparent barriers, however, it is possible that the consequences of eliminating benefits would lead Oregonians to find ways to supplement program funds if necessary. The prevalence and severity of many of the conditions whose treatment would be eliminated in such a scenario implies that the health consequences would be significant and measurable. Furthermore, the pub-

lie's familiarity with such conditions as muscular dystrophy, hearing loss, and limb deformities could make the elimination of treatment for many of these conditions politically untenable.

In fact, if there were to be enough public concern with the consequences of cutting treatments for well-known conditions, the State legislature could even be faced with amending SB 27 so that other measures (e.g., limiting program enrollment) would again become possible. Thus, if costs actually have been significantly underestimated, the demonstration would become an interesting test of the relative strengths in Oregon of taxpayer resistance, public opinion, and political will.

## SUMMARY OF CONCLUSIONS

The State of Oregon has used a reasonable approach for the difficult task of estimating the costs of the proposed demonstration program. Most of the assumptions behind the cost analysis are defensible "best guesses" in light of the sparse information available when the analysis was done.

Nonetheless, despite the State's best efforts, its cost estimate may be low. Several important assumptions have one-sided errors; if the assumption is wrong, the result would probably be to underrater than to overestimate program costs.

Any delay in the full implementation of the planned managed care system would probably raise costs, for example, since managed care savings are a crucial assumption of the cost estimate. Even under full implementation, managed care savings that were not as great as expected would result in higher-than-expected program costs.

In addition, the administrative difficulty of limiting use of services associated with below-the-line CT pairs in the fee-for-service sector makes moving to prepaid managed care critical to keeping costs low. (In the short run, for instance, the State may be unable to link certain medical products and services, such as home medical equipment and prescription drugs, with specific diagnoses. Although the State **accounted** for some of this problem in the cost estimate, any delay in enrolling persons in managed care would exaggerate the problem.) Also, incentives for "upcoding" services into covered CT pairs is greater in the fee-for-service sector than in prepaid managed care.

Program costs could be slightly higher than expected if some "technical fixes" to the program are necessary to avoid unintentional consequences of the initial list (e.g., very effective services inadvertently grouped with ineffective ones and ranked low). Such costs could be reduced, or counterbalanced, through internal administrative measures (e.g., stricter utilization controls, eliminating outreach efforts), but only at the expense of inhibiting access to the program or its services.

The waiver cost estimate does not include any incremental costs due to including mental health and chemical dependency services in the demonstration, or any costs associated with folding into the demonstration elderly and disabled beneficiaries. Including these services and populations in the demonstration in the future would increase the total costs of the proposed program, adding another layer of uncertainty to demonstration costs that could exacerbate any cost estimation error.

Some costs external to the program, but relevant to Federal fiscal concerns, may also have been underestimated. In particular, CBO has predicted a loss of Federal tax revenues if the State implements the associated mandate requiring small businesses to provide health insurance. (This revenue loss was not accounted for in the cost analysis, although savings predicted from this mandate were included. The State maintains that Federal revenue loss from this source would be negligible.) Also, if Oregon's passage of Ballot Measure 5 decreases the State funds available to the Medicaid program, as it is predicted to do, the State maybe unable to furnish its full share of demonstration funding even if program costs have been estimated correctly.

Chapter 7

# Federal Legal Issues

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# Chapter 7
# Federal Legal Issues[1]

## INTRODUCTION

As discussed in previous chapters, Oregon's Medicaid proposal would substantially change the benefits covered under the program, the populations eligible for those benefits, and the relationships of patients and providers. The State has applied to the U.S. Health Care Financing Administration (HCFA) for permission to waive certain provisions of the Medicaid statute in order to proceed with the proposal as a demonstration project, and HCFA believes it has the authority to grant those waivers.

It is possible, however, that Oregon's proposal might be in conflict not only with existing Medicaid rules but with provisions of other Federal statutes, which only Congress can waive. Congress could also opt to knit any HCFA-approved Medicaid waiver, leaving the Oregon proposal subject to the limits imposed by these other Federal statutes and vulnerable to judicial attack if they are violated.

Of even greater importance, the proposal might come into conflict with the U.S. Constitution. Since neither HCFA nor Congress can overcome constitutional objections (short of a constitutional amendment), examining potential constitutional issues raised by the proposal is a critical first step in assessing its legality from the Federal perspective.

This chapter first analyzes whether certain aspects of the Oregon proposal might be considered violations of Federal constitutional law, either on their face or in their (likely) application. It also considers the applicability of Oregon State constitutional principles that parallel the Federal principles. The chapter then analyzes various important Federal statutes (apart from the Federal Medicaid statute) that might be relevant to the Oregon scheme.

## CONSTITUTIONAL ISSUES

### *Federal Constitutional Issues*

***The*** most basic Federal constitutional principle regarding social welfare programs is straightforward. There is nothing in the U.S. Constitution that requires the Federal Government or the States to provide social welfare benefits of any kind *(DeShaney v. Winnebago County Department of Social Services, 489* U.S. 189, 196 (1989)). Congress--or the State of Oregon-can choose to enact or repeal Medicaid, Aid to Families with Dependent Children (AFDC), or any other social welfare program without any judicial oversight of the wisdom or rationale for doing so.

Once a social welfare program has been established, however, there are some constitutional constraints on the government's discretion to limit or condition the benefits that are made available. The most notable of these is the nondiscrimination requirement of equal protection imposed by the 5th and 14th Amendments. Under most circumstances, however, the impact of these constraints on legislative discretion is minimal. Generally, the court need only find that the legislative scheme is ''rational"—e.g., that a spending limit or condition will conserve government resources, ease the administration of the program, or further virtually any governmental policy not specifically prohibited by the Constitution. Under the "rationality" standard of judicial review, the actual motivation behind the legislation is irrelevant, and there is no real judicial examination of the actual effects of the legislation.

There are two circumstances under which a limit or condition imposed on a social welfare program may be subjected to a more rigorous level of judicial review. The first occurs when a legislative scheme to limit a social program "affects" a "fundamental interest. " The second occurs when the scheme will detrimentally affect a "suspect class" of persons.

#### Protecting "Fundamental Interests"

To be regarded as a "fundamental interest,' an activity must be both extremely important and explicitly protected by the Constitution *(San Antonio Independent School District v, Rodriguez, 411* U.S. 1 (1971)). The latter requirement in particular defines "fundamental interest" inherently narrowly, including only such activities as speech, interstate

[1] **This chapter was written by staff of the Office of Technology Assessment (OTA). Portions of the chapter are based on a series of memoranda authored by K. Wing, School of Law, University of Puget Sound, Tacoma, WA, under contract to OTA, November 1991. OTA bears the responsibility for the content and conclusions of this chapter.**

travel, religion, and a few other interests specifically protected by the Federal Constitution. Other activities--e.g., public school education-may be extremely important, but if they are not explicitly protected by the Federal Constitution they are not considered ''fundamental' for the purpose of enhanced judicial review.

Furthermore, in the U.S. Supreme Court's view, a decision not to fund an activity or interest, even one that is entitled to enhanced constitutional protection, does not necessarily 'affect' that activity or interest (see, e.g., *Webster v. Reproductive Health Services, 492* U.S. *490 (1989); Rust v. Sullivan,* 111 S. Ct. 1759,59 U.S.L.W. 4451 (1991)). Thus, for example, a legislative decision to exclude funding for abortions (but fund childbirth) is constitutional as long as it meets the limited test of "rationality;' and under a "rationality" standard, a claim that the government chooses to encourage childbirth over abortion is sufficient *(Beal v. Doe,* 432 U.S. 438 (1977); *Maher v. Roe, 432* U.S. *464 (1977); Harris v. McRae,* 448 U.S. 297 (1980)).[2] Similarly, the Court has found that disparities in eligibility rules for social programs (e.g., AFDC and Medicaid) generally do not "affect' a "fundamental interest" even when certain individuals are disadvantaged as a result of the rules *(Jefferson v. Hackney, 406* U.S. 535 (1972); *Schweiker v. Hogan, 457* U.S. *569 (1982); Bowen v. Gilliard, 483* U.S. 587 (1987)). The Court has required only that Congress and the States show some ''rational" basis for eligibility differences or rule changes. Saving resources meets this criterion.

There are two narrowly defined, related sets of circumstances under which modern courts may still view a "fundamental interest" as "affected' by a social welfare limit or condition and, therefore, impose a more demanding judicial review on the legislation and its justification. The first is where a condition or limit on a social welfare scheme is viewed as "penalizing" the exercise of a "fundamental interest. ' The second is where the limit or condition prohibits the program participant from engaging (while receiving funds) in a constitutionally protected activity that is outside the scope of the activities funded under the program.

*In Shapiro v. Thompson (394* U.S. *618 (1969)),* for instance, the Supreme Court held that a durational residency requirement imposed on AFDC participants was a violation of equal protection because it "penalized" otherwise eligible participants who had recently exercised their constitutionally protected ''right to travel" (more aptly described as a ''right to become a State resident"). As such, the Court was required to 'closely scrutinize" the legislation. It demanded that the State show a "compelling interest" for the limit on welfare eligibility and that the impact on the excluded individual's fundamental right was minimal. Furthermore, *Shapiro* implied that under "close scrutiny" any social welfare program limit or condition that was imposed merely to save government funds would be unconstitutional *per se.*

*The Court* has indicated that it also may view a ''fundamental interest' as ''affected" when a recipient is prohibited from engaging in a protected activity as a condition of the receipt of funds for other activities. For example, the Court has held that a Federal prohibition on "editorializing" by noncommercial radio and television stations that receive Federal funds "affected" the speech of those stations because it prohibited editorials that might be funded from nonpublic sources (FCC v. *League of Women Voters of California, 468* U.S. *364 (1984)).* As with the "penalty" cases, the Court was apparently attempting to distinguish between circumstances where the spending limit or condition merely fails to subsidize or fired an activity, as in the Medicaid abortion decisions cited above, and those where the limit or condition is intended to inhibit other nonfunded activities or interests that are constitutionally protected.

### Protecting "Suspect" Classifications

The other major exception to the general rule that legislation need only be ''rational' to be constitutional involves legislation that is characterized as discriminating on the basis of a "suspect' classification. Under such circumstances, a court may subject the legislation to the same demanding 'close scrutiny ' ' as it would legislation that "affects" a "fundamental interest. " Again, the application of such a standard is usually tantamount to a determination that the legislation is unconstitutional.

[2] The Court has in the past applied the "rationality" standard in such a manner as to impose greater restriction on legislative discretion *(U.S. Department of Agriculture v. Moreno, 413* U.S. 528 (1973)). However, most experts regard that case to be no longer authoritative, and it was even aberrant in its own day (see *Jefferson* v. *Hackney, 406* U.S. 535 (1972)).

The rhetoric and underlying rationale for the exception of 'suspect' classifications evolved from the judicial invalidation of school and public service segregation laws and other legislative schemes based on purposeful racial classifications. In those contexts, the courts modified traditional notions of judicial deference to legislative discretion in light of the history and realities of governmentally sanctioned racial discrimination. This enhanced judicial review of racial classifications may also be applied to legislative classifications that discriminate on the basis of an individual's national origin or against a few other "suspect" classes, such as legal aliens. However, the Supreme Court has been extremely reluctant to recognize additional categories of suspect" classifications beyond these three categories. Thus, for example, the Court has rejected attempts to classify as "suspect' legislation that discriminates against the handicapped, the elderly, striking workers, indigent teenagers seeking abortions, and close relatives.[3] It has also rejected the notion that gender-specific legislation is constitutionally "suspect, but it has nonetheless applied an intermediate level of judicial review (somewhat higher than mere ''rationality' to such legislation.

In general, the Court has insisted that enhanced judicial scrutiny of legislation is limited to circumstances where the 'suspect' (e.g., racial) classification is intentional or, at least, where a discriminatory intent can be inferred from sufficiently persuasive statistical evidence. Disparate impact alone, without some showing of legislative intent, is not constitutionally significant. The Court also has rejected attempts to characterize limits or conditions on welfare, Medicaid, or other programs that provide benefits exclusively to the poor as inherently ' 'suspect' (see, e.g., *Maher v. Roe, 432* U.S. 464 (1977)).

There are a few cases in which the Court has applied "suspect' class analysis to legislation that discriminates between those who can pay and those who cannot. But most of those legislative schemes involved a complete denial of access of indigent people to some important public service otherwise available to nonindigent people—specifically, access to judicial process.[4]

## Constitutional Principles and Oregon's Proposal

With a very few possible exceptions, Oregon's proposed demonstration project to revise its Medicaid program need only be "rational' to meet constitutional requirements. This standard could easily be satisfied by any of the claimed purposes originally set out in Oregon's Senate Bill 27 (SB 27).

One aspect of the program, the fact that it would initially limit the new prioritized scheme of Medicaid coverage to those current Medicaid beneficiaries who are AFDC-related, while exempting Supplemental Security Income (SSI) beneficiaries, parallels a scheme upheld in *Jefferson v. Hackney*, which found that the States and the Federal Government are free to treat different categories of welfare recipients differently. It is thus unlikely that a challenge to this aspect of the Oregon program would be successful.

Even if Oregon opted not to fund services that somehow involved the exercise of ''fimdamental" interests, the Supreme Court, in its many abortion-related decisions, has insistently demonstrated that not funding an activity has no enhanced constitutional significance. A possible exception would arise if Oregon implemented its prioritization scheme in such a way as to impose a ''penalty' or unconstitutional condition on receipt of Medicaid benefits or, alternatively, if it were to discriminate on the basis of a ' 'suspect" classification. But nothing on the face of the statute or in the early stages of its implementation suggests that this is likely.

While the basic scheme for reforming Oregon's Medicaid program appears to be within these constitutional limits, there are at least two provisions of the original legislation that may possibly be vulnerable to constitutional attack. The first of these provisions, codified in Or. Rev. Stat. § 414.725(7) (Supp. 1990), requires that:

> Health care providers contracting to provide services under [the Medicaid program statutes revised pursuant to SB 27] shall advise a patient of any service, treatment, or test that is medically necessary but not

[3] For a full discussion of "suspect" classifications, see *Cleburne, Texas v. Cleburne Living Center, 473* U.S. 432 (1985); see also *Lyng v. International Union, United Automobile, Aerospace and Agricultural Implement Workers, 485* U.S. 360 (1988).

[4] In *Griffin v. Illinois (351* U.S. 12 (1956)), the Court held that requiring indigent defendants to purchase transcripts of their trials (to prepare for an appeal) was a violation of equal protection; in *Boddie* v. *Connecticut* (401 U.S. 371 (1971)), the Court invalidated a filing fee required for a petition for divorce. *Tare v. Short* (401 U.S. 395 (1971)) invalidated a state law that incarcerated indigent people who could not pay criminal frees; *Little* v. *Streater* (452 U.S. 1 (1981)) invalidated a fee charged for a blood test necessary for a defense to a (criminal) paternity charge.

covered under the contract *if an ordinarily careful practitioner in the same or similar community would do so under the same or similar circumstances* [emphasis added].

The second provision, Or. Rev. Stat. § 414.745 (Supp. 1990), protects Medicaid providers from criminal prosecution, civil liability, and professional disciplinary action when they refuse to provide unfunded services.

The scope and meaning of these provisions are, unfortunately, unclear. Presumably they are intended to apply only to providers participating in the reformed Medicaid scheme. However, both provisions have been codified in such a way as to imply that they would continue to apply to Medicaid providers even if the demonstration project does not go forward (see box 7-A).

While section 414.725(7) appears to impose a "duty to advise" and to specify how that duty can be fulfilled, it is not clear whether and how its implementation would affect Oregon's existing statutory informed consent law. The existing statute, reflected in Or. Rev. Stat. § 677.097 (1989)), requires physicians and podiatrists to undertake certain steps in obtaining informed consent from any patient prior to performing a procedure (e.g., describing the recommended treatment and any alternative treatments, notifying the patient of possible risks or outcomes of the procedure, asking the patient if he or she would like any further information). This statute does not specify that cost or coverage of the treatment be discussed as possible factors. In contrast, Or. Rev. Stat. § 414.725(7) directs *all* contracting providers (not just physicians and podiatrists) to inform *Medicaid* patients when they intend not to provide a medically necessary treatment ***because it is not covered*** by Medicaid.

Section 414.745, which waives provider liability for refusing to treat when treatment is unfunded, has even more far-reaching effects. This waiver would reduce substantially the common law and State statutory protections that are currently available to Medicaid patients in Oregon. Existing common law principles limit the discretion of a provider to refuse or terminate treatment in several important ways (see below). The limits imposed by criminal and licensure sanctions are less clearly defined, but they still provide Medicaid beneficiaries with alternative remedies if treatment is denied or terminated.

### *Box 7-A—The Legislative Language or the Code? Potential Implications of the Codification of Oregon Senate Bill 27*

***The*** provisions of Oregon Senate Bill *27* (SB **27) were codified in various and separate portions of the** Oregon code. Even if some of these provisions are repealed or modified, others could be retained; and it is possible that some elements of the proposal may be regarded as valid while others are not (i.e., the manner in which the statute was drafted and later codified makes it appear "severable"). If the proposal was not authorized, but the State legislature took no action to repeal the various provisions of the Oregon code that were added by SB 27, it would be possible to read some of these provisions as applicable to the existing Medicaid program.

In addition to the apparent severability of the provisions of the law, some provisions as codified do not follow the exact wording of the statute. For example, the codified versions of both sections 414.725(7) and 414.745 (Or. Rev. Stat., Supp. 1990) are worded slightly differently than the original provisions in SB 27 (see sections 6(7) and 10 of SB 27). The original language of SB 27 makes it clear that these provisions would only apply to those Medicaid recipients who are subject to the new proposal. Consequently, they would not have any effect unless or until that proposal was implemented. The Oregon code language, however, substitutes a reference to the entire Medicaid program for SB 27's language "under this Act." This change could be interpreted as rendering these provisions applicable to the ***existing*** Medicaid program, not just the reformed program anticipated by the Act. This would appear, however, to be in conflict with the original intent of SB 27.

SOURCE: K. Wing, University of **Puget Sound, Tacoma, WA,** memorandum to E. Power, Office of Technology **Assessment, November** 1991.

The net effect of this provision would be to greatly disadvantage the Medicaid beneficiaries subject to the waiver, and to do so in a manner that discriminates between indigent Medicaid beneficiaries and all other Oregonians. (Pending the expansion of the Oregon proposal to include all Medicaid beneficiaries, section 414.745 would also discriminate between categories of Medicaid beneficiaries).

Whether the deprivation of common law and statutory rights of Medicaid beneficiaries in this manner has any constitutional significance is not clear. States have wide latitude to amend their

common law principles of tort liability and, of course, existing statutory remedies. But viewed in the broadest sense, sections 414.725(7) and 414.745 in tandem could constitute a discrimination based exclusively on "wealth"—a discrumination that would totally deprive Medicaid beneficiaries, who are by definition indigent as a class, of important rights that would continue to be available to nonindigent Oregonians. In some ways, the denial of an indigent participant's rights to pursue certain legal remedies is similar to the few cases in which the Supreme Court has recognized wealth-based distinctions as "suspect"—i.e., when it relates to a denial of access to the courts.[5]

On the other hand, in a recent Supreme Court decision relating to the filing fee required for a bankruptcy petition, the Court indicated that such a fee does not create a ''suspect classification *(Kadrmas v. Dickinson Public Schools, 487* U.S. 450 (1988)). Some experts read this opinion to have tacitly signaled that the present Court is really intent on abandoning the notion of 'wealth' as a suspect class, and confining more rigorous review of discriminations between indigent and nonindigent people to those circumstances where the interest or rights denied are entitled to enhanced constitutional protection. Whether the importance of the interest denied to indigent people by the Oregon proposal—access to the courts to pursue various remedies—would be regarded as comparable to a' 'fundamental right" is not clear.

It is worth speculating as to what the implications of closer judicial scrutiny might be if applied to sections 414.725(7) and 414.745. The State's interest in encouraging providers to participate in the Medicaid program could be regarded as compelling. Medicaid is structured voluntarily, and without the participation of physicians and other providers, the underlying objectives of the program fail. On the other hand, a waiver of all civil and criminal liability is not necessarily the only means to encourage participation under the proposed demonstration. Indeed, it is not the only way to protect providers from the risks and costs of liability (the State could, for example, further subsidize the malpractice insurance costs of providers). In any event, there are a number of ways in which a court could view this legislation as invasive or overly broad, the touchstones of close scrutiny analysis-all premised on the possibility that the courts would apply to this legislation the more rigorous test only applied to legislation that discriminates on the basis of 'suspect" classifications.

### *Oregon Constitutional Issues*

Whereas the Federal constitutional interpretations of the Federal courts (and the Supreme Court) must be followed by the State courts, the State courts themselves are the ultimate interpreters of the their own constitutions. The Oregon Constitution includes a' 'privileges and immunities' provision that parallels the Equal Protection Clause of the 14th Amendment to the U.S. Constitution.[6] The Oregon courts' analyses of the requirements of this clause generally track the same "fundamental interest"/ ''suspect' class rhetoric that has been adopted in the Federal equal protection cases.

Nonetheless, on several occasions the Oregon courts have also indicated that the application of those principles may be somewhat broader under the State constitution. In a school financing case, for example, the Oregon Supreme Court concluded that the "privileges and immunities" clause requires a judicial evaluation of the justification for the discrimination if important interests are involved, even if these interests are technically not "fundamental" (under the Federal definition) *(Olsen v. State, 276 Or. 9, 554* P.2d *139 (1976)).* Similarly, in a more recent decision, a State court held that the ' 'privileges and immunities" clause required that the denied interests (in this case, unrestricted access to abortion) be balanced against the interests of the State, rather than requiring the State to show only that the limits imposed by legislation were "rational" *(Planned Parenthood Association v. Department of Human Resources, 63 Or.* App. 41,663 P.2d 1247, *aff'd on other grounds, 297 Or. 562,687* P.2d 785 (1984)).

It is important not to read *too* much into these cases. The Oregon courts have only indicated a willingness to broaden the requirements of nondiscrimination in some circumstances. Even while drawing some distinction between Federal equal protection analysis and analysis under the "privi-

[5] **See footnote 4.**

[6] **Article I, section 20 of the Oregon Constitution states: "No law shall be passed granting to any citizen or class of citizens privileges, or immunities,** which upon the same terms, shall not equally belong to **all** citizens. '

leges and immunities' clause, these cases also insist that in most circumstances the "privileges and immunities clause of the State constitution requires no more than the "rationality" standard applied in Federal equal protection cases. A somewhat loosened definition of a "fundamental interest" may allow more judicial protection of important interests such as public education or medical assistance for abortion. To extend that notion to include more judicial scrutiny of discrimination involving Medicaid benefits would be a far greater departure from the Federal equal protection cases than the decisions in *Olsen* or *Planned Parenthood* have signaled.

The most interesting and, unfortunately, unanswerable question is whether Oregon's somewhat broadened application of its "privileges and immunities" clause would result in a loosening of the definition of 'suspect' class or would allow Oregon courts to more closely examine ''wealth' discrimination. The Oregon courts have given little specific guidance as to the application of the ''privileges and immunities' clause to limits or conditions on social welfare programs, and virtually none as to the application of "suspect" class analysis in this context. In other situations, the Oregon Supreme Court has emphasized that "close scrutiny" under the 'privileges and immunities' clause only applies where there is a definable ''class' apart from the classification created by the statute (see *State v. Clark, 291 Or. 231,630* P.2d 810, *cert. denied, 454* U.S. 1084 (1982)). Although indigent people are a definable class, it is not clear whether Oregon would further insist that only the traditional "suspect" classes are entitled to a higher level of judicial review or consider a classification based on ''wealth' as also entitled to a higher level of judicial scrutiny.

## FEDERAL STATUTORY ISSUES

### *"Anti-Dumping" and Other Federal Laws Relating to Health Care Access*

***Or.*** Rev. Stat. *§* 414.745 would modify the common law protections currently available to Medicaid beneficiaries. Apart from issues relating to the discriminatory effects of this provision, and their constitutional implications, section 414.745 creates a potential conflict with Federal "anti-dumping" legislation, as well as with other Federal laws relating to health care access.

In most jurisdictions, the civil liability of providers for denial or termination of treatment is determined by common law tort principles. Under common law, no private party, even a provider of health care, has a duty to protect or provide assistance to any other, unless there is an established relationship between the parties, or unless some affirmative act of the one party has created a risk of harm to the other. Once a duty has been recognized, however, the common law imposes a duty of reasonable care. A violation of that standard can result in civil liability for all resulting damage. Medical malpractice cases are the prototypical examples.

"Abandonment" of an established patient-i. e., a unilateral decision by a physician or other provider to terminate ongoing treatment-also may be regarded as negligence. Although it is not clear from the case law whether this rule is always absolute, the courts have rejected the patient's inability to pay as anon-negligent reason for terminating ongoing care. Once a provider-patient relationship has been established, a provider generally must continue treatment even if a patient is indigent.[7]

On the other hand, the "no duty" rule is as harsh as the abandonment principle is generous. In its strictest application, the true 'bystander' can watch another person die without rendering aid; if there is no duty to violate, there can be no liability. The 'no duty" principle has been cited repeatedly with approval-although relatively rarely applied-in cases involving refusal to provide medical care by both physicians and hospitals (224).

Not surprisingly, the harsh implications of the "no duty" rule have led many modern courts to avoid it or to find exceptions to its application, particularly in the context of hospitals rendering emergency care. Specifically, courts in many jurisdictions have recognized what could be regarded as a duty to provide first aid--namely, that a hospital with the capacity for emergency services has a duty in medical emergencies to assess potential patients and to at least provide the treatment necessary to stabilize the patient *(Wilmington General Hospital v. Manlove, 54* Del. 15, 174 A.2d 135 (1961); *Jackson v. Powers, 743* P.2d 1376 (Alaska 1987); *Thompson v. Sun City Community Hospital, Inc.,*

[7] For a broader discussion, see K. Wing, ***The Law and the Public's Health,*** 3d Ed. (St. Louis: C.V.Mosby Co., 1990), pp. 265-271.

141 Ariz. 597,688 P.2d 605 (1984); *Mercy Medical Center v. Winnebago County, 58 Wis.* 2d 260, 206 N.W.2d 198 (1973)).

The courts have not been entirely clear or consistent in defining the limits on this exception to the general rule (313). To bring some clarity and uniformity to this situation, Congress passed legislation in 1985 that effectively codified the common law exception to the ''no duty' rule and interpreted its reach rather broadly (Public Law 99-272, as amended by Public Law 101-239; 42 U.S.C. § 1395dd). The statute, commonly referred to as the Medicare ''anti-dumping' law, requires hospitals that participate in Medicare (i.e., virtually all hospitals) to screen all emergency patients, and to stabilize those in need of further treatment. It also limits drastically the discretion of hospitals to discharge or transfer patients once they are stabilized. And while it is a subject of much controversy, the Federal statute also has been interpreted to impose the same requirements on individual physicians who work in emergency rooms (see, e.g., *Burditt v. U.S. Department of Health and Human Services, 934* F.2d 1362 (5th **Cir.** 1991)).

In contrast, Or. Rev. Stat. $424.745 allows both individual and institutional providers of all types to either refuse to initially accept or to terminate treatment for Medicaid beneficiaries when the services they need are not financed under the Oregon Medicaid scheme. In essence, the preexisting common law limits imposed by the law of abandonment, the no duty exception, and any other potential for liability based on State law is waived by section 414.745 for those Medicaid beneficiaries subject to the reform proposal.

The conflict of this provision with existing common law does not invalidate it; the Oregon legislature is free to amend or modify the common law as applied in that jurisdiction. Nor is section 414.745 invalid simply because it conflicts with the requirements of the Federal ''anti-dumping' legislation. However, the result would surely be confusing to providers, since the State law might ''lower' or waive liability under the same circumstances where the Federal law ''raises' or specifies higher standards. Medicaid beneficiaries that have been denied treatment would be allowed to pursue private claims based on the Federal law or to request administrative action based on the Federal law, but they would be prohibited from doing so under State law.

A potential for conflict could also arise if Congress itself authorized the Oregon proposal or exempted the proposal from the requirements of the Federal Medicaid statute. If congressional intent were not clarified, a vague or broadly worded Federal authorization or waiver could be read as also waiving the application of the Federal anti-dumping or other relevant legislation. Assuming that it is not Congress' intent to do so, any Federal authorization or waiver legislation should explicitly recognize this potential conflict and, where desired, specifically affirm the continuing application of the Federal legislation to the Oregon Medicaid program even after it is reformed.

A congressional authorization or waiver should also clarify the continuing application of other Federal laws that currently impose restrictions on providers' discretion to deny access to or abandon indigent patients. For example, the ''tiee care' and "community service' mandate of those hospitals that have received Hill-Burton* funds continue to impose requirements relating to the treatment of indigent patients, general admission policies, and emergency room access. In particular, the community service" provisions require Hill-Burton recipients to accept all Medicaid patients and limit their discretion to deny patients services in emergencies (42 CFR § 124.500, § 124.600 (1990)). Section 414.745 cannot waive these requirements.

Similar requirements are imposed on hospitals that are given Federal nonprofit status. The Federal revenue rulings interpreting these requirements, while not models of clarity, clearly intend to limit the discretion of nonprofit hospitals to deny admission to indigent patients, emergency patients, and, in particular, Medicaid beneficiaries (242).

It is clear that section 414.745 contrasts markedly with the requirements of these Federal laws in a number of important ways. As with the anti-dumping legislation (and again assuming that Con-

8 The ''Hill-Burton' Act (Public Law 79-725) and later amendments established a program that gave construction grants to hospitals between 1946 and 1974, when the program was abolished. Hospitals receiving these funds were required to provide a certain amount of free care and to make their services available to all community residents. The free care requirement was time-limited (usually 20 years), but the community service requirement-which prohibits the denial of emergency care to the indigent-is not.

gress does not intend to waive these requirements as part of any authorization of the Oregon Medicaid proposal), these potential conflicts should be noted and the continuing application of these other Federal laws should be explicitly clarified in the event of a congressional authorization or waiver.

### *Protection of Human Research Subjects*

Federal law provides safeguards to protect human subjects at risk in research projects and other activities supported by the U.S. Department of Health and Human Services (DHHS) (45 CFR 46). If the Oregon proposal were subject to these safeguards, it would be required to establish an Institutional Review Board (IRB) that would have to independently approve the proposal before it went forward. Such a requirement would delay implementation until a properly structured IRB had conducted a review, which could consider such factors as whether other alternatives would have less impact on Oregon's Medicaid population. In the event of IRB disapproval, the proposal could not be implemented. The primary legal question is whether these requirements apply to the Oregon Medicaid proposal.

45 CFR Part 46 has both specific and general statutory authority. The regulations were originally enacted as a response to a mandate from Congress (Protection of Human Research Subjects Act, Public Law 93-348 ).9 Both the original regulations and their subsequent amendments, however, claim as their authority the general rulemaking authority of DHHS. The requirements of Part 46 apply to all DHHS-supported activities, including those funded by HCFA (45 CFR § 46.101).

After a 1976 lawsuit, in which a Federal court held that a Georgia proposal to impose copayments on Medicaid beneficiaries was "research" and consequently subject to these regulations *(Crane v. Mathews, 417* F. Supp. 532 (N.D. Ga. 1976)), the regulations were expanded to include as ''research" any "systematic investigation designed to develop or contribute to generalizable knowledge. " The revised regulations specified that ''some 'demonstration' and 'service' programs may include research activities" (45 CFR § 46.102(e)). The Oregon proposal is almost certainly ''research" by this definition.

But while 45 CFR Part 46 has broad scope, it also provides for specific exemptions for certain kinds of activities and it reserves for DHHS the discretion to exempt individual projects from these regulations. Research projects that DHHS can exempt include:

1. Programs under the Social Security Act, or other public benefit or service programs;
2. Procedures for obtaining benefits or services under those programs;
3. Possible changes in or alternatives to those programs or procedures; and
4. Possible changes in methods or levels of payment for benefits or services under those programs.

On their face, these provisions appear to exempt from Part 46 the type of "research" or demonstration that is proposed by Oregon. Alternatively, Part 46.101 also reserves for DHHS the discretion to waive these requirements as they apply to an individual project. Notably, these provisions were added in 1983, at least in part as a response to the implications of the *Crane* decision (48 F.R. 9,266).

Critics of the Oregon Medicaid proposal have claimed that the 1983 amendments to Part 46 were invalid and beyond the statutory authority of DHHS (220). However, although the underlying rationale for issuing a regulation maybe subject to some level of judicial review, the discretion of an agency to amend or rescind its own regulations is extremely broad, particularly where the underlying statutory authority has no specific standards for a reviewing court to apply. In the introduction to the 1983 amendments to section 46.101, DHHS stated that its own review process for demonstration projects was extensive and that it considered IRB review for such projects, such as Oregon's Medicaid proposal, to be duplicative and unnecessary (48 F.R. 9,266).

While this position can be argued as a matter of public policy, it is unlikely that a reviewing court would consider it to be an abuse of discretion under general principles of administrative law, particularly

9 The original 45 CFR Part 46, setting forth department-wide policies, was published a few days before the 1974 legislation was passed (39 F.R. 18,914). The 1974 legislation required Department of Health, Education, and Welfare (DHEW) (later DHHS) to enact regulations protecting subjects in projects funded by the Public Health Service and to establish a commission to make recommendations for department-wide policies. In response to these mandates, the original regulations were amended subsequently on several occasions (see 46 F.R. 8,386; 46 F.R. 19,195; 47 F.R. 9,208; and 48 F.R. 9,269).

since the Oregon proposal has been reviewed repeatedly by State and Federal officials.

The regulations at section 46.10l(i) do specify that:

> If, following review of proposed research activities that are exempt from these regulations under paragraph (b)(6), the Secretary determines that a research or demonstration project presents a danger to the physical, mental, or emotional well-being of a participant or subject of the research or demonstration project, then Federal funds may not be expended for such a project without the written, informed consent of each participant or subject.

This provision apparently imposes a limited requirement of review on DHHS even if the Oregon proposal is exempt from the IRB and other requirements of Part 46. That requirement would presumably be satisfied by the current DHHS review of Oregon's proposal. Some advocates have argued, however, that language in a recent DHHS appropriations bill suggests that, if DHHS does find that some current Medicaid beneficiaries might be harmed under the proposal, Oregon could be required to obtain ''written, informed consent' of all individuals affected by the new plan (222).

### *Federal Civil Rights Statutes*

Title VI of the Civil Rights Act of 1964

Title VI states:

> No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance (42 U.S.C. § 2000d).

All recipients of Federal assistance subject to Title VI are required to execute an assurance of compliance with its requirements as a condition of receipt of Federal funds.

Title VI clearly applies to State Medicaid programs and Medicaid providers (42 U.S.C. § 2000d-4a, 45 CFR § 80.2 and App. A). As such, it prohibits intentional discrimination within a Medicaid program, including circumstances where an underlying intent may be inferred from circumstantial evidence. In this regard, Title VI can be viewed as an enforcement mechanism for the constitutional prohibition of discrimination based on race and other ''suspect' classifications. Although there is nothing in the language or legislative history of the Oregon proposal that could be regarded as intentional discrimination, there is the possibility that such a problem would arise in the implementation of the Oregon scheme. Thus, Title VI would impose a continuing obligation on Oregon to avoid overt discrimination in the implementation of its Medicaid proposal.

In addition to intentional discrimination, the DHHS regulations that interpret the statutory language of Title VI also prohibit some forms of de *facto,* or "disparate-impact," discrimination. The language of the regulations prohibits practices and criteria that have a disproportionate effect based on race, color, or national origin, even if this effect is not linked to a discriminatory intent.

The validity and specific meaning of these regulations are not entirely clear. The U.S. Supreme Court on at least one occasion has referred to the language of these regulations in a manner that implies that they are valid (see *Lau v. Nichols, 414* U.S. *563 (1973)).* More recent pronouncements of the Court have been more equivocal *(Guardians Association v. Civil Service Commission, 463* U.S. 582 (1983); *Alexander v. Choate, 469* U.S. 287 (1985)).

Even assuming that these regulations are valid, it is not clear from the language of the regulations (or from the Court's references to them) what sort of justifications would be accepted in defense of a "criteria" or "method of administration' that did result in a disproportionate effect based on race, color, or national origin. There are several possibilities. Any practice or policy that is regarded as intentional discrimination is almost certain to be treated as illegal. Alternatively, a court could regard a finding of disproportionate impact as establishing *a prima facie* case and then focus on the underlying justifications for that impact.[10] As a third alternative, the courts could apply the limited standard of ''rationality' to circumstances involving disproportionate impact or effect, requiring little more than some colorable justification for the practice or activity that results in the disproportionate impact.

10 This is the approach taken in employment discrimination cases under Title VII of the Civil Rights Act of 1%4 (42 U.S.C. § 2000e *et* seq. (Supp. 1991)). Under Title VII, where an employee shows that an employer's practices result in a disproportionate impact on a protected group, the employer has the burden of showing that there is a legitimate business reason to justify the practice and its effect.

Unfortunately, since so few Title VI cases have been fully litigated and have applied these regulations, there is little guidance on this crucial issue.[11] In *Bryan v. Koch (627* F.2d 612 (2d Cir. 1980)), the Federal court of appeals analyzed New York City's decision to close a public hospital under the requirements of Title VI. The court found *a prima facie case* of disparate impact on racial minorities, but the court held that the city need only show that the decision was rationally related to a legitimate objective (essentially applying the constitutional standard applicable in most equal protection cases).

In *NAACP v. Medical Center, Inc. (657* F.2d 1322 (3d Cir. 1981)), a case involving the decision of an inner-city hospital to build a new facility in a suburban location, the lower court found a disproportionate racial impact but concluded that the defendant hospital had legitimate interests in relocation and that there were no other alternatives that would have less discriminatory impact. The court of appeals held that the lower court's review ''more than adequately serve[d]" the requirements of Title VI, and strongly implied that a level of review comparable to that taken in *Bryan* would have been acceptable.[12]

The interpretation that will be given to these regulations is crucial in defining the implications of Title VI for the Oregon Medicaid proposal. If future courts adopted the limited view of Title VI requirements reflected in the decisions discussed above, the implications of Title VI would be minimal. Even if the Oregon reforms had a disproportionate impact on the minority groups protected by Title VI—an outcome that is at least possible under several different scenarios[13]--Oregon could still offer as justification any of the underlying objectives of its current proposal, not the least of which is (long-run) savings of State and Federal funds. If the judicial inquiry in Title VI cases where there is a finding of disproportionate impact requires no more than the ''rationality' standard generally applied under constitutional analysis, then it is very unlikely that any court would invalidate all or any part of the Oregon Medicaid reforms--even if it finds that the proposal would have a disproportionate result.

Title VI would have greater meaning in this context only if a court were inclined to inquire further (e.g., to consider the availability of other cost-saving or reform measures that would have a lesser impact on racial or other minorities). Thus far, however, the courts have not been inclined to do so. As a practical matter, therefore, Title VI may impose limits on the reamer in which Oregon implements its proposals only in those circumstances where there is disproportionate result and that result can be linked to an underlying intent to discriminate.

As one final qualification of the implications of Title VI in this context, it should be noted that Title VI is structured in such a way as to rely heavily on administrative enforcement by Federal funding agencies. Individual plaintiffs have been allowed to pursue lawsuits challenging the failure of DHHS or other agencies to enforce their own regulations, and in a few cases, seeking independent judicial determination of compliance with Title VI where the agency has failed to do so. On the other hand, some current members of the Supreme Court read Title VI more narrowly and may be prepared to restrict or even prohibit privately initiated enforcement actions (see *Guardians Association v. Civil Service Commission, 463* U.S. 582 (1983)). Thus the practical implications of Title VI for the Oregon proposal may be determined in large part by DHHS's willingness to apply and enforce these requirements.

### The Rehabilitation Act of 1974 and the Americans With Disabilities Act of 1990

29 U.S.C. § 794 (1991 Supp.), codifying the original section 504 of the Rehabilitation Act of 1973, provides:

> No otherwise qualified handicapped individual ... shall, solely by reason of his handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance. . . .

11 Title VI issues have arisen and been litigated extensively in school desegregation cases. These cases, however, have little utility in clef@ the meaning of Title VI in other contexts.

12 The *NAACP* court also pointed out that in *Jefferson v. Hackney, discussed* above, the Supreme Court (in a footnote) had rejected a Title VI claim that paralleled the equal protection claim that was the central focus of that decision. While *Jefferson* did not consider the validity of the Title VI regulations, the factual similarities between the scheme reviewed and upheld in *Jefferson* and the Oregon Medicaid proposal cannot be overlooked.

13 For example, the prioritization of services covered under the new scheme could result in a distribution of benefits that has a disproportionate impact or effect on protected groups. Although OTA's analysis of the list indicates that a disproportionate impact is not likely to occur with the line drawn at 587, future upward movement of the line could increase the potential for such a result.

The requirements of section 504 clearly apply to both private and public recipients of Medicaid funds and would therefore apply to Oregon in the implementation of the Medicaid reforms it has proposed.[14]

The DHHS regulations interpreting the scope and meaning of section 504 track closely those of Title VI (see 45 CFR 84.4). The language of these regulations appears to prohibit both intentional or overt discrimination against the handicapped, and acts or practices that have a disparate impact on the handicapped. As with Title VI, the courts have interpreted the requirements of section 504 somewhat more narrowly than these regulations may suggest.

In *Alexander v. Choate (469* U.S. *287 (1985)), the* Supreme Court considered both section 504 and its interpretative regulations and attempted to outline the types of activities that would be regarded as discrimination for purposes of section 504. *Choate* involved an attempt by the Tennessee legislature to reduce the costs of the Medicaid program by setting a maximum limit of 14 days of Medicaid coverage for inpatient hospitalization. The plaintiffs in *Choate* argued that since handicapped Medicaid beneficiaries have greater needs for hospitalization, the result would disproportionately affect the handicapped and therefore violate section 504.

In its decision, the Court held that while Title VI and section 504 are similar in many regards, the two mandates may be interpreted and applied in different ways. According to Justice Thurgood Marshall, the underlying purpose of section 504, unlike that of Title VI, is to prohibit discrimination that derives from "indifference," "neglect," or ' 'apathetic attitudes" rather than "invidious animus' (469 U.S. at 295-96). On the other hand, Marshall argued, the concerns of 'disparate impact resulting from these sources must be balanced by ''the need to keep section 504 within manageable bounds' and avoid unduly burdensome "Handicapped Impact Statements" (469 U.S. at 299).

Thus, according to the *Choate* decision, section 504 does apply to some circumstances of disparate impact discrimination. However, the prohibition of disparate impact discrimination requires a ' 'balancing' ' test under which "reasonable" efforts to modify a program or accommodate the handicapped may be required, but substantial or 'fundamental' modifications will not.

*Choate* upheld the Tennessee Medicaid limit primarily because it did not overtly distinguish between handicapped and nonhandicapped beneficiaries; both categories have ''meaningful' access to the same benefits, notwithstanding the acknowledged fact that handicapped beneficiaries are in greater need of those benefits. In this regard, *Choate* has been widely read as largely eviscerating the application of section 504 to disparate impact discrimination. The *Choate* opinion, however, does allow that some forms of disparate impact discrimination would *not* satisfy the ''balancing' test of section 504. For example, the Court notes that "the benefit itself cannot be defined in a way that effectively denies otherwise qualified handicapped individuals meaningful access . . . .' It also argues that "criteria that have an exclusionary effect" cannot be employed in determining limitations on benefits.

Under *Choate*, it is clear that Oregon can limit or restrict covered services in a facially neutral manner, even if the result disadvantages groups that qualify as handicapped under section 504. However, in implementing the proposal, particularly the proposed prioritization of covered services, it is conceivable that services would be defined or categorized in such a way that services might be covered for the nonhandicapped but comparable services would not be covered for the handicapped. If this were done explicitly, it could be regarded as intentional discrimination and a violation of section 504 per se. Even if it were not, it may be regarded as the kind of disparate impact discrimination described in *Choate* and a court would have to apply the "balancing" test described in *Choate* and other decisions. Ultimately the determinative issues would be much like those in Title VI cases: what sorts of justifications would be considered "reasonable" and what level of judicial review would be required under the "balancing test. ' It is simply not possible under current law to anticipate how future courts would answer these questions.

The passage of the Americans With Disabilities Act in 1990 (Public Law 101-336) presents another potential avenue by which the Oregon proposal

[14] Section 504 requirements are enforceable through administrative action or through privately initiated lawsuits (subject to the qualifications discussed above).

might be challenged. The focus of this law, as confined by its legislative history, is on access of persons with disabilities to transportation, employment, and places of business. Nonetheless, one passage of the act could be construed to place a broader interpretation on its reach. The passage states that:

> [N]o qualified individual with a disability shall, by reason of such disability, be excluded from participation in or be denied the benefits of the services, programs, or activities of a public entity or be subjected to discrimination by any such entity (Public Law 101-336, Section 202).

For the purpose of this act, a‘ ‘public entity’ is a State or local government, an agency or special district of such a government, and certain transportation authorities. The intent of this definition is apparently to ensure that disabled persons are not treated inconsistently or inequitably by government entities simply because some receive Federal funding (and are thus subject to the strictures of the Rehabilitation Act) while others do not (268)).

The focus of this legislation and its legislative history appear to imply that it places no additional burden on the discretion of a State Medicaid program beyond those already in place as a result of the Rehabilitation Act. However, at least one legal advocate has suggested that the Disabilities Act does indeed place additional requirements on Medicaid programs. In particular, this advocate argues that the use of the public survey to assign values to health states gives inadequate weight to the opinions of persons with disabilities and therefore biases the ranking process against services for disabled persons (150).

Any assumption regarding how Oregon’s proposal would fare under a Disabilities Act challenge is necessarily speculative, since there is no case law. (The act, although passed in 1990, did not take effect until January 26, 1992.) Ironically, OTA analyses of the list showed that the weights from the public survey had relatively little effect on the final rankings on the list (see ch. 3). Furthermore, where survey responses differed according to the health experiences of the respondent, the result in at least a few cases could be to increase the relative weight assigned to a given treatment that would reduce the disability. However, because the Oregon Health Services Commission has not made its ranking process explicit and because it is possible that in future revisions of the list public survey information could be more determinate, the Oregon plan might still be vulnerable to challenge under the act.

### The Child Abuse Prevention and Treatment and Adoption Act

One issue that could well generate legal controversy for the Oregon proposal as it is implemented—and also one that cannot be addressed definitively—involves the discriminatory treatment of newborn infants with severe handicaps, the focus of the ‘‘Baby Doe” debates. In the early 1980s, in response to reports that hospitals were allowing parents to refuse treatment for certain categories of handicapped newborns, DHHS attempted to promulgate additional regulations under the authority of section 504 (see 49 F.R. 1,627). Among other provisions, these regulations would have required States to use their child abuse authority to prevent “medical neglect of handicapped infants. ’

The application of these regulations to circumstances where parents have asked for treatment to be terminated, as well as some of the procedural requirements of these regulations, was eventually invalidated by the Supreme Court *(Bowen v. American Hospital Association, 476* U.S. 610 (1986)). However, while the result of the *Bowen* decision was the invalidation of these particular regulations, the decision validated application of section 504 to circumstances where State policy overtly discriminates against treatment of certain categories of handicapped infants.

Again, it is unclear what section 504 requires or allows in this setting, but the ***Bowen*** case clearly indicates that it will be applied. Furthermore, in this context section 504 may be applied both to the State in its decisions to prioritize covered services *and* to providers such as hospitals. Section 504 thus represents another potential conflict between the requirements of Federal law and the immunity from State law created by section 414.745 of the Oregon statute, as discussed above.

As part of the political fallout from the “Baby Doe” debate, in 1984 Congress amended the Federal Child Abuse Prevention and Treatment and Adoption legislation (42 U.S.C. § 1501 *et seq.* (Supp. 1991)). Those amendments give DHHS additional and alternative authority for regulating discrimination against handicapped newborns. Among other things, they explicitly define the withholding

of medically indicated treatment and nutrition from handicapped infants as a type of child abuse. The amendments also require each State, as a condition on the receipt of Federal funds under the original statutory scheme, to enforce State laws prohibiting child abuse in such circumstances. The implementing regulations, issued in 1985, prohibit the withholding of "medically indicated treatment" in the face of a ''life threatening condition," except under narrowly defined circumstances (see 45 CFR § 1340 (1990)). Thus, assuming that Oregon is a recipient of funds under this program, this statutory scheme may also impose restrictions on Oregon's discretion to overtly discriminate against certain categories of beneficiaries, as well as limit the discretion of providers to terminate or refuse treatment despite the statutory immunity of section 414.745.

The Age Discrimination Act of 1975

The Age Discrimination Act of 1975 (ADA), codified in 42 U.S.C. §§ 6101-6107 (Supp. 1991), generally prohibits discrimination on the basis of age in programs or activities receiving Federal financial assistance, paralleling the prohibitions of Title VI and section 504. Although the specific language used in the statute and regulations relates to all distinctions based on age, the legislative history of the ADA indicates that the primary concern of the legislation was discrimination against the elderly (241).

The ADA legislation differs from other civil rights statutes in several ways. First, it is not clear whether the requirements can be enforced through privately initiated lawsuits; some lower courts have read the statute as providing only for administrative enforcement (see *Rannelsv.Hargrove,731* F. Supp. 1214 (E.D. Pa. 1990); *Mittelstaedt v. Board of Trustees of University of Arkansas, 487* F. Supp. 960 (D.C. Ark. 1980)).

Second, while the ADA clearly applies to States receiving Federal Medicaid funds, it also specifically exempts overt age distinction that is authorized by Federal or State statute.[15] It does not appear, however, to exempt age distinctions that result from the administration or implementation of the program at the State level. Thus, in the implementation of the Oregon proposal, if an age distinction is made by an administrative policy or body—the obvious example is an age distinction drawn by the Oregon Health Services Commission that prioritizes a covered service separately for two different age groups under the scheme-that distinction would not be exempt from the ADA under this particular provision.

There remains the question of whether age distinctions authorized by an administrative body fall under any other exceptions allowed by the ADA statute. Section 610 of the statute exempts ''actions [that] reasonably take into account age as a factor necessary to the normal operation or the achievement of any statutory objective of such program or activity." The DHHS regulations interpreting the ADA specify that, to be exempted, actions must meet four criteria:

1. Age is used as a measure or approximation of one or more other characteristics;
2. The other characteristic(s) must be measured or approximated in order for the normal operation of the program or activity to continue, or to achieve any statutory objective of the program or activity;
3. The other characteristic(s) can be reasonably measured or approximated by the use of age; and
4. The other characteristic is impractical to measure directly on an individual basis (45 CFR §§ 91.12, 91.13).

It is difficult to determine the implications of section 6103(b)(l)(A) for the Oregon Medicaid proposal with any certainty. The argument can be made that a prioritization of services that uses age as a criteria is an attempt to assess the value of the service to the individual denied that service; that age is a ''reasonable measure' of that value because it approximates life expectancy or social value; and that it is impractical to measure these characteristics in a more direct or individualized manner. It could also be argued that the Oregon scheme has been specifically authorized by State legislation to make these "value" determinations (and may be authorized to do so under a Federal statutory waiver as well).

On the other hand, the language of both the ADA statute and the DHHS regulations premises the exception on a finding that the age distinction is ''necessary' to the normal operation of the program

15 The DHHS regulations read this exemption to apply to laws adopted by a general legislative body, including local governments (45 CFR § 91.3(b)(l)).

or to the achievement of a programmatic objective. Drawing age distinctions is one way to prioritize Medicaid benefits, but it is not "necessary" in the stricter sense of the term. The assertion that age is a ''reasonable' measure of life expectancy or of social value can also be challenged.

Unfortunately, there has been virtually no prior application of these regulations-or the ADA statute--in this sort of context, either judicial or administrative. The only clear principle is that the ADA allows for overt age distinctions *only if they* fall under the ''statute' exceptions of sections 6103(b)(2) or under § 6103(b)(l)(A).

The extent to which the ADA prohibits *de facto,* or disparate impact, discrimination is likewise unclear. Section 6103(b)(l)(B) of the ADA does allow for actions or policies that draw distinctions based on "reasonable factors" *other than age;* and the DHHS regulations interpret "reasonable" to mean factors that have a "direct or substantial" relationship to the same factors that can justify age distinctions under the exceptions of sections 6lO3(b)(l)(A): the normal operations of the program or the program's statutory objectives (45 CFR §§ 91.11, 91.14). The statutory term "reasonable" and the "direct and substantial" language of the regulations, however, would require some judicial or administrative review of a policy or practice that results in *de facto* discrimination--certainly more than the "rationality" standard applied in other contexts.[16]

Nonetheless, the discretion allowed in the implementation or administration of the proposed scheme should be quite broad. Indeed, read broadly, the exception of section 6103(b)(l)(B) nearly swallows the general rule. If Oregon were to adopt a policy or practice that would have the effect of creating an age distinction-a good example might be the exclusion from Medicaid coverage of a service that is more often provided to the elderly than younger program participants-Oregon would only have to show that the prioritization of the service was part of the ''normal operation' of the program, or was consistent with the statutory objectives of the scheme. In most circumstances, it would probably be able to do so.

## SUMMARY OF CONCLUSIONS

With one possible exception, Oregon's Medicaid proposal appears not to conflict with the Federal Constitution. The exception concerns provisions of the proposal that might permit a separate standard of care, and a different level of legal protection against substandard care, for Medicaid beneficiaries than for other State residents. This differential could be interpreted as a violation of the equal protection clause of the 14th Amendment. These provisions are also vulnerable to a State constitutional challenge under comparable provisions of the Oregon Constitution.

The provision in SB 27 that exempts providers from liability for not providing care to Medicaid beneficiaries when that care is not covered by the program is valid on its face; the State can pass legislation that overrides existing common law principles. However, this provision conflicts with existing Federal statutes that require most hospitals to provide basic emergency care to all patients. Thus, it is possible that hospitals could be prosecuted under Federal statute for not providing some services even if they were exempted under State law.

Federal law requires certain protections for human research subjects (e.g., IRB review of research proposals), but it also provides certain exceptions for public benefit programs. The Oregon proposal appears to fall within these exceptions, although some critics have claimed that language in a 1992 DHHS appropriations bill indicates otherwise.

Federal statutes prohibiting recipients of Federal funds from discrimination on the basis of race, handicap, or age clearly apply to the Oregon proposal. Implementing regulations further prohibit certain kinds of 'disparate-impact' discrimination. The Oregon proposal is on its face not vulnerable to a challenge on this basis, although it is possible that in its implementation the proposal could violate either of these Federal statutes or their interpretive regulations. It is probably also not very vulnerable to

16 It appears from the Federal regulations that DHHS would regard any age distinction-whether overt or *de facto*—invalid *unless* that *distinction is* a result of a policy or practice that is specifically excepted from the ADA by the statutory language of section 6103(b). Under this reading of the ADA, the scope of the justification inquiry is framed exclusively by the exceptions outlined in the statute, regardless of whether the distinction is intentional or eve% or whether it is merely a disparate effect or result. Although this appears to be a reasonable and consistent interpretation of the ADA, there has been virtually no judicial examination of the scope and meaning of the ADA in this context. Thus, it is impossible to predict definitively how the statute would be interpreted should this reading ever be contested.

challenge on the basis of handicapped or age discrimination, unless in its implementation the denial of benefits can be shown to fall disproportionately on protected groups (e.g., because the services they use tend to appear below the cutoff point on the prioritized list). Based on OTA's analysis of the list, it appears unlikely that this would happen at the current benefit threshold; however, the potential for such a challenge could increase if the line moved up. The proposal could conceivably be vulnerable to challenge on the basis of certain provisions of the American with Disabilities Act, but lack of legal precedents for such a challenge makes it difficult to predict how future courts would react.

If Congress should decide to grant the waiver statutorily, it could explicitly exempt the program from other existing applicable statutes (e.g., the discrimination laws). However, ambiguous wording in such a statutory waiver could lead to questions of congressional intent regarding the applicability of the other statutes to the program. Thus, ambiguous legislative wording could actually create rather than resolve future judicial controversy.

Chapter 8

# Evaluation Issues

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# Chapter 8
# Evaluation Issues

## INTRODUCTION

Different observers can, and do, see Oregon's demonstration proposal in very different research contexts. The most obvious context is as a straightforward health services research experiment. Indeed, Oregon's justification for requesting Federal funding for its proposed new Medicaid demonstration program is that the program would provide useful information to the Federal Government. This knowledge would presumably be used to improve other State Medicaid programs and inform Federal health policy decisionmaking.

Because different States operate with very different Medicaid systems, the usefulness of Oregon's proposal in this context depends at least in part on the ability to dissociate the different components of the demonstration and assess their separate effects. For example, States may wish to implement Oregon's prioritized list as a Medicaid benefit package without necessarily implementing the other components that Oregon proposes to demonstrate (e.g., eligibility expansion, managed care implementation). This chapter discusses some of the basic issues likely to arise in evaluating the demonstration on this level.

In addition, however, Oregon's proposal is seen as a potential experiment of two very different questions. First, the proposal can be viewed as a simple experiment designed to answer the question: Is it possible, using the combination of mechanisms Oregon would implement, to provide acceptable health care coverage to the uninsured poor population without significantly raising costs to the taxpayer and to the health care system? A second question is even further from the traditional bounds of health services research: Is health care coverage based on prioritization of health care services, with public input, politically sustainable? These two questions are addressed briefly in the final section of this chapter.

## OREGON'S PROPOSAL AS A HEALTH SERVICES RESEARCH PROJECT

Conceptually, the proposed demonstration is an experiment in which two separate populations (the uninsured poor and the Medicaid-eligible population) undergo a number of different, simultaneously administered interventions.

For the uninsured poor population, these interventions are relatively simple: they consist of a package of covered services and a new delivery system (i.e., managed rather than ad *hoc* charity care). The theoretical questions to be answered for this target group are:

1. Does the existence of health insurance coverage (specifically, coverage for services in condition-treatment (CT) pairs 1 through 587), delivered through a managed care system (as Oregon has designed it), increase health access to the uninsured poor? Does it improve health status and satisfaction with care?
2. If it does, at what cost (or savings) to the State, providers, employers, the new beneficiaries, and other groups of interest?

For the population currently eligible for Medicaid, the hypotheses being tested are more complex. This population would undergo a number of changes, including changes in benefits, eligibility, and source and type of care. Although the outcomes of interest still revolve around health care access and cost, the questions are more specific and more complex because they involve comparisons with an existing program. They would include, for example:

1. Does simplifying eligibility rules increase program participation? Who gains and who loses—and how much—through changes in income calculation, elimination of retroactive coverage, and change in the minimum length of eligibility?

2. Do the changes in benefits lead to overall changes in access to services, health status, and satisfaction with care? Do they affect different subgroups of the population differently (i.e., are there ''winners' and 'losers' ')? Do they affect program costs?
3. Does the expansion to statewide managed care affect health access and satisfaction, and is the effect uniform across the population? Does it affect program costs?

Because provider participation is (presumably) critical to health care access, the third set of questions encompasses others: for example, does changing the method of payment affect participation?

From the Federal perspective, it would be important to consider the different components of the experiment separately in the evaluation. Although it is certainly possible that other States (or the Federal Government) would want to duplicate the entire package, it is much more likely that they would choose to adopt only a few components. For instance, another State might consider implementing the prioritized list and simplified eligibility rules for only the existing Medicaid population. To gain information from the Oregon experiment that would be useful to a State entertaining such an option, the two populations affected and the various interventions applied would all need to be evaluated separately, and the outcomes measured would need to be appropriately linked with the intervention(s) that caused them.

Identifying causal effects-i. e., the link between intervention and outcome and the direction of that link-is the crux of any type of applied research. Determining that the intervention being studied caused a particular outcome is especially difficult in social science research, where the intervention is often hard to apply reliably and many environmental factors that may affect the outcome are out of the control of the researchers.

The ability to draw conclusions about cause is enhanced by incorporating evaluation considerations into the design of an experiment and specifying clearly the hypotheses and outcomes of interest before the experiment takes place (129). Oregon's waiver application makes clear that it considers evaluation of the demonstration to be the responsibility of the Health Care Financing Administration (HCFA), not the State. However, it does present a starting evaluation plan, including some possible hypotheses to be tested, data sources, and some suggested methods of analysis using these data sources.

Even with impeccable theory and planning, however, determining causal connections in Oregon's proposed demonstration, as with any research project, might be difficult. Campbell and Stanley (1963) and Cook and Campbell (1979) have described a framework for identifying the research problems that make drawing conclusions about the effects of an intervention difficult (box 8-A). Three problems are especially relevant to the proposed demonstration and deserve mention here.

### *Selection of Adequate Controls*

To help rule out threats to statistical validity (see box 8-A), experiments often randomize the test population to intervention and nonintervention ("control") groups. Where randomization is not attempted, as in Oregon's proposed demonstration program, the control population may be historical (i.e., the test population before the intervention was applied) or matched (e.g., another State's Medicaid population). Oregon's outlined evaluation plan suggests that both types of controls be used.

Some historical (predemonstration) utilization data exist for hospital inpatient services and for other services provided outside of the existing managed care area. Also, new and existing program participants could be surveyed regarding their health status and satisfaction at the onset of the demonstration.

Both types of historical baseline data are useful, but both also have strong limitations. For example, few data on utilization of capitated services (including physician, laboratory, and x-ray services) exist for beneficiaries enrolled in the current prepaid program. Prepaid plan enrollment is presently mandatory for all persons eligible for Medicaid through Aid to Families with Dependent Children (AFDC) who live in a nine-county area that encompasses most of Oregon's urban areas (and approximately 54 percent of Oregon's AFDC beneficiaries (see ch. 4). Thus, many of the utilization comparisons possible under the demonstration would be restricted either to certain areas (e.g., fee-for-service (FFS) counties), specific services (e.g., hospital inpatient services), or groups of beneficiaries not currently enrolled in prepaid plans (e.g., poverty level medical women and children).

### *Box 8-A—Attributing Causality in Program Evaluation*

Most research has underlying it one basic goal: to test whether the intervention (e.g., a new drug, a new school curriculum, a change in Medicaid rules) causes one or more outcomes. In laboratory and some clinical research, the outcome desired can be clearly specified and measured, and outside influences that might affect that outcome can be rigidly controlled for. In these cases, the researcher's control over external factors raises the likelihood that the researcher can conclude with confidence that the outcome (if it occurs) was caused by the intervention. In other kinds of research, however, including most social science research, the researcher has much less control over the outside factors that might act upon the population of interest. In such cases, the conclusion that the intervention caused a given outcome is strengthened by eliminating various "threats" to its validity.

Threats to validity can be separated into four categories:

- Statistical conclusion validity--Are the intervention and the outcome related on the basis of statistical evidence? For example, does the study have enough statistical power (e.g., a large enough sample size) to detect an effect of the intervention? Are the outcome measures reliable (e.g., if the outcome is a score on a test, is the test itself statistically reliable)? Is the intervention applied uniformly across the population, and if not, can the population heterogeneity be itself measured and analyzed?
- *Internal validity--Given* that an intervention and outcome are statistically linked, how plausible is it that the intervention (and not some outside factor) actually caused the outcome? Threats to internal validity include biased selection (e.g., a difference between test and nontest populations was detected because the test population was predisposed to that difference); diffusion or imitation of the intervention into the control (nontest) group; and ambiguity about the direction of causality (did A cause B, or did B cause A).
- *Construct validity--Do the* measurements representing the intervention and the outcome really stand for the "constructs" they are intended to, or might they accommodate other concepts as well? For example, if a person improves after being given a pill by a physician, is it the the pill's therapeutic effect being measured--or is it some combination of the pill's chemical effect, the physician's helpful concern, and the patient's belief that the pill will be effective? (Such concerns led to the widespread use of "placebo" controls in drug research.) Having several different measures (e.g., length and number of physician visits, waiting time to visits) to represent the "construct" (e.g., access to health care) can reduce threats to construct validity. If the intervention being tested includes many components, which must be separately measured, threats to construct validity maybe more difficult to rule out.
- *External validity--Can the* results of the experiment be inferred to apply outside of the test population? If the setting and the intervention interact, for example (e.g., instilling discipline in boot camp), the intervention may not have the same effect in another setting (e.g., a preschool). Similarly, if the population selected for the experiment differs substantially from the nonexperimental population, the experimental conclusions may not be valid when applied to the broader population.

***SOURCES:*** D. Campbell and J. Stanley, Experimental and *Quasi-Experimental Designs for Research (Chicago, IL: Rand* McNally, 1966) and T. Cook and D. Campbell, *Quasi-Experimentation: Design and Analysis Issues for Field Settings* (Boston, MA: Houghton Mifflin, co., 1979).

These historical utilization data, even where available, would apply only to existing Medicaid beneficiaries. Surveys of incoming program participants would be the only mechanism by which to estimate baseline utilization and health status of newly eligible persons. However, such surveys would be expensive to conduct and would have to be implemented very rapidly if the waiver is approved, limiting the sample size of the data and raising the chances that the survey would not be adequately tested before being applied. Also, a survey at the time of enrollment might overestimate the health problems of this population, since many individuals might postpone seeking care if they know they will soon have coverage and would not have to pay out-of-pocket.

Using comparison groups outside the demonstration population as the controls eliminates some problems inherent in the historical controls (e.g., sample size), but this strategy also has limitations. Using data from other State Medicaid programs, for example, introduces confounding factors due to differences in State- and program-specific characteristics (e.g., coverage limitations, general availability of health resources). Similarly, using as the population control another group within Oregon (e.g., persons eligible for the program who did not enroll) introduces confounding factors related to the charac-

teristics of that population and the lack of a systematic method for obtaining utilization and other relevant data from individuals within it.

### *Statistical Power To Detect Effects*

Even when an effect occurs, a test population may not always be large enough to detect it within the traditional limits of statistical confidence. Small predicted effects require large sample sizes to detect their occurrence. This problem would place limits on some of the outcomes that an evaluation of a demonstration such as Oregon's could expect to identify. Changes in population mortality that might result from changes in covered services, for example, are unlikely to be detectable in a population of a few hundred thousand persons over a 5-year period. Some more specific health outcomes that one might wish to detect are also unlikely to surface; for example, the measurable benefits of many preventive services are not apparent for many years after the service is used.

Low power to detect effects is especially likely to limit the ability of evaluators to determine that specific intervention components caused particular outcomes (e.g., that implementing the prioritized list reduced costs). Separating the effect of the new benefit package from the effect of prepaid managed care, for example, requires either detailed data from the prepaid sector before the new benefits take place or comparative data during the demonstration between prepaid and *FFS* managed care. In both cases, data would be limited. As noted above, only a few baseline utilization data are available for current prepaid plan enrollees. Although the State has recently begun requiring such data from prepaid plans, there would be less than 1 year's worth if the demonstration were to begin in mid-1992. Furthermore, data currently collected from prepaid plans reflect only very broad categories of service (e.g., physician visits) and would thus be of limited usefulness in linking outcomes to the condition-specific coverage exclusions of the prioritized list (see ch. 4). In addition, the populations receiving prepaid and FFS care during the demonstration would differ by virtue of location (the latter would be mostly rural populations), and again population-specific factors may confound interpretation of the data.[1]

Monitoring or surveying particular subpopulations likely to lose or gain from the change in benefits (e.g., those with chronic conditions below the line; those with terminal conditions who might use hospice care; adults newly eligible for preventive care) does offer one opportunity to evaluate directly the effect of the prioritized list. In many of these cases, the size of the expected effect on the specific population is large enough to be detectable. Choosing appropriate subpopulations to study in depth would thus be an important component of an evaluation plan.

### *Difficulty Ensuring That the Intervention Is Applied Consistently*

The list itself gives no specific guidance regarding how to assign patients to CT pairs, so no two providers are likely to apply the list in the same way to their patients. Differences in how the list is applied would probably be the greatest between FFS and prepaid care providers. Even between two providers under the same payment system, however, the ambiguity of the list is likely to lead to greatly different interpretations of what is covered and what is not. The addition of mental health and chemical dependency services to the prioritized list could further confound this problem.

Some of this ambiguity could be resolved over time through greater provider education and instructions, but it is not clear that these instructions could be sufficiently developed by the time the program begins (assuming a startup date of July 1992) (see ch. 4).[2] And even with clearer instructions for using the list, providers might violate those instructions in their own interests or the interests of their patients (see chs. 3, 4, and 5). The State may be unable to prevent this from happening, or even to detect that it occurs.

[1] At least some of any differences found are likely to be caused by factors such as geographic barriers to access, rural provider shortages, and differences in population characteristics and health care preferences, rather than solely by differences in FFS vs. prepaid care (U.S. Congress, OTA, September 1990). Since the detailed effects of such population-specific and geographic differences are not generally well-described quantitatively, they cannot be easily adjusted for in a statistical analysis.

[2] Note that the original July 1992 startup date has been postponed on a month-to-month basis pending HCFA approval of the waiver (see ch. 4).

## THE PROPOSAL AS A BROADER POLITICAL EXPERIMENT

In contrast to the traditional health services research demonstration (as outlined in the waiver proposal), Oregon's plan can also be seen as a chance to test the question of whether a novel idea to cover the uninsured poor can work without substantially increasing costs. Indeed, many people who are skeptical of some of the specifics of the proposed program nonetheless view it as a chance to test a novel health care reform strategy. In this context, the Oregon demonstration would really be a test of a comprehensive package of interventions, in which separating out the effects of various components is unnecessary. The ''research' question in this case is simply: Can the plan successfully extend coverage to uninsured people without substantially raising long-term program and social costs?

Evaluating this question in the aggregate would not require nearly as detailed a level of data analysis as would evaluating the separate effects of the various components of the proposed program. The crucial parameters to measure would be the level of access to care (for which the level of benefits might even be accepted as a proxy) and the difference between actual demonstration program costs, projected Medicaid program costs if the poor uninsured population were not covered, and perhaps estimated costs of some alternative way of providing coverage to uninsured persons. The danger of such an approach is that as an experiment, its results could only be appropriately extrapolated in the aggregate. Other States could apply the results only if they, too, were willing to implement the total package that Oregon has proposed.

Finally, Oregon's proposal presents a larger political feasibility experiment: Can the State keep the structure and dynamic of the program intact? If, for example, program costs were higher than expected, would the legislature actually be willing and able to reduce benefits or increase revenues to fund it? Or would the plan evolve over time into simply another version of the current system, in which neither eliminating specific treatments nor raising taxes is politically feasible, and the State must resort once again to limiting eligibility and provider payment?

In fact, some Oregonians have speculated that the program's design, in which funding can in theory affect only the level of benefits, may actually serve to increase the public's willingness to fund Medicaid by highlighting the treatments that would be cut if funds were unavailable. Thus, the demonstration may be of political interest to some policymakers despite its potential drawbacks as a health services research project.

# Appendixes

# Appendix A
# Method of the Study

## *Study Request and Approval*

***The Office*** of Technology Assessment (OTA) was first asked to examine Oregon's Medicaid proposal in March 1990, in a letter from Representative John D. Dingell (Chairman, House Committee on Energy and Commerce) and Representative Henry A. Waxman (Chairman, House Subcommittee on Health and the Environment). Senator Al Gore (Chairman, Senate Subcommittee on Science, Technology, and Space) sent a supporting letter requesting the OTA study in March 1990. These letters asked that OTA study the proposal, placing special emphasis on the method used to develop the prioritized list, an assessment of the list itself, and an analysis of some of its likely effects on costs, utilization, and the services available to current Medicaid beneficiaries.

The prioritized list that was being developed and considered by the Oregon Health Services Commission (HSC) at the time the OTA study was requested was subsequently rejected by the HSC. A new list, upon which many of OTA's analyses would be based, was developed over the following year. With the expectation that the OTA study could thus realistically begin, OTA's congressional Technology Assessment Board approved the proposed assessment of Oregon's Medicaid proposal in March 1991.

A third congressional letter regarding the OTA study was received in May 1991 from members of the U.S. Congress representing Oregon. This letter expressed concern that the OTA study should not be focused too narrowly and asked that the study consider the effects of Oregon's proposal on uninsured persons in the State and on other aspects of the health care system as well. Signatories included Senator Bob Packwood (ranking minority member, Senate Committee on Finance); Senator Mark O. Hatfield (ranking minority member, Senate Committee on Appropriations); Representative Les AuCoin; Representative Peter A. DeFazio; Representative Michael J. Kopetski; Representative Robert F. (Bob) Smith; and Representative Ron Wyden.

## *Information Sources and Conduct of the Study*

***The*** fundamental information sources for this study were documents produced by or for the State of Oregon. These included the HSC's prioritized list (and supporting documents), submitted to the State legislature on May 1, 1991; the accompanying program cost estimate provided by the private firm Coopers& Lybrand, also submitted to the State legislature on May 1, 1991; and Oregon's waiver proposal, submitted to the U.S. Health Care Financing Administration on August 16, 1991. Staff from the State Office of Medical Assistance Programs, other State offices, the HSC, Coopers & Lybrand, and Lewin/ICF, Inc. (which performed some of the background analyses for the waiver proposal under contract to the State) spent a considerable amount of time, on the telephone and in person, responding to OTA questions and clarifying the details and status of the proposed program.

The HSC provided OTA with databases relating to the prioritized list, which OTA used to perform its detailed analyses of the ranking process and the list. OTA also obtained some detailed data relating to Oregon's current and proposed Medicaid program under contract from Coopers & Lybrand.

OTA staff made two site visits to the State, in January and August 1991, during which they conducted informal personal interviews with numerous individuals in Oregon involved in the development of the proposal, or potentially affected by it. These included commissioners; State representatives; representatives of hospital, physician, and other provider groups; consumer representatives; and researchers.

Several individuals provided clinical and legal background information assessing aspects of Oregon's proposal under contract to OTA. This information included:

- A memorandum regarding outcomes and usual treatment in Oregon of infants with intraventricular hemorrhage, anencephaly, and less than 500 grams birth weight and less than 23 weeks gestation. (Provided under contract by Pony M. Ehrenhaft, Lake Oswego, OR.)
- Detailed clinical opinions regarding ambiguities or internal conflicts in the list and the effectiveness of treatments for paired conditions below line 587. The purpose of these papers was not to identify whether individual clinicians disagreed with particular rankings of the list, since it would be reasonable to expect that any given clinician would disagree with at least some rankings. Rather, the purpose was to identify any obvious inconsistencies in the list and the clinical input to its development, and to examine whether there was any potential for conflict (and, if so, the source of that conflict) between the prioritized list and clinical practice, Clinical contractors included David A. Asch, University of Pennsylvania, Philadelphia, PA; James Patton, Philadelphia, PA; Angelo Giardino, Robert Wood Johnson Clinical Scholars Program, Philadelphia, PA; and Mark Schuster, University of California, Los Angeles, CA.

- Memoranda regarding whether Oregon's proposal might be in legal conflict with the U.S. Constitution or existing major Federal statutes (not including the Medicaid statutes). (Provided under contract by Kenneth R. Wing, School of Law, University of Puget Sound, Tacoma, WA.)

In addition to the information sources above, OTA staff consulted the published literature on such topics as health preferences and life quality measures, health care for Medicaid beneficiaries and the uninsured, and the effectiveness and safety of specific health care treatments and services. OTA also consulted with outside experts in various subjects (e.g., Medicaid, health preference surveys) during the course of the study.

### *Role of the Advisory Panel*

OTA assessments include the selection of a panel of outside experts who provide OTA staff with valuable advice regarding the scope, direction, and substance of the study. These experts do not write any portion of the OTA report itself, nor do they have the opportunity to require or prohibit the inclusion of any specific viewpoints or information in the report. They are chosen for their expertise and for the varied perspectives they represent. They are not expected to reach consensus on specific issues.

Nonetheless, the expertise of these individuals is extremely important to OTA's studies. They help ensure that all important views have been considered by OTA, and they provide guidance and detailed review of OTA's work. Because they have no final authority over the contents of the report, their representation on the panel does not mean that they necessarily agree with (or disagree with) the findings of the OTA report.

The advisory panel to the OTA evaluation of Oregon's Medicaid proposal included individuals with interests and expertise in such areas as law, medicine, ethics, health care administration, children's issues, State policy and program administration, and the Medicaid program. The State of Oregon was not represented on the panel itself, although staff from the Oregon Office of Medical Assistance Programs and the HSC received panel briefing materials and attended all panel meetings. A list of advisory panel members is included at the front of this report.

### *Review Process*

***An initial draft*** report of OTA's evaluation was reviewed by advisory panel members in January 1992. A revised draft was sent for review to the advisory panel and to approximately 80 additional outside experts for comment the following month. These experts included Federal and State officials, statisticians, ethicists, public health experts, clinicians, other health care providers, beneficiary and consumer advocates, and others with relevant expertise or important perspectives. Approximately one-third of outside reviewers were from the State of Oregon.

A final draft, revised after considering all reviewer comments, was submitted to the Technology Assessment Board at the end of March 1992.

# Appendix B
# Acknowledgments

This report was greatly aided by the assistance of many individuals who provided OTA staff with information and advice over the course of the study, and those who participated in the review of the draft report. (These individuals do not necessarily either agree or disagree with the findings and conclusions of this report. OTA assumes full responsibility for the report ‘and the accuracy of its contents.)

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# Appendix C
# Oregon's Survey of Public Health-State Preferences

## *Introduction*

***One*** of the unique aspects of Oregon's prioritization process is its attempt to incorporate the public's health care values and preferences. This appendix supplements chapter 3 by providing more detailed information on Oregon's effort to measure preferences for various health states. These measures were used along with treatment outcomes information to quantify a treatment's net benefit. As described in chapter 3, although it was an important conceptual component of the prioritization process, net benefit was ultimately not an important determinant of condition-treatment (CT) pair order on the list. Nonetheless, there is great interest in Oregon's incorporation of public preferences into outcomes assessment, and analyses of why Oregon's original attempt at a quantified cost-effectiveness approach to prioritization failed has focused attention on the Oregon Health Services Commission's (HSC) measurement of net benefit (54,90,1 10,249).

This appendix first very briefly describes the science of health-state preference measurement, emphasizing methods developed by Robert Kaplan and colleagues that were later adapted for Oregon's use. The comparability of preference weights as measured by Kaplan in California and the Oregon weights are examined. Next, inconsistent survey responses are examined, as are methods that could have been used to adjust weights. Lastly, the importance of differences in preference weights by various respondent characteristics are examined in more depth than is presented in chapter 3.

## *Measuring Health-State Preferences*

With attention increasingly focusing on treatments for chronic illness, outcome measures that describe treatment effects in terms of both mortality and morbidity and also incorporate public values associated with various outcomes are potentially very useful, Interventions such as heart transplants might increase life expectancy, but they may also seriously compromise highly valued aspects of life's quality such as physical functioning, mobility, and social activity. Indexes of quality of life try to capture, sometimes in a single measure, dimensions of health that affect its quality. Health-state preferences are measures of satisfaction or desirability that people associate with the presence of symptoms and functional limitations that can affect quality of life (73), Health-related quality of life measures are increasingly being considered for program evaluation, population monitoring, clinical research, and policy analysis.

Research has shown that people can make remarkably consistent subjective judgments, even when those judgments are abstract (74). Nonetheless, it is difficult to measure health-state preferences because:

- Individuals often make trade-offs (e.g., accept the side effects of a drug in order to reduce the risk of disease);
- Preferences may change over time; and
- Determining whose preferences to measure needs careful consideration when preferences are applied in a public policy context.

Investigators have defined different dimensions of health and have developed methods to measure their relative desirability. The three steps generally used to obtain health-state preferences are summarized very briefly below. There are several articles and texts available that comprehensively review the state of the art of defining and measuring health-state preferences (21,63,73,74,75,76,137,247,302).

### Step 1: Define Health and the Health Attributes To Be Measured

When operationalizing "quality of life, " researchers often reference the World Health Organization's definition of health. It describes health as "a state of complete physical, mental, and social well-being and not merely the absence of infirmity" (315).

Examples of health attributes included in quality of life measures are shown in box C-1. For each attribute, levels can be defined that represent stepwise increments from good to poor functioning (e.g., no, mild or moderate, and severe pain). A range of health states can be described by selecting one level from each attribute. For the five health attributes shown in box C-1, for example, there are a total of 243 unique health states representing all possible combinations of levels (i.e., $3^5$) One example of such a health state is having mild to moderate limitations in physical functioning and emotional well-being, but no limitations in the other three attributes (i.e., social function, pain, cognitive ability).

### Step 2: Determine How Health States Should Be Presented to Respondents

There are several ways health states can be presented to respondents. One approach is to ask respondents to evaluate each unique combination of attribute levels (e.g.,

### Box C-l—Example of Quality-of-Life Health Attributes and Levels

| Attribute | Levels |
|---|---|
| • Physical function | No limitations<br>Mild or moderate limitations<br>Severe limitations |
| • Social function | No limitations<br>Mild or moderate limitations<br>Severe limitations |
| • Emotional well-being | No limitations<br>Mild or moderate limitations<br>Severe limitations |
| • Pain | No pain<br>Mild or moderate pain<br>Severe pain |
| • Cognitive ability | No limitations<br>Mild or moderate limitations<br>Severe limitations |

SOURCE: Office of Technology Assessment, 1992.

*243 in the* example above).[1] This method has limitations because it is burdensome for respondents and it does not provide information about how the respondent weights and combines the attributes to arrive at their health-state preference. Alternative approaches allow investigators to estimate how important a particular attribute is to the assessment of the overall health state.

#### Step 3: Determine How Respondents Are To Communicate Their Preferences

Several different techniques or scaling methods that are used to elicit health-state preferences from respondents are shown in box ***C-2.*** Frequently, respondents are asked to rate the desirability of each health state by placing it at some point on a scale between two anchors (e.g., from O to 100), usually representing death and perfect health. Alternatively, respondents might be asked to make a choice between alternative outcomes (e.g., see standard gamble and time trade-off techniques in box C-2).

### The Quality of Well-Being Scale

Oregon's Health Service Commission considered several health status or health preference measures before deciding to adapt the Quality of Well-Being (QWB) scale (106).[2,3] The QWB Scale includes three attributes of daily functioning (i.e., mobility, physical activity, and social activity) and a list of 21 symptoms or problems that might inhibit function (table C-l). The mobility and physical activity attributes have three levels, while the social activity attribute has five levels. There are 945 possible combinations of symptoms/functional levels (i.e., 21 x 3 x 3 x 5). The developers of this model took the following steps to estimate the preference weights shown in table c-1:

- A stratified random sample of 343 case descriptions (unique combinations of the 21 symptom/problems, and mobility, physical activity and social activity levels) was divided into eight sets (about 40 case descriptions in each).
- A random sample (conducted in a 2-year period 1974-75) of 866[4] residents from the San Diego area was divided into eight groups of about 100 and asked during face-to-face interviews to rank the sets of health states on a lo-point scale.
- A mathematical model was used to estimate weights, representing the relative desirability of the health states on a scale from O (death) to 1 (good health).

An example of a QWB score for one individual at one point in time is shown in box C-3. In this example, the individual has one symptom (i.e., cough, wheezing, or shortness of breath) and is categorized by level on each of the three functional attributes (i.e., mobility, physical activity, and social activity). The component weights (all negative values) are subtracted from 1 (the score for perfect health) to yield the "point-in-time well-being score. Group QWB scores can be calculated as an average of the individual member's scores assessed for a particular day or a defined interval of time (107).

Prognosis, or the probability of moving between health states, has been integrated into the QWB model. While QWB as described above is a static or time-specific measure of function, the "well-life expectancy' is a dynamic measure. The "well-life expectancy" is the product of QWB and the expected duration of stay in each function level over a standard life period (Kaplan, R. M., and Anderson, J. P., 1988). Box C-4 shows an illustrative computation of group "well-life expectancy. " The concept of well-years[5] or weighted life expectancy can be used to evaluate the effectiveness of programs and health

[1] Some of the possible health states can often be discarded on logical grounds. It is very unlikely, for example, that a person would experience severe pain and have no limitation of cognitive, social, or physical functions.

[2] A number of investigators have contributed to the development of the QWB scale, including J.W. Bush, D.L. Patrick, J.P. Anderson, and C.C. Berry (105). For simplicity, the model will be referred henceforth as the QWB model. Several articles referenced at the end of the appendix offer a more in-depth description of the QWB and its development.

[3] The HSC also considered the Sickness Impact Profile developed by Marilyn Bergner and a health service classification system developed by David C. Hadorn (194).

[4] A supplementary probability sample of 368 children was included (107).

[5] The term "Quality-Adjusted Life Years" (QALYs) is rdso used to describe the concept (107).

### *Box C-2—Examples of Scaling Methods Used in Measuring Health-State Preferences*

- Standard gamble: The respondent chooses between a certain outcome and a gamble. This technique meets the requirements of certain decision theories that require preference judgments be made under conditions of uncertainty. The technique relies on a lengthy interview with well-trained interviewers using specially prepared props.
- Time trade-off: The respondent is asked how much time (years of life) he or she would be willing to give up to be in a healthier state compared with a less healthy one. The technique relies on a lengthy interview with well-trained interviewers using specially prepared props.
- Magnitude estimation: The respondent is given a standard health state and asked to provide a number or ratio indicating how much worse each of the other states is compared with the standard. This method is relatively easy to administer and easy for respondents to understand.
- Rating scale: The respondent rates the desirability of each health state by placing it at some point on a scale (e.g., from O to 100) between two anchors, usually representing death and perfect health. The rating scale is the most frequently used method for measuring health-state preferences because it is relatively easy to administer and easy for respondents to understand.
- Equivalence: The respondent decides how improvements of people in a specified health state are equivalent to improvements of people in the maximum health state. This method is infrequently used in studies of health preferences and is offensive to some.
- Willingness-to-pay: The respondent decides what proportion of income he or she is willing to pay each week to get rid of a specified health condition or to have a specified probability of improving from a particular health state to perfect health. This technique has been used more often in cost-effectiveness analyses to measure the utility of reducing one's risk of dying than in studies to measure preferences for various health states.

SOURCE: D.G. Froberg and R.L. Kane, "Methodology for Measuring Health-State Preferences-II: Scaling Methods," *Journal of Clinical Epidemiology* 42(5):459-471, *1989.*

interventions. Dividing the cost of a program by the well-years it yields gives a cost/utility ratio.

The QWB model is potentially useful because it provides a comprehensive expression of health status that simultaneously considers mortality and morbidity and considers both risks and benefits of treatments under evaluation (107).

## *Oregon's Survey Content and Conduct*

Oregon survey respondents rated a set of six functional states (e.g., needing help to eat or go to the bathroom)[6] and 23 health problems or symptoms (e.g., having stomach aches, vomiting or diarrhea) on a scale of O (representing "as bad as death") to 100 (representing ''good health' '). A copy of the survey can be found at the end of this appendix. For each health situation presented, respondents were to assume that they had only the problems described and that the problems were permanent.

The functional states and health problems included on the Oregon survey were taken from Kaplan's California survey, but modified for telephone administration.[7] Telephone interviews took approximately 30 to 40 minutes. The Survey Research Center of Oregon State University at Corvallis administered the telephone survey in early 1990,[8] A random-digit dialing technique was used to reach a representative sample of the State's population.[9]

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6 **The survey included two levels within three different attributes (i.e., mobility, physical activity, and social activity).**

7 **The California survey had been administered** in person--individuals completed written questionnaires after receiving instruction while in small groups. The Oregon Survey instrument was written at a sixth-grade reading level to help ensure oral comprehension of the questions. Oregon investigators completed a small pretest (less than 100 calls were made) to see if scores obtained by phone were consistent with scores obtained in California. The Oregon survey contained some items not on the California survey (i.e., four questions pertain to the use of drugs or alcohol, sexual performance, sleep disorders, and mental health).

8 The survey was administered over a 2- to 3-week period.

9 The sampling frame was provided to Oregon State University by a private consulting firm (135). Some regional weights were applied to the completed survey to correct for a small degree of sampling error. The responses were also weighted so that each adult in the survey had an equal chance of being selected. (If unweighted, adults in households with eight adults would only have a one-eigth chance of being selected for the survey, while adults in household with two adults would have a one-half chance of being selected.)

**Table C-1-Quality of Well-Being Scale Weights**

| Levels/no. | Functional Limitations/Symptoms | Weights |
|---|---|---|
| | **Mobility Scale (MOB)** | |
| 5 | No limitations for health reasons | 4.000 |
| 4 | Did not drive a car, health related (younger than 16); did not ride in a car as usual for age, and/or did not use public transportation, health related; or had or would have used more help than usual forage to use public transportation; health related | -0.062 |
| 2 | In hospital, health related | -0.090 |
| | **Physical Activity Scale (PAC)** | |
| 4 | No limitations for health reasons | -0.000 |
| 3 | In wheelchair, moved or controlled movement of wheelchair without help from someone else; or had trouble or did not try to lift, stoop, bend over, or use stairs or inclines, health related, and/or limped, used a cane, crutches or walker, health related;and/or had any other physical limitation in walking, or did not try to walk as far or as fast as others the same age are able, health related | -0.060 |
| 1 | In wheelchair, did not move or control the movement of wheelchair without help from someone else, or in bed, chair, or couch for most or all of the day, health related | -0.077 |
| | **Social Activity Scale (SAC)** | |
| 5 | No limitations for health reasons | -0.000 |
| 4 | Limited in other role activity, health related | -0.061 |
| 3 | Limited in major (primary) role activity, health related | -0.061 |
| 2 | Performed no major role activity, health related, but did perform self-care activities | -0.061 |
| 1 | Performed no major role activity, health related, and did not perform or had more help than usual in performance of one or more self-care activities, health related | -0.106 |
| | **Symptoms** | |
| 1 | Death (not on respondent's card) | -0.727 |
| 2 | Loss of consciousness such as seizure (fits), fainting, or coma (out cold or knocked out) | -0.407 |
| 3 | Burn over large areas of face, body, arms, or legs | -0.367 |
| 4 | Pain, bleeding, itching, or discharge (drainage) from sexual organs--does not include normal menstrual (monthly) bleeding | -0.349 |
| 5 | Trouble learning, remembering, or thinking clearly | -0.340 |
| 6 | Any combination of one or more hands, feet, arms, or legs either missing, deformed (crooked), paralyzed (unable to move) or broken-includes wearing artificial limbs or braces | -0.333 |
| 7 | Pain, stiffness, weakness, numbness, or other discomfort in chest, stomach (including hernia or rupture), side, neck, back, hips, or any joints or hands, feet, arms, legs | -0.299 |
| 8 | Pain, burning, bleeding, itching, or other difficulty with rectum, bowel movements, or urinations (passing water) | -0.292 |
| 9 | Sick or upset stomach, vomiting or loose bowel movements, with or without fever, chills, or aching all over | -0.290 |
| 10 | General tiredness, weakness, or weight loss | -0.259 |
| 11 | Cough, wheezing, or shortness or breath with or without fever, chills, or aching all over | -0.257 |
| 12 | Spells of feeling upset, being depressed, or of crying | -0.257 |
| 13 | Headache, or dizziness, or ringing in ears, or spells or feeling hot, or nervous, or shaky | -0.244 |
| 14 | Burning or itching rash on large areas of face, body, arms, or legs | -0.240 |
| 15 | Trouble talking, such as lisp, stuttering, " hoarseness, or inability to speak | -0.237 |
| 16 | Pain or discomfort in one or both eyes (such as burning or itching) or any trouble seeing after correction | -0.230 |
| 17 | Overweight or underweight forage and height of skin defect of face, body, arms or legs, such as scars, pimples, warts, bruises, or changes in color | -0.186 |
| 18 | Pain in ear, tooth, jaw, throat, lips, tongue; missing or crooked permanent teeth-includes wearing bridges or false teeth; stuffy, runny nose; any trouble hearing-includes wearing a hearing aid | -0.170 |
| 19 | Taking medication or staying on a prescribed diet for health reasons | -0.144 |
| 20 | Wore eyeglasses or contact lenses | -0.101 |
| 21 | Breathing smog or unpleasant air | -0.101 |
| 22 | No symptoms or problem (not on respondent's card) | -0.000 |
| 23 | Standard symptom/problem (not on respondent's card) | -0.257 |

SOURCE: R.M. Kaplan and J.P. Anderson, J. P., "The General Health Policy Model:An Integrated Approach," in *Quality Life Assessments in Clinical Trials,* B. Spilker (cd.) (New York, NY: Raven Press, 1990).

### *Box C-3—Illustrative Computation of the Point-in-Time Well-Being Score*

Point-in-time well-being score for an individual (W):

$$W = 1 + (\text{Symptom wt}) + (\text{MOBwt}) + (\text{PACwt}) + (\text{SACwt}),$$

where wt is the preference-weighted measure for each symptom (symp), mobility limitation (MOB), physical activity limitation (PAC), and social activity limitation (SAC).

The W score for a person with the following description profile may be calculated for 1 day as follows:

| Quality of well-being Level | Description | Weight |
|---|---|---|
| Symp-11 | Cough, wheezing, or shortness of breath, with or without fever, chills, or aching all over. | -0.257 |
| MOB-5 | No limitations. | -0.000 |
| PAC-1 | In bed, chair, or couch for most or all of the day (health related). | -0.077 |
| SAC-2 | Performed no major role (health related) but did perform self care. | -0.061 |

$$W = 1 + (-0.257) + (-0.000) + (-0.007) + (-0.061) = 0.605$$

SOURCE: R.M. Kaplan and J.P. Anderson, "A General Health Policy Model: Update and Applications," *Health Services Research* 23(2):203-235, June 1988.

Approximately 4,500 calls were made to obtain 1,001 completed interviews. [10]

As an introduction to the telephone survey, interviewers told respondents that:

> [The interview] contains several interesting topics about how people feel about their health and how their health affects the quality of their lives. The information is important for it will help Oregon's Health Services Commission plan future health support programs for the state's citizens.

The interview consisted of six parts:[11]

1. Respondents rated the "best" and "worst" possible health states. These scores were expected to be the highest and lowest obtained throughout the interview. The "best" and ''worst" health states presented were as follows:

   *Best*
   You can go anywhere, can move around freely wherever you are, have no restrictions on activity, and have no *health problems.*

   *Worst*
   You have to stay at a hospital or nursing home, have to be in bed or in a wheelchair controlled by someone else, need help to eat or go to the bathroom, and have losses of consciousness from seizures, blackouts or coma.

2. Respondents rated limitations in mobility (Ml, M2), physical activity (Pi, P2) and social activity (S1, S2) (see attached copy of the survey). The six questions were presented in a nested format. At first, respondents were told that they had a limitation in each of the three functional domains (i.e., Ml,Pl ,S1 or M2,P2,S2). In subsequent questions one element was dropped, one at time (e.g., Ml,P1, and then Ml).

3. Respondents rated 23 symptoms. Symptoms were asked about one at a time and not in combination with functional limitations. [12]

4. Respondents reported whether they had experienced the functional states or symptoms, and if so, for how long.

5. *The* following demographic information was obtained:
   . the number of persons living in the household and their age,[13]

10 More than one-half of telephone numbers initially called were disconnected. Of the remaining calls, approximately one-fourth of people answering refused the interview and about one-fifth did not complete the interview. The characteristics of the nonrespondents are unknown because most hung up their telephones before descriptive information could be obtained.

11 Interviewers informed respondents of the confidential and voluntary nature of the survey at the beginning of the interview.

12 One exception to this was that "losses of consciousness from seizures, blackouts or coma" was included in the ''worst" case scenario presented at the beginning of the interview.

13 Number in household 18 years or older and under 18 years of age.

### *Box C-4--Illustrative Computation of Well-Life Expectancy*

| State | *Years in* State (Y) | Weight (W) | Weighted years (Y x W) |
|---|---|---|---|
| Well | 65.2 | 1.00 | 65.2 |
| Non-bed disability | 4.5 | .59 | 2.7 |
| Bed disability | 1.9 | .34 | .6 |
| Current life expectancy | | | 71.6 life years |
| Well-life expectancy | | | 68.5 well-years |

Suppose that a group of individuals was in a well state for 65.2 years, in a state of non-bed disability for 4.5 years, and in a state of bed disability for 1.9 years before their deaths at the average age of 71.6. In order to make adjustments for the diminished quality of life they suffered in the disability states, the duration of stay in each state is multiplied by the preference associated with the state. Thus, the 4.5 years of non-bed disability become 2.7 equivalents of well years when an adjustment is made for the preferences associated with being in that state. Overall, the well-life expectancy for this group is 68.5 years. The disability experienced by the group has reduced the quality of their lives by an estimated 3.1 years.

SOURCE: R.M. Kaplan and J.P. Anderson, "A General Health Policy Model: Update and Applications," *Health Services Research* 23(2):203-235, June 1988.

- household members' health insurance coverage,
- household income,
- residence (county and town/city),
- respondent's race/ethnicity, and
- respondent age.

6. In an open-ended format, respondents were asked if there were any household members who should have seen a doctor but for some reason did not, and if so, why the person did not see a doctor. Respondents were also given an opportunity to report anything about their health or about health care in Oregon.

## The Calculation of Preference Weights for Each Health State

For each *symptom,* a *weight* was calculated as the average of the following individual scores:

Health-state score =
–(' 'Best" health-state score – Symptom score)/100[14]

If, for example, an individual scored the "best" health state as 90 and scored "trouble talking" as 72, the score for "trouble talking" for that respondent would be -(90-72)/100 or -0.188. This value represents one individual's perception of the amount taken away from perfect health (score of 1) if he or she had trouble talking. 15

Weights for the *functional states* were calculated somewhat differently. Respondents were asked to assign scores to combinations of mobility, physical, and social fictional states. The score for a particular functional state was calculated by subtracting the score assigned to the smaller set of functional states from the score assigned to the larger set of functional states (the sets differed by the inclusion of one functional state). The score for M2, for example, could be calculated by subtracting the score for the F2,S2 question (i.e., the question including functional states F2 and S2) from the M2,F2,S2 question (i.e., the question including all three functional states M2, P2, and S2).

QWB weights (i.e., the average of respondents' individual scores) for each function state and symptom are shown in box 3-D (chapter 3). The scores are expressed as negative values because they represent the amount associated with the condition that the public thinks should be subtracted from perfect health (score of 1). The functional limitation and health state that were perceived to detract least from perfect health were being unable to drive or use public transportation (-0.046) and wearing glasses or contact lenses (-0.055). The functional limitation and health state judged to detract most from perfect health were being confined to bed or in a wheelchair controlled by someone else (–0.560), and having trouble with the use of alcohol or drugs (-0.455). To describe a particular morbidity state, clinicians could assign up to

14 The HSC incorrectly reported that individual ''best'' health state scores (and not 100) were used in the denominator (193).

15 This method of calculating weights assumes an additive model for the preference function. Other researchers make the assumption of a multiplicative model (260).

four functional limitations or symptoms-one from each of the three categories of functional limitation and one symptom. (See chapter 3 for a description of how clinicians assigned the functional limitations and symptoms to CT pairs.)

## Reliability and Validity of Preference Weights

Preference measurements are assessed by examining their reliability and validity. A measure's reliability is the extent to which it gives consistent results. When intra-rater reliability, for example, is high, it means that subjects respond consistently when an item is presented to them more than once over a short period of time. Investigators have shown that respondents give consistent QWB scale values when asked to repeat the task within several days (1 1). Inter-rater reliability reflects consistency of responses among different raters.

A measure's validity is the extent to which it corresponds to the ''true" position of the person on the characteristic being assessed. There are different dimensions of validity. Content validity reflects the adequacy of the health-state descriptions in representing health status. Construct validity relates to the degree to which results of different scaling methods converge. Construct validity can also be evaluated by examining the degree to which predicted relationships between preferences and other variables are supported. Robert Kaplan and his colleagues have, for example, shown significant positive correlations between QWB weights and self-rated health, and negative correlations with age, number of chronic illnesses, symptoms, and physician visits (109).

Studies have shown that preference weights sometimes vary widely not only among individuals, as might be expected, but also with the format used for describing the health state, the framing of outcomes, the outcomes used to anchor the scale, the scaling task used, and other situation-specific factors (142). Mean values of grouped individual scores are generally used as weights, but there is considerable variation in ratings—some standard deviations from the Oregon survey approach 0.30 (see table 3-10 in chapter 3).[16] The variation of individual Oregon scores are of the same magnitude as is typically found in preference measures. Evidence suggests that while individuals within groups express differences in preference, preference weights are relatively constant from group to group (260). Using mean, or average, scores can be problematic because similar mean scores from two groups could obscure two very dissimilar score profiles (141). At the extreme, one group could unanimously rate being confined to a wheelchair as .5 while in another, one-half could rate it O (as bad as death) and the remainder as 1 (as good as perfect health). The mean scores from these two groups would be identical.

While some evidence suggests that certain preference scales, including the QWB scale, are reliable and valid (21 1), it is generally agreed that more research is needed in this area (141). Further research could, among other things, show how predictive preferences are of patient decisionmaking and how and why preferences might change over time (142).

## Comparison of Kaplan's and Oregon's Methods and Resultant Weights

There are several important differences between Kaplan's and Oregon's method of obtaining health-state preference weights:

- In Oregon, the interviews were conducted by telephone, while in California they were conducted in person.
- Kaplan presented respondents with health-state scenarios that included combinations of functional limitations and symptoms. Oregon combined some of the functional limitations in ''nested' questions, but all but one of the symptoms (i.e., coma, fainting) were presented to respondents one at a time.
- Survey questions differed substantially in length and substance. Table C-2 shows Kaplan's descriptions of health states alongside of those as defined in Oregon. Questions were shortened for Oregon's telephone survey, but sometimes this significantly altered the description of the health state. For example, Kaplan's survey included the health state "trouble talking such as lisp, stuttering, hoarseness, ***or*** *being unable to speak. " This* was abbreviated to "have trouble talking, such as a lisp, stuttering or hoarseness' on the Oregon survey. [17]
- The two instruments included different health states. Oregon included four questions regarding the use of drugs and alcohol, sexual performance, sleep problems, and worrying which were not included on the Kaplan survey. Kaplan included a question on "major' role activity (e.g., work) and air pollution not included on the Oregon survey.
- The assumed duration of the health state differed in the two surveys. Kaplan asked respondents to give their preferences while imagining that the health state was experienced *on a* ***particular day.*** Oregon respondents were told to imagine the health states described as ***permanent.***

16 The standard deviation is a measure of dispersion from a mean score, A standard deviation as large as 0.30 for a distribution Of health preferences on a O to 1 scale indicates that respondents differ greatly in their preferences (75).

17 During Kaplan's face-to-face interviews, the health states were initially presented to respondents on small cards in an abbreviated format. Before rating the health state, the respondents read the more lengthy description of the health state (105).

## Table C-2-Comparison of Oregon and Kaplan Health-State Weights

| Oregon | Oregon weight | Kaplan et al. | Kaplan weight |
|---|---|---|---|
| **Function limitations** | | | |
| *Mobility* | | | |
| Have to stay at hospital or nursing home | -0.049 | In hospital, health related | -0.090 |
| Cannot drive a car or use public transportation | -0.046 | Did not drive a car, health related (younger than 16); did not ride in a car as usual for age, health related; and/or did not use public transportation, health related; or had or would have used more help than usual for age to use public transportation, health related | -0.062 |
| *Physical activity* | | | |
| Have to use a walker or wheelchair under your own control | -0.373 | In wheelchair, moved or controlled movement of wheelchair without help from someone else; or had trouble or did not try to lift, stoop, bend over, or use stairs or inclines, health related; and/or limped, used a cane, crutches, or walker, health related; and/or had any other physical limitation in walking, or did not try to walk as far or as fast as others the same age are able, health related | -0.060 |
| Have to be in bed or in a wheelchair controlled by someone else | -0.560 | In wheelchair, did not move or control the movement of wheelchair without help from someone else, or in bed, chair, or couch for most or all of the day (health related) | -0.077 |
| Social activity | | | |
| Are limited in the recreational activities you may participate in | -0.062 | Limited in other (e.g., recreational) role activity (health related) | -0.061 |
| _____ | — | Limited in major (primary) role activity (health related) | -0.061 |
| _____ | — | Performed no major role activity (health related) but did perform selfcare activities | -0.061 |
| Need help to eat or go to the bathroom | -0.106 | Performed no major role (health related) and did not perform or had more trouble than usual in performance of one or more self-care activities (health related) | -0.106 |
| **Health states/symptom** | | | |
| Have losses of consciousness from seizures, blackouts or coma | -o. 14 | Loss of consciousness such as seizure (fits), fainting, or coma ('(out cold" or "knocked out") | -0.407 |
| Wear glasses or contact lenses | -o. 55 | Wore eyeglasses or contact lenses | -0.101 |
| Have pain or discomfort in your eyes or vision problems that corrective lenses can't fix | -0.248 | Pain or discomfort in one or both eyes (such as burning or itching) or any trouble seeing after correction | -0.230 |
| Have stomach aches, vomiting or diarrhea | -0.370 | Sick or upset stomach, vomiting, or loose bowel movement, with or without fever, chills, or aching all over | -0.290 |
| Have trouble falling asleep or staying asleep | -0.248 | _____ | — |
| Have a bad burn over large areas of your body | –0.372 | Burn over large areas of face, body, arms or legs | -0.367 |

| | | | |
|---|---|---|---|
| Are on prescribed medicine or a prescribed diet for health reasons | –0.120 | Taking medication or staying on a prescribed diet for health reasons | –0.144 |
| Have drainage from your sexual organs and discomfort or pain | –0.325 | Pain, bleeding, itching, or discharge (drainage) from sexual organs—does not include normal menstrual (monthly) bleeding | –0.349 |
| Have trouble with sexual interest or performance | –0.276 | ——— | — |
| Have pain in your ear or trouble hearing | –0.217 | Pain in ear, tooth, jaw, throat, lips, tongue; missing or crooked permanent teeth—includes wearing bridges or false teeth; stuffy, runny nose; or any trouble hearing—includes wearing a hearing aid | –0.170 |
| Have trouble learning, remembering or thinking clearly | –0.367 | Trouble learning, remembering, or thinking clearly | –0.340 |
| Have difficulty in walking because of a paralyzed or broken leg, but you have no other limitations on activity | –0.277 | Any combination of one or more hands, feet, arms, or legs either missing, deformed (crooked), paralyzed (unable to move), or broken—includes wearing artificial limbs or braces | –0.333 |
| Have trouble talking, such as a lisp, stuttering or hoarseness | –0.188 | Trouble talking such as lisp, stuttering, hoarseness, or being unable to speak | –0.237 |
| Can't stop worrying | –0.215 | ——— | — |
| Have a painful or weak condition of the back or joints | –0.253 | Pain, stiffness, weakness, numbness, or other discomfort in chest, stomach (including hernia or rupture), side, neck, back, hips, or any joints or hands, feet, arms, or legs | –0.299 |
| Have an itchy rash large areas of your body | –0.297 | Burning or itching rash on large areas of face, body, arms, or legs | –0.240 |
| Have pain while you are urinating or having a bowel movement | –0.299 | Pain, burning, bleeding, itching, or other difficulty with rectum, bowel movements, or urination (passing water) | –0.292 |
| Have trouble with the use of drugs or alcohol | –0.455 | ——— | — |
| Have headaches or dizziness | –0.305 | Headache, dizziness, ringing in ears, or spells of feeling hot, nervous, or shaky | –0.244 |
| Experience a lot of tiredness or weakness | –0.275 | General tiredness, weakness, or weight loss | –0.259 |
| Are often depressed or upset | –0.326 | Spells of feeling upset, being depressed, or crying | –0.257 |
| Cough, wheeze or have trouble breathing | –0.318 | Cough, wheezing, or shortness of breath with or without fever, chills, or aching all over | –0.257 |
| Overweight or have acne on your face | –0.215 | Overweight or underweight for age and height or skin defect of face, body, arms, or legs such as scars, pimples, warts, bruises, or changes in color | –0.186 |
| ——— | — | Breathing smog or unpleasant air | –0.101 |

SOURCES: Oregon Department of Human Resources, Office of Medical Assistance Programs, Salem, OR, *The Oregon Medicaid Demonstration Waiver Application,* submitted to the Health Care Financing Adminstration, Aug. 16, 1991; R.M. Kaplan and J.P. Anderson, "The General Health Policy Model: An Integrated Approach," in B. Spilker (ed.), *Quality Life Assessments in Clinical Trials* (New York, NY: Raven Press, 1990); R.M. Kaplan and J.P. Anderson, "A General Health Policy Model: Update and Applications," *Health Services Research* 23(2):203-235, June 1988.

- Different methods were used to calculate the average population weight. Oregon used subtraction to estimate weights (e.g., for nested questions, the value of health state C was determined by subtracting the value of health state AB from health state ABC), while Kaplan used a regression model to estimate weights.
- Kaplan completed his survey in the mid-1970s, while Oregon's survey was completed in early 1990.

A comparison of the preference weights obtained in California and Oregon show that many are similar (see table C-2). More than one-half (i.e., 15 of 27 health states that can be compared) of the California and Oregon weights do not vary by more than 20 percent. There are, however, three health states with extremely different weights: [18]

- Have to use a walker or wheelchair under your own control (-0.373 Oregon vs. –0.060 California);
- Have to be in bed or in a wheelchair controlled by someone else (-0.560 Oregon vs. -0.077 California); and
- Have losses of consciousness from seizures, blackouts, or coma (4).114 Oregon vs. –0.407 California).

A possible explanation for these three extreme differences in weights lies in how weights for these three items were calculated in Oregon. The health state ''have to be in a bed or in a wheelchair controlled by someone else" was the last health state in the first series of nested questions presented on the survey (see questions B, C, D, and E of the survey). The series of nested questions can be described as follows:

- Question B—WXYZ
- Question C—WXY
- Question D-W X
- Question E-W.

The weight for Y was estimated by subtracting the values of question D from question C. Similarly, the weight for Z was estimated by subtracting the value of question C from question B. Three of the 4 functional limitations have incremental values assigned to them. That is, the weight for Z represents the added decrement over and above having just X and Y. In contrast health state W in question E (e.g., the bed/wheelchair item) was assessed relative to the ''best' health state. Its value is calculated as the difference between the value for question E and the value assigned to "best" health. The other Oregon functional limitation weight that deviates from Kaplan's is "have to use a walker or wheelchair under your own control. " It, too, is presented singly following the second series of nested questions (i.e., questions F, G, and H) and its weight is relative to "best" health rather than to the presence of other functional limitations.

The deviant score for the 'losses of consciousness and coma" health state could also be explained by its presentation to respondents. Rather than being described to respondents by itself as the other symptoms' are (i.e., questions I through Z6), it is presented as part of a nested question (question B) and its weight is calculated relative to question C and not to the "best" health state. All other symptom weights were calculated relative to "best" health.

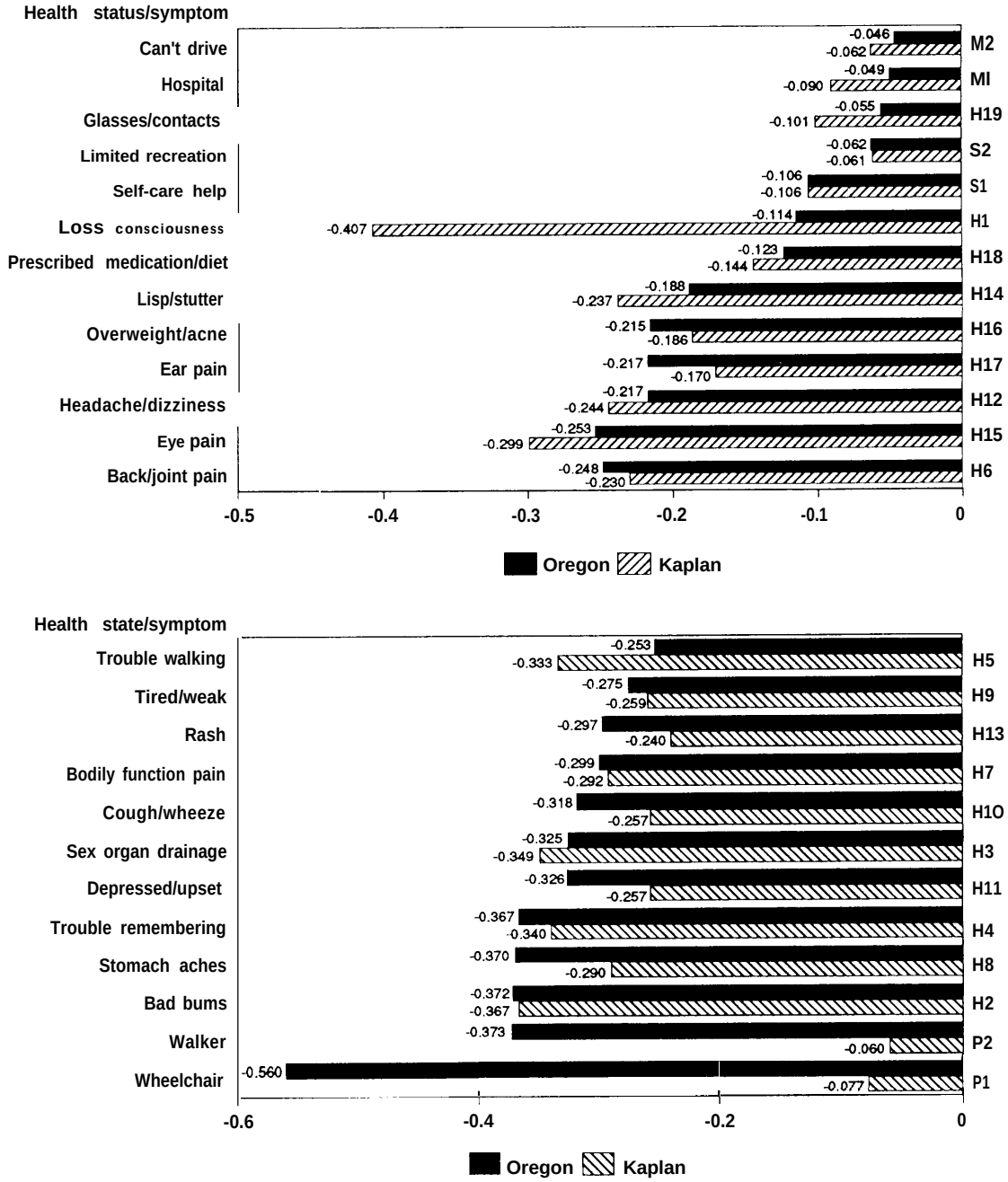
Aside from these three extreme differences, most of the preference weights in California are comparable to Oregon weights (i.e., more than one-half of Oregon's weights are within 20 percent of California weights) (see figure C-l). Given the differences in survey content and methods, these similarities are actually surprising. Oregon respondents were told to assume that the health states described were *permanent,* while California respondents were to try and imagine the health state at *one point in time* or one day. It is counterintuitive, for example, that Oregon respondents would rate *permanently* "experiencing pain while urinating or having a bowel movement" similar to California respondents experiencing this symptom *at a point in time* (Oregon -.299 vs. California -.292). It may be that respondents generally ignored the instructions regarding duration of the health state and imagine them as permanent or tempera.xy according to their own experience. Some of the descriptive information on the California survey probably helped respondents consider the health state as temporary. In the description of "cough and wheezing and shortness of breath" and of "sick or upset stomach, vomiting, or loose bowel movement, ' the California survey included 'with or without fever, chills, or aching all over, ' symptoms almost universally experienced as temporary. In these two cases, the California weights were considerably more favorable than Oregon weights (i.e., –0.257 vs. -0.318 and -0.290 vs. -0.370) (table C-2).

### Methods of Adjusting Weights for Inconsistent Responses and Respondents' Sociodemographic and Health Characteristics

More than one-third (38 percent) of Oregon respondents provided some logically inconsistent responses to the survey. This section describes the nature of inconsistent responses and proposes methods that could have been used to adjust preference weights for these inconsistencies. Adjusted weights are then compared to Oregon weights and the effect of using these new weights on the ranking of CT pairs is assessed. Next, the importance of differences in preference weights by sociodemographic and health characteristics is assessed. The preference

18 For simplicity, the wording from the Oregon survey is shown here. See table C-2 for differences in health-state description.

**Figure C-l-Comparison of Oregon and Kaplan Health-State Weights**




SOURCES: Oregon Health Services Commission, Salem, OR, unpublished data provided to the Office of Technology Assessment in 1991; R.M. Kaplan and J.P. Anderson, "The General Health Policy Model: An Integrated Approach," *Quality* of Life Assessments *in Clinical* Trials, B. Spilker (cd.) (New York, NY: Raven Press, 1990).

**Table C-3-Frequency of Ratings of the "Best" and "Worst" Health States Described in the Survey**

| Best health state (Q 1) | Worst health state (Q2) 0 | 1-9 | 10-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60-69 | 70-79 | 80-89 | 90-99 | 100 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 .. | | | | | | | | | | | | | 0 |
| 1-9 | | | | | | | | | | | | | 0 |
| 10-19 | 1 | | | | | | | | | | | | 1 |
| 20-29 | 1 | | | 1 | 1 | 1 | 1 | | | | | | 5 |
| 30-39 | | | | | | | | | | | | | 0 |
| 40-49 | | | | | | | | | | | | | 0 |
| 50-59 | 11 | | 2 | 4 | 1 | 1 | 3 | | | | 1 | 1 | 24 |
| 60-69 | 3 | | 2 | 1 | | 1 | 1 | 2 | | | | | 10 |
| 70-79 | 9 | 1 | 8 | 16 | 1 | | 3 | 1 | 1 | | | 1 | 41 |
| 80-89 | 11 | 7 | 8 | 13 | 4 | 3 | 7 | | 1 | | 1 | | 55 |
| 90-99 | 22 | 16 | 18 | 13 | 6 | 2 | 5 | 2 | | 2 | | 0 | 86 |
| 100 | 343 | 109 | 127 | 103 | 33 | 18 | 43 | 2 | | 2 | 1 | 1 | 782 |
| Total | 401 | 133 | 165 | 151 | 46 | 26 | 63 | 7 | 2 | 4 | 3 | 3 | 1,004[a] |

[a] Sum exceeds sample size of 1,001 because of weighting by county and household composition.

SOURCE: Office of Technology Assessment, 1992. Based on analysesofOregon Health Services Commission telephone survey data.

**Figure C-2—Health-State Boundaries Set by Survey Responses to $Q_1$ and $Q_2$**




SOURCE: Office of Technology Assessment, 1992. Based on data from the Oregon Health Services Commission.

weights for some health states, for example, vary significantly by experience of the health state, Analyses are presented showing how condition-treatment (CT) pair placement on the list would change if only selected subgroups of respondents' weights were used.

## The Origin of Inconsistent Scores

Respondents were told early in the interview how to scale their responses to the survey. A score of zero was to be given to a state "as bad as death," a score of 100 to states representing "good health," and a score of 50 to health states halfway between death and good health. Survey respondents were then given the opportunity to provide a personal "boundary" for their health-state scores when they answered the first two questions on the survey and rated the "best" and ''worst" health states. This technique is often used in measuring health-state preferences. Sometimes, interviewers construct a "thermometer' with respondent's upper and lower scores to remind the respondent what the logical range of responses are for subsequent questions.

Table C-3 shows that most respondents gave low scores to the "worst" and high scores to the ''best' health states. [19] One-third (34 percent) of respondents had a range of values of 100-they assigned a value of O to the ''worst and 100 to the "best" health state. Some respondents, however, had very narrow boundaries-5 percent provided a range of values of 50 or less (e.g., a score of 50 to 59 for the "worst' health state and a score of 80 to 89 for the "best" health state). Figure C-2 shows the "boundaries" respondents set in responding to the "best" and "worst" health-state questions.

Thirteen percent of respondents gave a score of less than 100 (e.g., 70) to the "best" health state, but later rated health states such as experiencing ear pain higher

19 More than three-quarters (78 percent) of respondents valued the ''best' health state ss 100 and 40 percent valued the "wOrSt' S@? as 0.

**Table C-4—Frequency of Inconsistent Responses to Survey Used To Assess Health-State Preferences**

| | Nest 1 + 2[a] consistent | Nest 1 or 2 inconsistent | Both nest 1 + 2 inconsistent | Total |
|---|---|---|---|---|
| No boundary inconsistency | 620 | 148 | 15 | 783 |
| Left-sided inconsistent[b] | 42 | 29 | 14 | 85 |
| Right-sided inconsistency[c] | 61 | 26 | 7 | 94 |
| Both left- and right-sided inconsistency | 9 | 24 | 6 | 39 |
| Total | 732 | 227 | 42 | 1,001 |

a Nest 1 refers to the first set of functional limitation questions that include limitations MI, P1, and S1. Nest 2 refers to the second set of functional limitation questions that include limitations M2, P2, and S2. (See questionnaire at the end of this appendix.)
b Left-sided inconsistencies refer to health-state scores that are lower than those assigned to the "worst" health State.
c Right-sided inconsistencies refer to health-state scores that are higherthanthose assigned to the "best" health state.

SOURCE: Office of Technology Assessment, 1992. Based on analyses of Oregon Health Services Commission telephone survey data.

(e.g. 90). For discussion purposes, health-state scores that are assigned higher scores than the "best" health state will be referred to as ''right-sided boundary violations. " Twelve percent of respondents gave health-state scores that were lower than that given to the "worst' health state (e.g. rating the "worst" health state as 40 and then rating "having stomach aches, vomiting or diarrhea" as 30). These health-state scores will be referredtoas''left-sided boundary violations. ' Table C-4 shows the frequency of these boundary violations. At the extreme, eight respondents (1 percent of the total) gave a lower score to the "best" health state than to the "worst" health state.

Health-state scores are positive when there are right-sided boundary violations. This can be seen by again examining the way health-state scores are calculated:

Health-state score =
● (''Best" health-state score - Symptom score)/100

These positive scores have the effect of bringing the health-state weights[20] which vary from O (perfect health) to –1 (death) closer to O or perfect health.

The most likely explanation for the boundary violations is that respondents forgot the value assigned to the "best" and "worst" health states when they were later asked to value particular health states.[21] Conceivably, when respondents assigned a health state a lower value than that assigned to the "worst" health state, they may have been indicating a health state that they indeed felt was worse than that health state. That any of the health states represent states better than good health seems less plausible. Table C-5 shows the extent to which inconsistent responses were provided for each health state, and table C-6 shows the number of inconsistent responses over the course of the interview. More than 1 in 10 (12 percent) of respondents provided at least 5 responses inconsistent with their "best" and ''worst' health-state boundaries.

A second type of inconsistency occurred in response to the nested functional limitation questions. More than one-quarter (27 percent) of respondents provided inconsistent responses to one or both of the nested questions. One example of such a response is giving a less favorable score to a health state defined by one functional limitation (e.g., used a wheelchair) than to a health state including that and an additional limitation (e.g., used a wheelchair and needed help going to the bathroom or eating). One possible explanation for these inconsistent responses is that respondents may have been confused by the length of some of the nested questions (see survey questions B through H). Respondents can process simultaneously only five to nine pieces of information (140) and some of the questions may exceed this threshold.

When respondents with either type of inconsistent response are eliminated, the sample size is reduced from 1,001 to 620 (table C-4). The HSC decided to use all values from the survey, despite the logical inconsistencies of some responses, because it reported that the deletion of inconsistent responses did not greatly affect the health-state weights and it wanted to maintain the total sample, which was representative of the State's population.

Weights of consistent as compared with inconsistent respondents are shown in table C-7 and are graphed in figure C-3. There are statistically significant differences for all but five weights when consistent and inconsistent respondents are compared (table C-7). Figure C-3 shows that the two sets of weights, although different, are highly correlated (correlation coefficient = 0.98).

20 Health-state weights are the average of individual health-state scores.
21 The interviewer did not remind respondents of their earlier responses.

### Table C-5--Frequency of Inconsistent Responses to the Survey Used To Develop Preference Weights

| | Percent of time respondents rated larger number of functional limitations as better than a smaller subset of those functional limitations |
|---|---|
| **Components of "nested" functional/imitation *questions*** | |
| **1st nested question** | |
| MI. Have to stay at hospital or nursing home | 18.6 |
| P1. Have to be in bed or in a wheelchair controlled by someone else | |
| S1. Need help to eat or go to the bathroom | |
| HI. Experience loss of consciousness due to seizures, blackouts or coma | |
| **2nd nested question** | |
| M2. Cannot drive a oar or use public transportation | 12.5 |
| P2. Have to use a walker or wheelchair under your own control | |
| S2. Are limited in the recreational activities you may participate in | |

| | Percent of time rated better than "best" health state | Percent of time rated worse than "worst" health state |
|---|---|---|
| **Health states/symptoms** | | |
| H2. Have a bad burn over large areas of your body | 2.9 | 4.5 |
| H3. Have drainage from your sexual organs and discomfort or pain | 2.3 | 3.2 |
| H4. Have trouble learning, remembering or thinking dearly | 3.4 | 3.5 |
| H5. Have difficulty in walking because of a paralyzed or broken leg, but you have no other limitations on activity | 4.7 | 1.9 |
| H6. Have a painful or weak condition of the back or joints | 4.1 | 2.2 |
| H7. Have pain while you are urinating or having a bowel movement | 3.0 | 3.3 |
| H8. Have stomach aches, vomiting or diarrhea | 2.7 | 3.1 |
| H9. Experience a lot of tiredness or weakness | 3.2 | 2.2 |
| H10. Cough, wheeze or have trouble breathing | 2.6 | 2.6 |
| H11. Often depressed or upset | 3.0 | 3.0 |
| H12. Have headaches or dizziness | 3.2 | 3.4 |
| H13. Have an itchy rash over large areas of your body | 3.1 | 2.4 |
| H14. Have trouble talking, such as a lisp, stuttering or hoarseness | 5.8 | 1.7 |
| H15. Pain or discomfort in your eyes or vision problems that corrective lenses can't fix | 4.7 | 2.1 |
| H16. Overweight or have acne on your face | 5.4 | 1.9 |
| H17. Have pain in your ear or trouble hearing | 4.4 | 1.9 |
| H18. Are on prescribed medicine or a prescribed diet for health reasons | 7.7 | 1.0 |
| H19. Wear glasses or contact lenses | 10.7 | 0.7 |
| H20. Have trouble falling asleep or staying asleep | 5.1 | 2.3 |
| H21. Have trouble with sexual interest or performance | 3.0 | 3.3 |
| H22. You can't stop worrying | 5.6 | 2.3 |
| H23. Have trouble with the use of drugs or alcohol | 2.1 | 5.9 |

SOURCE: Office of Technology Assessment, 1992. Based on analyses of Oregon Health Services Commission telephone survey data.

### Table C-6-Frequency of Scores Reported as Better or Worse than Scores Assigned to the Best and Worst Health State (Q1 and Q2)[a]

| Number of scores better than score assigned to the best health state (Q1) | Number of scores worse than score assigned to the worst health state (Q2) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6-9 | 10-26 | Total |
| 0 | 783 | 33 | 10 | 7 | 5 | 6 | 8 | 18 | 869 |
| 1 | 12 | 0 | 0 | 1 | 0 | 2 | 3 | 0 | 17 |
| 2 | 9 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 10 |
| 3 | 11 | 2 | 2 | 0 | 0 | 1 | 0 | 0 | 15 |
| 4 | 3 | 0 | 2 | 0 | 0 | 1 | 0 | 1 | 7 |
| 5 | 10 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 11 |
| 6-9 | 19 | 3 | 0 | 0 | 1 | 0 | 1 | 2 | 25 |
| 10-26 | 29 | 6 | 1 | 2 | 0 | 2 | 3 | 4 | 46 |
| Total | 876 | 43 | 15 | 9 | 6 | 10 | 16 | 24 | 1,000 |

a Row and column cells may not add to totals because of sample weighting.

SOURCE: Office of Technology Assessment, 1992. Based on analyses of Oregon Health Services Commission telephone survey data.

**Table C-7—Differences in Preference Weights According to Consistency of Respondent[a]**

| Functional limitations/symptoms | Consistent respondents | Inconsistent respondents |
|---|---|---|
| Cannot drive a car or use public transportation (M2) | -0.052 | –0.036 |
| Are limited in the recreational activities you may participate in (S2) | -0.062 | –0.063 |
| Have to stay at hospital or nursing home (MI) | -0.070 | –0.015[b] |
| Wear glasses or contact lenses (H19) | -0.083 | –0.008[b] |
| Need help to eat or go to the bathroom (S1) | -0,112 | –0.097 |
| Experience loss of consciousness due to seizures, blackouts or coma (H1) | -0.117 | –0.110 |
| Have trouble talking, such as a lisp, stuttering or hoarseness (H14) | -0.203 | –0.163[b] |
| Have pain in your ear or trouble hearing (H17) | -0.232 | –0.191[b] |
| Overweight or have acne on your face (H16) | -0.232 | –0.187[b] |
| You can't stop worrying (H23) | -0.242 | –0.170[b] |
| Have trouble falling asleep or staying asleep (H21 ) | -0.262 | –0.225[b] |
| Pain or discomfort in your eyes or vision problems that corrective lenses can't fix (H15) | -0,270 | -0.210[b] |
| Have difficulty in walking because of a paralyzed or broken leg, but you have no other limitations on activity (H5) | -0.276 | –0.216[b] |
| Have a painful or weak condition of the back or joints (H6) | -0.281 | –0.208[b] |
| Have trouble with sexual interest or performance (H22) | -0.287 | –0.258 |
| Experience a lot of tiredness or weakness (H9) | -0.294 | –0.243[b] |
| Have an itchy rash over large areas of your body (H13) | -0.315 | –0.269[b] |
| Have pain while you are urinating or having a bowel movement (H7) | -0.316 | –0.273[b] |
| Have headaches or dizziness (H12) | -0.322 | –0.276[b] |
| Cough, wheeze or have trouble breathing (H1O) | 4.337 | –0.288[b] |
| Have drainage from your sexual organs and discomfort or pain (H3) | -0.339 | –0.301[b] |
| Often depressed or upset (H11) | -0.354 | –0.281[b] |
| Have a bad burn overlarge areas of your body(H2) | -0.384 | –0.354[b] |
| Have stomach aches, vomiting or diarrhea(H8) | -0.387 | –0.343[b] |
| Have trouble learning, remembering or thinking clearly | -0.395 | –0.321[b] |
| Have to use a walker or wheelchair under your own control (P2) | -0.409 | –0.314[b] |
| Have trouble with the use of drugs or alcohol (H24) | -0.474 | –0.424[b] |
| Have to be in bed or in a wheelchair controlled by someone else (P1) | -0.613 | –0.472[b] |

[a] Consistent respondents (n = 620) are those who made no boundary violations and who had consistent responses to the nested questions. Inconsistent respondents (n = 381) made either boundary violations or provided inconsistent responses to the nested questions.
[b] Differences between consistent and inconsistent weights aresignifieant (p = .02) as assessedby t-tests.

SOURCE: Office of Technology Assessment, 1992. Based on analyses of Oregon Health Services Commission telephone survey data.

Comparing those who made none with those who made at least one inconsistent response shows that respondents who are Medicaid recipients, low income, and racial/ethnic minority group members were significantly more likely to have provided inconsistent responses. One-half of respondents with incomes at or below the poverty level, for example, provided some inconsistent responses, while 37 percent of those with higher incomes provided inconsistent responses.

## Adjusted Weights

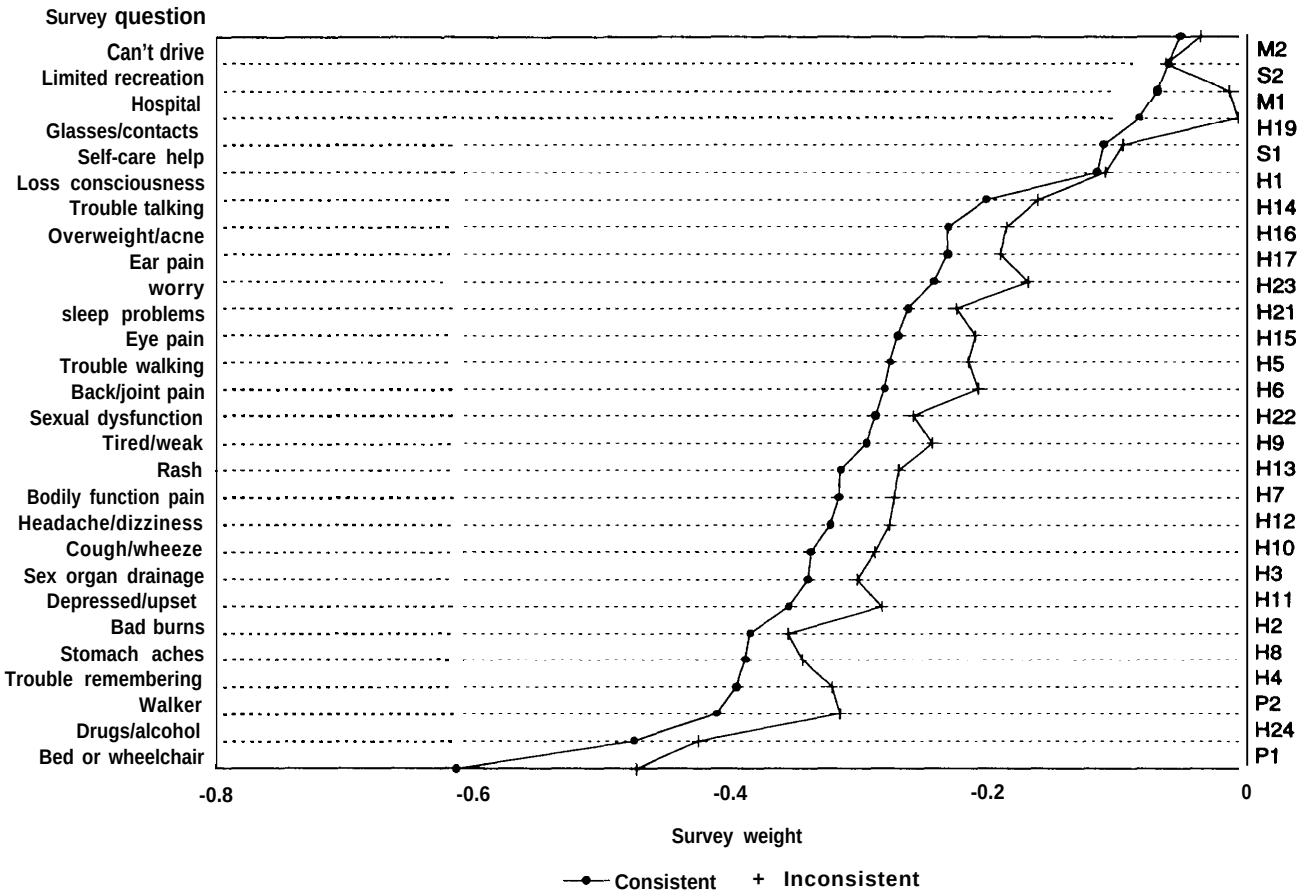
Adjustments could have been made for inconsistent responses. The assumption could be made that when respondents assigned a higher score to a symptom than to the "best" health state that they viewed their upper boundary as 100. Similarly, one could assume that when respondents assigned a lower score to a symptom than to the "worst" health state that they viewed their lower boundary as O. Nine percent of respondents made only right-sided violations, 9 percent made only left-sided violations, and 4 percent made both left- and right-sided violations (see table C-4). Assigning 100 to the "best" health state if respondents made any right-sided errors and zero to the "worst' health state if respondents made any left-sided errors, using the respondents' range of responses as the denominator,[22] and eliminating inconsistent responses to the nested functional state questions yields the weights shown in the second column of table C-8. In general, these scores are lower than the weights actually used (shown in the first column).

The respondent's boundary was ignored when the health-state score was calculated (see formula above). The Oregon weights were calculated with 100 as a denominator, which assumes that the range of values for health states was 100 for everyone. For those with ranges of values less than 100, the use of 100 effectively decreases the weight assigned to the health state.

Another way to adjust for inconsistent responses is to assume that responses to question 1 should have been 100

[22] The Oregon weights were calculated using 100 as the denominator, even though 22 percent of respondents rated the "best' health state as less than 100.

**Figure C-3-Survey Weights of Consistent and Inconsistent Respondents**




SOURCE: Office of Technology Assessment, 1992. Based on data from the Oregon Health Services Commission.

and the range of values from best and worst health state is 100. These adjusted weights, shown in the third column of table C-8, also tend to be lower than those that were used (shown in the first column).

To test whether the adjustment of weights is important, the ranking of (CT pairs (by category and within category by net benefit) using adjusted and unadjusted weights was compared. When adjustments are made for inconsistent responses using the first method (i.e., using weights in the second column of table C-8),[23] the resultant change in weights shifts the relative placement of 49 CT pairs (7 percent) by 10 or more lines relative to the ranking expected when unadjusted weights are used to rank CT pairs. Despite these shifts, there would have been no changes in CT pair coverage with line 587 defining coverage.

### Differences in Weights by Sociodemographic and Health-State Experience

There are numerous significant differences in preference weights according to respondent sociodemographic characteristics and health-state experience (see table 3-11 in ch. 3). That Oregon's preference weights varied by sociodemographic and health experience should not be surprising. Kaplan and his colleagues report negative correlations between individual's QWB scores and age, number of chronic medical conditions, number of reported symptoms or problems, number of physician contacts, and dysfunctional status (109). After reviewing the literature, Froberg concluded that age and experience with the health state being rated may influence rater's valuations, but that the effects of most other demographic and experiential variables (e.g., sex, religion, marital status) are small or nonexistent (75). Analyses of the

[23] The weights in the first column of table C-7 are adjusted for right and left-sided boundary violation and exclude inconsistent responses to the nested questions.

**Table C-8—Health-State Preference Weights Calculated by Different Methods**

| Functional limitations/symptoms | Oregon weights[a] | OTA adjusted method 1[b] | OTA adjusted method 2[c] |
|---|---|---|---|
| **Mobility** | | | |
| MI. Have to stay at hospital or nursing home | -0.049 (0.137) | -0.077 (0.104) | -0.069 (0.096) |
| M2. Cannot drive a car or use public transportation | -0.046 (0.1 12) | -0.065 (0.093) | -0.059 (0.086) |
| **Physical activity** | | | |
| P1. Have to be in bed or in a wheelchair controlled by someone else | -0.560 (0.257) | -0.653 (0.224) | -0.609 (0.223) |
| P2. Have to use a walker or wheelchair under your own control | -0.373 (0.246) | -0.447 (0.232) | -0.417 (0.222) |
| **Social activity** | | | |
| S1. Need help to eat or go to the bathroom | -0.106 (0.146) | -0.121 (0.134) | -0.110 (0.1 23) |
| S2. Are limited in the recreational activities you may participate in | -0.062 (0.099) | -0.071 (0.092) | -0.064 (0.085) |
| **Health states/symptoms** | | | |
| HI. Have losses of consciousness from seizures, blackouts or coma | -4.114 (0.175) | -0.128 (0.141) | -0.114 (0.129) |
| H2. Have a bad burn over large areas of your body | -0.372 (0.265) | -0.448 (0.263) | -0.420 (0.251) |
| H3. Have drainage from your sexual organs and discomfort or pain | -0,325 (0.240) | -0,395 (0.243) | -0.372 (0.236) |
| H4. Have trouble learning, remembering or thinking clearly | -0.367 (0.235) | -0.444 (0.228) | -0.414 (0.216) |
| H5. Have difficulty in walking because of a paralyzed or broken leg, but you have no other imitations on activity | –0.253 (0.210) | –0.319 (0.210) | -0.299 (0.200) |
| H6. Have a painful or weak condition of the back or joints | –0.253 (0.210) | –0.317 (0.202) | -0.300 (0.196) |
| H7. Have pain while you are urinating or having a bowel movement | –0.299 (0.236) | –0.366 (0.236) | -0.346 (0.228) |
| H8. Have stomach aches, vomiting or diarrhea | –0.370 (0.239) | –0.444 (0.235) | -0.418 (0.227) |
| H9. Experience a lot of tiredness or weakness | –0.275 (0.201) | –0.341 (0.197) | -0.321 (0.190) |
| H1O. Cough, wheeze or have trouble breathing | –0.318 (0.224) | –0.390 (0.223) | -0.366 (0.21 3) |
| H11. Are often depressed or upset | –0.326 (0.234) | –0.399 (0.229) | -0.374 (0.218) |
| H12. Have headaches or dizziness | –0.305 (0.221) | –0.373 (0.218) | -0.352 (0.212) |
| H13. Have an itchy rash over large areas of your body | –0.297 (0.227) | –0.364 (0.223) | -0.344 (0.216) |
| H14. Have trouble talking, such as a lisp, stuttering or hoarseness | –0.188 (0.202) | –0.245 (0.197) | -0.234 (0.1 89) |
| H15. Have pain or discomfort in your eyes or vision problems that corrective lenses can't fix | –0.248 (0.212) | –0.311 (0.203) | -0.294 (0.195) |
| H16. Are overweight or have acne on your face | –0.215 (0.227) | –0.273 (0.225) | -0.260 (0.21 5) |
| H17. Have pain in your ear or trouble hearing | –0.217 (0.204) | –0.277 (0.202) | -0.263 (0.196) |
| H18. Are on prescribed medicine or a prescribed diet for health reasons | –0.123 (0.183) | –0.175 (0.180) | -0.169 (0.1 71) |
| H19. Wear glasses or contact lenses | –0.055 (0.166) | –0.098 (0.153) | -0.099 (0.148) |
| H20. Have trouble falling asleep or staying asleep | –0.248 (0.218) | –0.312 (0.217) | -0.295 (0.206) |
| H21. Have trouble with sexual interest or performance | –0.276 (0.246) | –0.341 (0.256) | -0.323 (0.247) |
| H22. Can't stop worrying | –0.215 (0.216) | –0.277 (0.214) | -0.261 (0.204) |
| H23. Have trouble with the use of drugs or alcohol | –0.455 (0.290) | –0.537 (0.284) | -0.502 (0.275) |

a Weights as reported by Oregon Health Services Commission.
b Adjusted weights calculated by assigning 100 to the "best" health state if respondents made any right-sided errors and O to the "worst" health State if respondents made any left-sided errors, using the respondents range of responses as the denominator, and eliminating inconsistent responses to the nested functional state questions.
c Adjusted weights calculated by assigning 100 to r* ponses to Q1.

SOURCE: Office of Technology Assessment, 1992. Based on analyses of Oregon Health Services Commission telephone survey data.

Oregon survey data using multivariate techniques show that respondent age and experience with the health state often significantly affect the weights, respondent sex, race/ethnicity, and residence sometimes affect the weights; and that Medicaid participation and poverty do not affect the weights.

24 Analysis of variance was used to assess the unique effects of respondent sociodemographic and health experience characteristics controlling for other factors (see table 3-11 inch. 3).

**Table C-9-Differences in Preference Weights According to Respondent Health-State Experience**

| Functional limitations/symptoms | No experience weight (number) | Experience weight (number) |
|---|---|---|
| Cannot drive a car or use public transportation (M2) | -0.044(826) | -0.056(173) |
| Have to stay at hospital or nursing home (Ml) | -0.056(556) | -0.041 (441) |
| Are limited in the recreational activities you may participate in (S2) | -0.062(679) | -0.063(321) |
| Wear glasses or contact lenses (H19) | -0.078(310) | -0.044(689) |
| Need help to eat or go to the bathroom (S1 ) | -0.104(956) | -0.147 (40) |
| Experience loss of consciousness due to seizures, blackouts or coma (HI) | --0.116(937) | -0.082 (59) |
| Have trouble talking, such as a lisp, stuttering or hoarseness (H14) | -0.189(970) | -0.155 (31) |
| You can't stop worrying (H23) | -0.218(820) | -0.205(170) |
| Have pain in your ear or trouble hearing (H17) | -0.222(684) | -0.204(315) |
| Overweight or have acne on your face(H16) | -0.233(552) | -0.192(438) |
| Pain or discomfort in your eyes or Vision problems that corrective lenses can't fix (H15), | -0.251 (910) | -0.216 (85) |
| Have trouble falling asleep or staying asleep (H21) | -0.259(651) | -0.230(343) |
| Have difficulty in walking because of a paralyzed or broken leg, but you have no other limitations on activity(H5) | -0.260(857) | -0.214(141) |
| Have a painful or weak condition of the back or joints (H6) | -0.265(473) | -0.243(525) |
| Experience a lot of tiredness or weakness (H9) | -0.282(761) | -0.253(235) |
| Have trouble with sexual interest or performance(H22) | -0.284(886) | -0.207 (85) |
| Have an itchy rash overlarge areas of your body(H13) | -0.302(831) | -0.273(166) |
| Have pain while you are urinating or having a bowel movement (H7) | -0.308(787) | -0.266(204) |
| Have headaches or dizziness (H12) | -0.324(607) | -0.276(388) |
| Often depressed or upset (H11 ) | -0.329(738) | -0.319(256) |
| Have drainage from your sexual organs and discomfort or pain (H3) | -0.330(882) | -0.290(107) |
| Cough, wheeze or have trouble breathing (H1O) | -0.338(700) | -0.271 (294) |
| Have a bad burn over large areas of your body (H2) | -0.372(960) | -0.399 (30) |
| Have trouble learning, remembering or thinking clearly | -0.375(874) | -0.314(122) |
| Have to use a walker or wheelchair under your own control (P2) | -0.385(922) | -0.238 (78) |
| Have stomach aches, vomiting or diarrhea(H8) | -0.387(617) | -0.346(381) |
| Have trouble with the use of drugs or alcohol (H24) | -0.460(902) | -0.396 (74) |
| Have to be in bed or in a wheelchair controlled by someone else (P1) | -0.564(926) | -0.504 (74) |

SOURCE: Office of Technology Assessment, 1992. Based on analysesofOregon Health Services Commission telephone survey data.

Of some concern are the 12 significant differences in preference scores by health-state experience (see table 3-11 in ch.3). For all of the 12 differences, respondents who had experienced the health state viewed it more favorably than those who had not. Table C-9 and figure C-4 show the weights of respondents with and without health-state experience. Although different, the two sets of weights are highly correlated (correlation coefficient =0.96)

If ranking had been determined by category and net benefit within category and the preference weights of those having experienced the health state in question had been used instead of average weights, there would have been shifts in CT pair placement on the list. A total of 45 CT pairs (6 percent) would shift up or down the list by10 or more lines relative to the placement expected if average scores were used. Following these shifts, six CT pairs would change coverage status with coverage set at line 587 (three would move up to be covered, three would move down to lose coverage).

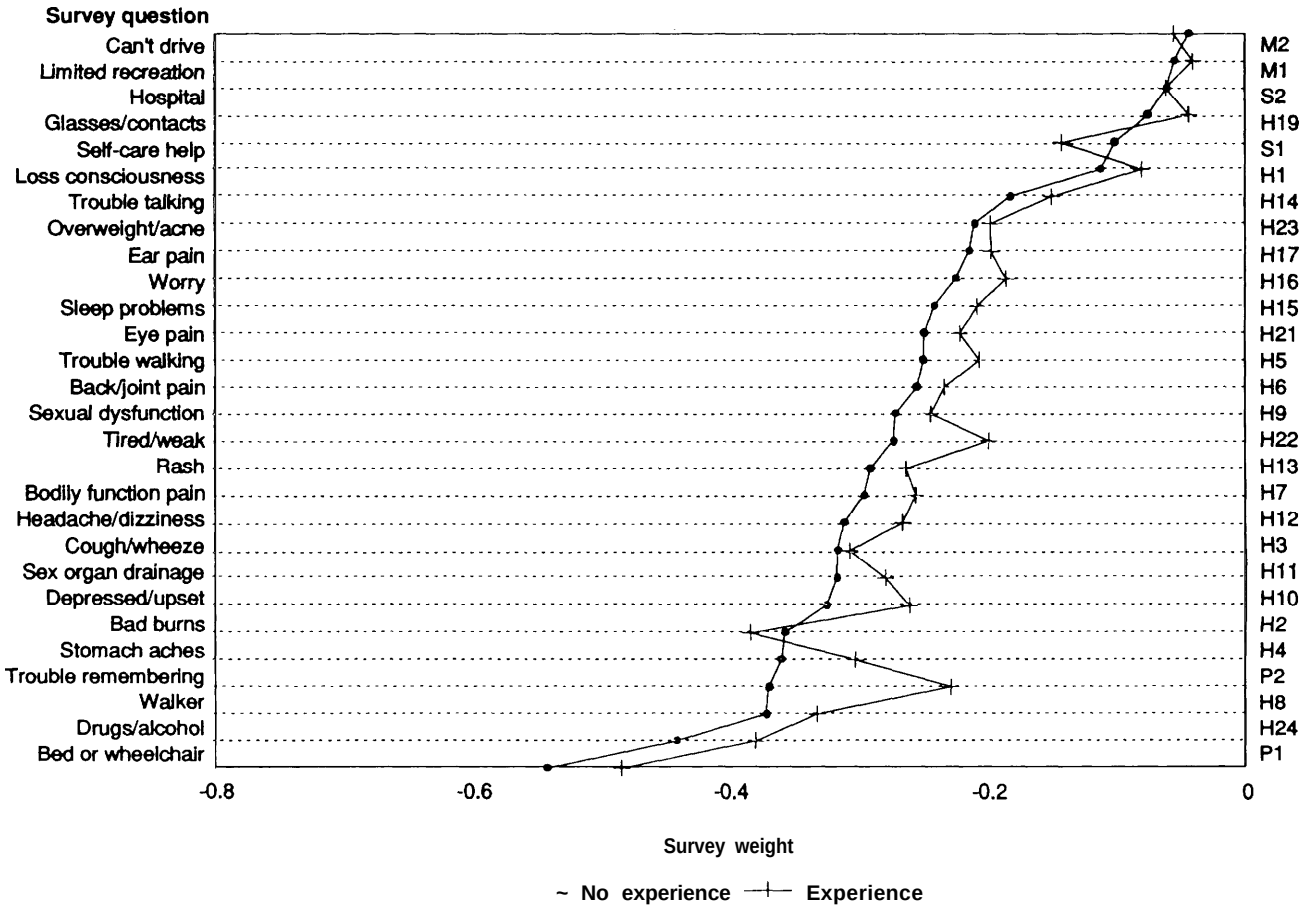
Because those who have experienced a symptom or functional limitation view it as less burdensome than those who have nonexperienced it, applying the "experience" weights usually has the effect of shifting the CT pair down the list. Take, for example, a treatment for a condition that improves mobility and reduces the probability that a patient would need to use a walker or wheelchair following treatment. This reduced chance of reliance on a walker or wheelchair is valued more by those never having experienced their use. If weights of those with experience with wheelchairs and walkers are used, this CT pair would move down the list.

Given the significant differences in some weights by sex (see table 3-1 1), it may be appropriate to selectively apply women's or men's weights to conditions that only affect one sex. Applying women's weights for the symptoms "drainage from sexual organs" and "sexual dysfunction" to dysmenorrhea (CT pair 574), which is characterized by these symptoms, for example, shifts this CT pair down the list 10 lines. Women view these symptoms more favorably then men do. Box C-5 shows how the calculation of net benefit for the dysmenorrhea CT pair is affected by using men's and women's weights.

## Summary

The science of defining and measuring health-state preferences is evolving and is important because there is an increasing need to assess health care interventions in terms of mortality and morbidity, taking into account public preferences for various morbidity states. Measures

**Figure C-4-Survey Weights of Respondents With and Without Health-State Experience**




**SOURCE:** *Office of Technology Assessment,* **1992. 8asedondata from the Oregon Health Services Commission.**

of health-state preference have been incorporated into the design of clinical trials, and their analyses show that the ability to detect a treatment's effectiveness is sometimes improved when quality-of-life measures are used (108).

Oregon conducted a survey to assess public health-state preferences and used the preference weights from this survey to assess the net benefit of the 709 treatments on the prioritized list. In the final prioritization scheme used by the HSC, the quantified net benefit term that included consideration of patient preferences was not an important determinant of CT pair order. There has, however, been considerable debate as to whether the preferences as assessed in Oregon could be used as a part of a prioritization process.

OTA concludes that the public health-state preferences as assessed in Oregon should not yet be used as part of a prioritization process for the following reasons:

- More than one-third of respondents provided inconsistent responses to the survey. Respondents who were poor, Medicaid recipients, or members of racial/ethnic minority groups were more likely to give inconsistent responses. The extent of inconsistent responses may indicate that respondents were not able to comprehend the content of the survey by phone. Most of the preferences of consistent respondents were significantly different from those of inconsistent respondents, but the two sets of weights are highly correlated. When adjustments are made for inconsistencies, the weights change and when applied to the list, significantly change the order of 7 percent of CT pairs (i.e., change the order by 10 or more lines).
- There is considerable person-to-person variation in preferences, as evidenced by relatively large standard deviations associated with mean weights. Some of this variation can be explained by differences in preferences according to characteristics such as age,

## Box C-5-Calculating Net Benefit Using Women's vs. Men's Weights for the Condition-Treatment (CT) Pair Dysmenorrhea

*Women's weights*

| State | Without treatment | | | | | With treatment | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | pa | FL/S[b] | Weight[c] | QoL value[d] | (P X Value) | pa | FL/S[b] | Weight[c] | QoL value[d] | (P X Value) |
| 1. Death | 0.00 | — | –1.000 | 0.000 | 0.0000 | 0.00 | — | -1.000 | 0.000 | 0.0000 |
| 2. Morbidity state 1 | 0.90 | H3 | -0.3071 | 0.6929 | 0.62361 | 0.20 | H3 | -0.3071 | 0.6929 | 0.13858 |
| 3. Morbidity state 2 | 0.10 | H22 | -0.2557 | 0.7443 | 0.07443 | 0.05 | H22 | -0.2557 | 0.7443 | 0.037215 |
| 4. Morbidity state 3 | — | — | — | — | — | — | | — | | — |
| 5. Perfect health | 0.00 | — | 0.000 | 1.000 | 0.0000 | 0.75 | — | 0.000 | 1.000 | 0.7500 |
| Σ (P x QoL value) | | | | | 0.69804 | | | | | 0.925795 |

*Men's weights*

| State | Without treatment | | | | | With treatment | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | pa | FL/S[b] | Weight[c] | QoL value[d] | QoL (P X value) | pa | FL/S[b] | Weight[c] | QoL value[d] | QoL (P X value) |
| 1. Death | 0.00 | — | -1.000 | 0.000 | 0.0000 | 0.00 | — | -1.000 | 0.000 | 0.0000 |
| 2. Morbidity state 1 | 0.90 | H3 | -0.3510 | 0.6490 | 0.5841 | 0.20 | H3 | -0.3510 | 0.6490 | 0.1298 |
| 3. Morbidity state 2 | 0.10 | H22 | -0.3059 | 0.6941 | 0.06941 | 0.05 | H22 | -0.3059 | 0.6941 | 0.034705 |
| 4. Morbidity state 3 | — | — | — | — | — | — | | — | | — |
| 5. Perfect health | 0.00 | — | 0.000 | 1.000 | 0.0000 | 0.75 | — | 0.000 | 1.000 | 0.7500 |
| Σ (P X QoL Value) | | | | | 0.65351 | | | | | 0.914505 |

NOTE: Net benefit is the difference between the value of Σ (P x QoL value) for patients with and without treatment. For women, the net benefit is .925795 -0.69S04. 0.227755. For men, the net benefit is 0.914505465351 = 0.260995.

a P = probability of being in state.

b FL/S = functional limitation/symptom associated with health state (see box 3-D for description of health states).

c Weight = the weight the public assigns to the functional limitation/symptom. Can be interpreted as the amount taken away from perfect health (valued as 1) associated with the presence of a functional limitation/symptom. Weights for all telephone survey items are shown in box 3-D.

d QoL value = quality of life value = (1 + weight). When there is more than one functional limitation or symptom assigned to the health state, weights are added before summing to 1. Can be interpreted as the value associated with the state on a scale from O (death) to 1 (perfect health).

SOURCE: Office of Technology Assessment, 1992. Based on data from the Oregon Health Services Commission.

sex, and whether the respondent had experienced the condition in question. When average weights of subpopulations are applied (e.g., women, those with experience with the health state), the order of selected CT pairs changes significantly (i.e., by 10 or more lines).

- Oregon used an adaptation of the QWB scale to assess health-state preferences. The majority of health states as measured by Oregon and Kaplan are similar. This finding is surprising, given that California respondents were asked to consider the health state in question at one point in time while Oregon respondents were to consider the health state to be permanent. The literature suggests that duration of a health state dramatically affects preference (234). It is possible that respondents in both California and Oregon disregarded the instructions and gave preferences using their own frame of reference.
- An examination of a possible cause of three extreme differences in health-state preference between California and Oregon respondents points to a possible limitation in how preferences are calculated. There appear to be differences in preferences when health states are measured as compared with "best" health versus as compared with another symptomatic health state.

In light of the extent of inconsistent responses, the Oregon weights should have been adjusted before being incorporated into the net benefit calculation. The inconsistencies in responses are troublesome, especially as inconsistent respondents were more likely to have been low income, Medicaid recipients, and members of racial/ethnic minority groups. Nonetheless, if one assumes that the inconsistencies do not reflect total incomprehension of the survey, corrections could have been made to minimize their effect.

The second issue, that preference weights differ significantly by sociodemographic and health characteristics, is more troubling. In light of the finding that using different weights for certain CT pairs (e.g., women's weights for dysmenorrhea) alters CT pair order on the list, careful consideration might be given to when subpopulation weights should be applied It may be that finding such differences invalidates the premise that health preferences are universally held and hence the use of such weights at all.

The last issue identified, that many of the preference weights estimated by Kaplan and Oregon are similar when they should probably be different, points to potential limitations in the underlying method. It maybe that respondents cannot articulate preferences while simultaneously considering externally defined prognosis or duration of the health state.

In light of these issues, OTA concludes that much additional research is needed to validate health-state preference instruments and measurement techniques before they can be used as part of resource allocation decisions.

REP : Phone No. _____

PAGE : Area No. _____

January 1990 OREGON STATE UNIVERSITY Final

"Hello, I'm _____. I'm calling from Oregon State University at Corvallis. First, I need to be sure I have dialed the right number. Is this (READ NUMBER)? "We would like to speak to the adult who has had the most recent birthday if he or she is at home now." (IF R IS NOT AT HOME ASK): "When would that person be home? (RECORD BELOW AND CALL BACK.)

(WHEN YOU HAVE CORRECT RESPONDENT, CONTINUE WITH): "As I said, I'm calling for Oregon State University at Corvallis. Our interview contains several interesting topices about how people feel about their health and how their health affects the quality of their lives. The information is important for it will help Oregon's Health Services Commission plan future health support programs for the state's citizens. All information that you give us is strictly confidential and the results are summarized for the state as a whole, not for any one person. Also, I want to assure you that the interview is voluntary, and if we should come to any question that you don't want to answer, just say so and we'll go on to the next question. If you have any questions after we have finished, we would be happy to have you call the study director at 737-3773 and he will answer them for you.

"Because people have different ideas about how health problems affect their happiness or satisfaction with life, we would like to ask how you feel.

"In the next few minutes, we will describe several health situations. We would like you to tell us how you feel about each one by giving it a score. If you feel the situation describes good health, give it a score of 100. If you feel it is as bad as death, give it a score of 0. If the situation is about halfway between death and good health, give it a score of 50. You can use any numbers from 0 to 100, such as 0, 7, 18, 39, 50, 63, 78, 89, 100, and so forth. Remember, you can use any number between 0 and 100.

"For each health situation, you should assume you would have no other problems than the ones described. Also, you should think of each health situation as permanent. Okay?

"The first description is the best health situation that you will be asked to rate; the second description is the worst. Here is the first one...

A. You can go anywhere, can move around freely wherever you are, have no restrictions on activity, and have no health problems. On a scale where 100 is good health and 0 is death what score would you give in this situation? . . . . SCORE _____
DK/NA. . 999

**B. Now**, here is the second. You have to stay at a hospital or nursing home, have to be in bed or in a wheelchair controlled by someone else, need help to eat *or go* **to** the bathroom, and have losses of consciousness from seizures, blackouts or coma. Again, on a scale of O to 100, what score would you give in this situation? . . . . . SCORE _____
DK/NA. . 999

C. Moving on to other situations, you have to stay at a hospital or nursing home, have to be in bed or in a wheelchair controlled by someone else, and need help to eat or go to the bathroom, but have no other health problems . . . . . SCORE _____
DK/NA. . 999

D. You can be taken anywhere, but have to be in bed or *in a* wheelchair controlled by someone else, need help to eat or go to the bathroom, but have no other health problems. . . . . SCORE _____
DK\NA. . *999*

E. You can be taken anywhere, but have to be in bed or in a wheelchair controlled by someone else. Otherwise, you have no *restrictions on* activity and have no other health problems. . . . . SCORE _____
DK\NA. . 999

F. You cannot drive **a car** or use public transportation, you have to use a walker or wheelchair under your own control, and are limited *in* the recreational activities you may participate in. You have no other health problems. . . . . SCORE _____
DK\NA. . 999

G. You can be taken anywhere but you have to use a walker or a wheelchair under your own control, and are limited *in* the recreational activities you may perform, but have no other health problems .SCORE _____
DK\NA. . 999

**H.** You can be taken anywhere, but you have to use a walker or a wheelchair under your own control. Otherwise, you have no restrictions on activity and have no other health problems . . . . . SCORE _____
DK/NA. . 999

I. You can go anywhere and have no limitations or other activity, but wear glasses or contact lenses. . . . . SCORE _____
DK/NA. . 999

Before we continue, I'd like to remind you that we are asking you to rate each health situation on a scale of O to 100, where O is death and 100 is good health. You may use any number from O to 100 for your rating.

J. You can go anywhere and have no limitations on physical or other **activity,** but have pain or discomfort in your eyes or vision problems that corrective lenses can't fix. . . . . SCORE _____
DK\NA. . 999

K. You can go anywhere and have no limitations on physical or other activity, but have stomach aches, vomiting or diarrhea . . . . . SCORE _____
DK/NA. . 999

L. You can go anywhere and have no limitations on physical or other activity, but have trouble falling asleep or staying asleep. . . . . SCORE _____
DK/NA. . 999

M. You can go anywhere and have no limitations on physical or other activity, but have a bad burn over large areas of your body. . . . . SCORE _____
DK/NA. . 999

N. You can go anywhere and have no limitations on physical or other activity, but are on prescribed medicine or **a** prescribed diet for health reasons. . . . . SCORE _____
DK/NA. . 999

O. You can go anywhere and have no limitations on physical or other activity, but have drainage from your sexual organs and discomfort or pain. . . . . SCORE _____
DK/NA. . 999

P. You can go anywhere and have no limitations on physical or other activity, but have trouble with sexual interest or performance . . . . . SCORE _____
DK\NA. . 999

**Q.** You can go anywhere and have no limitations on physical or other activity, but have pain in your ear or trouble hearing. . . . . SCORE _____
DK/NA. . 999

R. You can go anywhere and have no limitations on physical or other **activity,** but have trouble learning, remembering or thinking clearly . . . . . SCORE _____
DK\NA. . 999

S. You can go anywhere. You have difficulty walking, but no other limitations on activity . . . SCORE _____
DK/NA. . 999

As we continue, please remember we are asking you to rate each health situation on a scale of O to 100, where O is death and 100 is good health. You may use any number form O to 100 in your ratings.

**T.** You can go anywhere. You have difficulty in walking because of a paralyzed or broken leg, but you have no other limitations on activity . . . SCORE _____ DK/NA. . 999

**u.** You can go anywhere and have no limitations on physical or other activity, but you have trouble talking, such as a lisp, stuttering or hoarseness . . . . . SCORE _____ DK/NA. . 999

**v.** You can go anywhere and have no limitations on physical or other activity, but you can't stop worrying . . . . . SCORE _____ DK/NA. . 999

**w.** You can go anywhere and have no limitations on physical or other activity, but you have a painful or weak condition of the back or joints . . SCORE _____ DK/NA. . 999

**x.** You can go anywhere and have no limitations on physical or other activity, but you have a n itchy rash over large areas of your body. . . . . SCORE _____ DK/NA. . 999

**Y.** You can go anywhere and have no limitations on your physical or other activity, but you have pain while you are urinating or having a bowel movement. SCORE _____ DK/NA. . 999

**Z1.** You can go anywhere and have no limitations on physical activity, but you have trouble with the use of drugs or alcohol. . . . . SCORE _____ DK/NA. . 999

Z2. You can go anywhere and have no limitations on physical activity, but you have headaches or dizziness. . . . . SCORE _____ DK/NA. . 999

Z3. You can go anywhere and have no limitations on physical or other activity, but you experience a a lot of tiredness or weakness . . . . . SCORE _____ DK/NA. . 999

Z4. You can go anywhere and have no limitations on physical or other activity, but you are often depressed or upset . . . . . SCORE _____ DK/NA. . 999

Z5. You can go anywhere and have no limitations on physical or other activity, but you cough, wheeze or have trouble breathing . . . . . SCORE _____ DK\NA. . 999

Z6. You can go anywhere and have no limitations on physical or other activity, but are overweight or have acne on your face . . . . . SCORE _____
DK/NA. . 999

Thank you for your ratings. Next, I have here a list of medical conditions. As I read each one, will you please tell me if you have had or presently have the condition? (INT: START WITH RED-CHECKED ITEM AND WORK YOUR WAY THROUGH ALL 30.)

| CONDITION | DK/NA | NO NOT HAD | YES HAD OR HAVE | YES, MONTH YEARS |
|---|---|---|---|---|
| 1. You have been, at some time, unable to drive a car or use public transportation . . . . . | 1 | 2 | 3 | ____ |
| 2. You have used a walker or wheelchair under your own control . . . . . | 1 | 2 | 3 | ____ |
| 3. You have been limited in the recreational activities in which you participate. . . . . | 1 | 2 | 3 | ____ |
| 4. You have experienced difficulty in walking because of a paralyzed or broken leg. . . . . | 1 | 2 | 3 | ____ |
| 5. You have had stomach aches, vomiting or diarrhea. . . . . | 1 | 2 | 3 | ____ |
| 6. You have had trouble falling asleep or staying asleep. . . . . | 1 | 2 | 3 | ____ |
| 7. You have been overweight or have had acne on your face. . . . . | 1 | 2 | 3 | ____ |
| 8. You have experienced pain in your ear or have had trouble hearing . . . | 1 | 2 | 3 | ____ |
| 9. You have stayed in a hospital or in a nursing home . . . . . | 1 | 2 | 3 | ____ |
| 10. You have had trouble with the use of drugs or alcohol. . . . . | 1 | 2 | 3 | ____ |
| 11. You have had drainage from your sexual organs and discomfort or pain. . . . | 1 | 2 | 3 | ____ |

| CONDITION | DK/NA! | NO | YES HAD NOT HAD OR HAVE | YES, MONTH YEAR. |
|---|---|---|---|---|
| 12. You have had headaches or dizziness . | 1 | 2 | 3 | ____ |
| 13. You have been in a bed or a wheelchair controlled by someone else. . . . . | 1 | 2 | 3 | ____ |
| 14. You have often felt depressed or upset . . . . . | 1 | 2 | 3 | ____ |
| 15. You have had trouble learning, remembering or thinking clearly. . . | 1 | 2 | 3 | ____ |
| 16. You have experienced pain while urinating or having a bowel movement . . . . . | 1 | 2 | 3 | ____ |
| 17. You have coughed, wheezed *or* had trouble breathing. . . . . | 1 | 2 | 3 | ____ |
| 18. You have had pain or weakness in your back or joints . . . . . | 1 | 2 | 3 | ____ |
| 19. You have had an itchy rash over large areas or your body . . . . . | 1 | 2 | 3 | ____ |
| 20. You wear glasses or contact lenses. . | 1 | 2 | 3 | ____ |
| 21. You have had trouble with sexual interest or performance. . . . . | 1 | 2 | 3 | ____ |
| 22. You have had difficulty in walking. . | 1 | 2 | 3 | ____ |
| 23. You have had trouble talking. . . . . | 1 | 2 | 3 | ____ |
| 24. You have been unable to stop worrying | 1 | 2 | 3 | ____ |
| 25. You have experienced pain or discomfort in your eyes or had vision problems that corrective lenses can't fix. . . . . | 1 | 2 | 3 | ____ |
| 26. You have been on prescribed medicine or a prescribed diet for health reasons . . . . . | 1 | 2 | 3 | ____ |
| 27. You have had a bad burn over large areas of your body . . . . . | 1 | 2 | 3 | ____ |
| 28. You have experienced a lot of tiredness or weakness. . . . . | 1 | 2 | 3 | ____ |

| | | | | |
|---|---|---|---|---|
| **29.** You have needed help in eating **or** going to the bathroom . . . . . | 1 | | 3 | ____ |
| 30. You have had loss in consciousness due to seizures, blackouts or coma . | 1 | 2 | 3 | ____ |

Finally, a few questions about yourself. . .

31. Including yourself, how many persons are living in your immediate household?

NUMBER OF PERSONS _____
Refused . . . . . 99

32. How many are 18 years or older?

NUMBER OF PERSONS _____
Refused . . . . . 99

33. How many are under 18 years of **age?**

NUMBER OF PERSONS _____
Refused . . . . . 99

**34.** We are interested in the level of health insurance coverage for Oregon families. Is anyone in your household presently covered by health insurance, that is, a health insurance plan which pays any part of a doctor or a hospital bill? Do not count Medicare, Medicaid or plans that pay only for accidents.

DK/NA . . . . 3
NO. . . . . 2
YES . . . . . 1

→ **34a.** How many adults and children in your household are covered by this type of health insurance plan?

NUMBER COVERED _____

34b. Are there any adults or children in your household who are not covered by this type of health insurance?

DK/NA . . . . . 1
NO . . . . . 2
YES . . . . . **3**

→ **34c.** How many adults or children in your household are not covered by this type of health insurance?

NUMBER _____

35. Incidentally, do you or anyone in your household carry a Medicaid card, or not?

DK/NA. . . . . 1
NO . . . . . 2
YES. . . . . 3
" " " " " "

→ 35a. How many persons in your household are covered by Medicaid?

NUMBER COVERED_____

[INT: REFER TO Q 31 FOR THE TOTAL HH SIZE AND WRITE IT HERE. (____). THEN COMPARE THE INCOME LEVEL FOR THE HH SIZE IN THE TABLE BELOW AND ASK THE FOLLOWING QUESTION:]

36. By the way, is your total household income for 1989 above or below $_____?

| HH SIZE | INCOME |
|---|---|
| 1 | $ 6,000 |
| 2 | 8,000 |
| 3 | 10,000 |
| 4 | 12,000 |
| 5 | 14,000 |
| 6 | 16,000 |
| 7 | 18,250 |
| 8 | 20,250 |
| 9 | 22,250 |
| 10 | 24,250 |

ABOVE. . . . . 1
SAME . . . . . 2
BELOW. . . . . 3
DK/NA. . . . . 4

37. Thinking back over the past 12 months, was there any time when you or someone in your household should have seen a doctor but for some reason did not?

DK/NA . . . . . 1
NO. . . . . 2
YES. . . . . 3

→ 37a. What do you feel is the main reason this person or persons did not see a doctor when they should have? (PROBE!)

What else?

38. Would you please tell me in (or near) which town or city you live?

TOWN OR CITY _____
Refused . . . . . 999

**39.** Which one of these best describes your racial or ethnic heritage -- white, black, American Indian, Oriental or Hispanic?

WHITE . . . . . 1
BLACK . . . . . 2
AMERICAN INDIAN . 3
ORIENTAL. . . . . 4
HISPANIC. . . . . 5
Refused . . . . . 6

40. One final question. What **was** your **age** on your last birthday?

YEARS . . . _____
Refused . . 99

**41.** **Is** there anything else you would like to tell us about your health or about health care in Oregon?

(THANK YOU FOR YOUR COOPERATION!)

- - --- ---- ---- ---- ---- ---- ---- ---- --

(BY OBSERVATION) :

42. R'S Sex?

MALE . . . . . 1
FEMALE . . . . . 2

Interviewer's Sig.

Date

PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991

Diagnosis: PNEUMOCOCCAL PNEUMONIA, OTHER BACTERIAL PNEUMONIA, BRONCHOPNEUMONIA, INFLUENZA WITH PNEUMONIA
Treatment: MEDICAL THERAPY
ICD-9: 020.3-.5,022.1,073,466,481 -483,485-486,487.1
CPT: 90000-99999
Line: 1 Category: 1

Diagnosis: TUBERCULOSIS
Treatment: MEDICAL THERAPY
ICD-9: 010-012
CPT: 90000-99999
Line: 2 Category: 5

Diagnosis: PERITONITIS
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 567
CPT: 90000-99999
Line: 3 Category: 1

Diagnosis: FOREIGN BODY IN PHARYNX, LARYNX, TRACHEA, BRONCHUS & ESOPHAGUS
Treatment: REMOVAL OF FOREIGN BODY
ICD-9: 933.0- .1,934.0-.1,935.1
CPT: 31635,40804
Line: 4 Category: 1

Diagnosis: APPENDICITIS
Treatment: APPENDECTOMY
ICD-9: 540-543
CPT: 44950,44900,44960
Line: 5 Category: 1

Diagnosis: RUPTURED INTESTINE
Treatment: REPAIR
ICD-9: 569.3
CPT: 44600-10
Line: 6 Category: 1

Diagnosis: HERNIA WITH OBSTRUCTION AND/OR GANGRENE
Treatment: REPAIR
ICD-9: 550.0-.1,551-552
CPT: 39502-41, 43330-31, 43885, 44050, 44346, 49500-611, 49000, 51500,55540
Line: 7 Category: 1

Diagnosis: CROUP SYNDROME, ACUTE LARYNGOTRACHEITIS
Treatment: MEDICAL THERAPY, INTUBATION, TRACHEOTOMY
ICD-9: 464.0-.4
CPT: 90000-99999,31500,31600
Line: 8 Category: 1

Diagnosis: ACUTE ORBITAL CELLULITIS
Treatment: MEDICAL THERAPY
ICD-9: 376.0
CPT: 90000-99999
Line: 9 Category: 1

Diagnosis: ECTOPIC PREGNANCY
Treatment: SURGERY
ICD-9: 633
CPT: 58700, 58720,58770,58980,59135
Line: 10 Category: 1

Diagnosis: INJURY TO MAJOR BLOOD VESSELS OF UPPER EXTREMITY
Treatment: LIGATION
ICD-9: 903
CPT: 37618
Line: 11 Category: 1

Diagnosis: RUPTURED SPLEEN
Treatment: REPAIR/SPLENECTOMY/INCISION
ICD-9: 865.04
CPT: 38100,49000,38115
Line: 12 Category: 1

**PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991**

Diagnosis: ACUTE PELVIC INFLAMMATORY DISEASE
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 614.0,614.3,616.5,615.0
CPT: 11043,58150,58805,58925,58980,90000-99999
Line: 13 Category: 1

Diagnosis: ACUTE PYELONEPHRITIS, RENAL & PERINEPHRIC ABSCESS
Treatment: MEDICAL AND SURGICAL THERAPY
ICD-9: 590.1-.2
CPT: 50200,50220,90000-99999
Line: 14 Category: 1

Diagnosis: ANAPHYLACTIC SHOCK DUE TO FOOD, DRUG OR OTHER NON-VENOMOUS SOURCE
Treatment: MEDICAL THERAPY
ICD-9: 995.0,995.2
CPT: 90000-99999
Line: 15 Category: 1

Diagnosis: GALLSTONE WITH CHOLECYSTITIS AND OTHER DISORDERS OF BILE DUCT
Treatment: CHOLECYSTECTOMY
ICD-9: 574.0-.1,574.3-.4,575.0- .5,576.1-.3
CPT: 47420-60,47480-90,47500-605,49000
Line: 16 Category: 1

Diagnosis: RESPIRATORY OBSTRUCTION
Treatment: REPAIR OF CHOANAL ATRESIA
ICD-9: 748.0
CPT: 30540
Line: 17 Category: 2

Diagnosis: SYPHILIS
Treatment: MEDICAL THERAPY
ICD-9: 090-097
CPT: 90000-99999
Line: 18 Category: 5

Diagnosis: HEMOLYTIC DISEASE DUE TO ISOIMMUNIZATION, LATE ANEMIA DUE TO ISOIMMUNIZATION, AND FETAL AND NEONATAL JAUNDICE
Treatment: MEDICAL THERAPY
ICD-9: 773.0-.2,773.4-.5,774.0-.4,774.6-.7
CPT: 90000-99999
Line: 19 Category: 2

Diagnosis: POLYCYTHEMIA NEONATORUM, SYMPTOMATIC
Treatment: MEDICAL THERAPY
ICD-9: 776.4
CPT: 36450,90000-99999
Line: 20 Category: 2

Diagnosis: PREGNANCY
Treatment: OBSTETRICAL CARE
ICD-9: 622.5,640-676,760-763,766,768,772.0,772.3-.4,776.5,V22-V28,V30-V39
CPT: 59000-59899,57700,90000-99999
Line: 21 Category: 2

Diagnosis: LOU BIRTH WEIGHT (500 GM AND OVER)
Treatment: MEDICAL THERAPY
ICD-9: 765.12- .19,769,778.1
CPT: 90000-99999
Line: 22 Category: 2

Diagnosis: SYNDROME OF "INFANT OF A DIABETIC MOTHER" AND NEONATAL HYPOGLYCEMIA
Treatment: MEDICAL THERAPY
ICD-9: 775.0,775.6
CPT: 36510,36660,90000-99999
Line: 23 Category: 2

Diagnosis: OMPHALITIS OF THE NEWBORN AND NEONATAL INFECTIVE MASTITIS
Treatment: MEDICAL THERAPY
ICD-9: 771 .4-.5
CPT: 90000-99999
Line: 24 Category: 2

**PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991**

**Diagnosis:** GALACTOSEMIA
**Treatment:** MEDICAL THERAPY
[CD-9: 271 .1,774.5
CPT: 90000-99999
Line: 25 Category: 2

**Diagnosis:** HYPOGLYCEMIC COMA; HYPOGLYCEMIA
**Treatment:** MEDICAL THERAPY
ICD-9: 251.0-251.2
CPT: 90000-99999
Line: 26 Category: 3

**Diagnosis:** WHOOPING COUGH
**Treatment:** MEDICAL THERAPY
ICD-9: 032-033
CPT: 90000-99999
Line: 27 Category: 1

**Diagnosis:** PHENYLKETONURIA (PKU)
**Treatment:** MEDICAL THERAPY
ICD-9: 270.1
CPT: 90000-99999
Line: 28 Category: 4

**Diagnosis:** CONGENITAL HYPOTHYROIDISM
**Treatment:** MEDICAL THERAPY
ICD-9: 243
CPT: 90000-99999
Line: 29 Category: 4

**Diagnosis:** ACUTE OSTEOMYELITIS
**Treatment:** MEDICAL AND SURGICAL TREATMENT
ICD-9: 730.0
CPT: 90000-99999
Line: 30 Category: 1

**Diagnosis:** DEEP OPEN WOUND OF NECK, INCLUDING LARYNX; FRACTURE OF LARYNX OR TRACHEA, OPEN
**Treatment:** REPAIR
ICD-9: 874,807.6
CPT: 12001-12007,13101,13131-50
Line: 31 Category: 1

**Diagnosis:** DISEASES OF PHARYNX INCLUDING RETROPHARYNGEAL ABSCESS
**Treatment:** MEDICAL AND SURGICAL TREATMENT
ICD-9: 478.21-.22,478.24
CPT: 42700-42999,90000-99999
Line: 32 Category: 1

**Diagnosis:** PNEUMOTHORAX AND HEMOTHORAX
**Treatment:** TUBE THORACOSTOMY/THORACOTOMY, MEDICAL THERAPY
ICD-9: 512,860.2
CPT: 90000-99999,32020,32100,32500
Line: 33 Category: 1

**Diagnosis:** HYPOTENSION
**Treatment:** MEDICAL THERAPY
ICD-9: 458
CPT: 90000-99999
Line: 34 Category: 1

**Diagnosis:** FRACTURE OF SHAFT OF BONE, OPEN
**Treatment:** REDUCTION
ICD-9: 812.3,813.3,813.9,818. 1,821 .1,823.3,823.9
CPT: 24500-15,25500-25575,25610-25620, 27500-06,27750-58,27800-06
Line: 35 Category: 1

**DIAGNOSIS:** PERIPHERAL NERVE INJURY
**Treatment:** NEUROPLASTY
ICD-9: 953.4-.9,955-956,957.9
CPT: 64413-50,64830,64787,64732-92,64716-21,64830-76,64702-27
Line: 36 Category: 12

PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991

Diagnosis: PYOGENIC ARTHRITIS
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 711
CPT: 24000,25040,26070-80,27030,27310,27610,29843,29871-72,29894,90000-99999
Line: 37 Category: 1

Diagnosis: INTESTINAL OBSTRUCTION w/o MENTION OF HERNIA
Treatment: EXCISION
ICD-9: 560.0,560.2,560.8-.9
CPT: 44005,64020,44050,44110-30,44140-44
Line: 38 Category: 1

Diagnosis: PATENT DUCTUS ARTERIOSUS
Treatment: LIGATION
ICD-9: 747.0
CPT: 33820-22
Line: 39 Category: 2

Diagnosis: HEMATOLOGICAL DISORDERS OF FETUS AND NEWBORN
Treatment: MEDICAL THERAPY
ICD-9: 776.0-.1,776.3
CPT: 90000-99999
Line: 40 Category: 2

Diagnosis: CONDITIONS INVOLVING THE TEMPERATURE REGULATION OF NEWBORNS
Treatment: MEDICAL THERAPY
ICD-9: 778.2-.4
CPT: 90000-99999
Line: 41 Category: 2

Diagnosis: BIRTH TRAUMA FOR BABY
Treatment: MEDICAL THERAPY
ICD-9: 767
CPT: 90000-99999
Line: 42 Category: 2

Diagnosis: HYPOCALCEMIA, HYPOMAGNESEMIA AND OTHER ENDOCRINE AND METABOLIC DISTURBANCES SPECIFIC TO THE FETUS AND NEWBORN
Treatment: MEDICAL THERAPY
ICD-9: 775.4-.5,775.7-.9
CPT: 36510,36660,90000-99999
Line: 43 Category: 2

Diagnosis: PERINATAL DISORDERS OF DIGESTIVE SYSTEM
Treatment: MEDICAL THERAPY
ICD-9: 777.1-.4
CPT: 90000-99999
Line: 44 Category: 2

Diagnosis: ANEMIA OF PREMATURITY OR TRANSIENT NEONATAL NEUTROPENIA
Treatment: MEDICAL THERAPY
ICD-9: 776.6-.9
CPT: 90000-99999
Line: 45 Category: 2

Diagnosis: HYDROPS FETALIS
Treatment: MEDICAL THERAPY
ICD-9: 778.0,773.3
CPT: 90000-99999
Line: 46 Category: 2

Diagnosis: ACUTE BACTERIAL MENINGITIS
Treatment: MEDICAL THERAPY
ICD-9: 024,027.0,036,320
CPT: 90000-99999
Line: 47 Category: 3

Diagnosis: HYPOTHERMIA
Treatment: MEDICAL THERAPY
ICD-9: 991.6
CPT: 90000-99999
Line: 48 Category: 3

**PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991**

**Diagnosis:** BURN, PARTIAL THICKNESS WITHOUT VITAL SITE, 10-30% OF BODY SURFACE
**Treatment:** FREE SKIN GRAFT, MEDICAL THERAPY
ICD-9: 941.26-.27,.36-.37,942.20- .24, .29- .34, .39,943.2- .3,944.20- .24,.26-.34, .36- .38,945.20-.21, .23- .31,.33-.39,946.2- .3,948,949.2-.3
CPT: 11000, 11040-1,11960-70,14020, 14040-1,15000-15121,15200, 15220, 15240,15260,15350,15400, 15500-10,16000-16035,35206,90000-99999
Line: 49 Category: 3

**Diagnosis:** ACUTE MYOCARDIAL INFARCTION
**Treatment:** MEDICAL THERAPY
ICD-9: 410
CPT: 90000-99999
Line: 50 Category: 3

**Diagnosis:** ACUTE PULMONARY HEART DISEASE AND PULMONARY EMBOLI
**Treatment:** MEDICAL THERAPY
ICD-9: 415
CPT: 90000-99999
Line: 51 Category: 3

**Diagnosis:** THYROTOXICOSIS WITH OR WITHOUT GOITER, ENDOCRINE EXOPHTHALMOS; CHRONIC THYROIDITIS
**Treatment:** MEDICAL AND SURGICAL TREATMENT
ICD-9: 242,245. 1-.9,246.8,376.2
CPT: 60245,67440,67599-67622,90000-99999
Line: 52 Category: 5

**Diagnosis:** LIFE-THREATENING ARRHYTHMIAS
**Treatment:** MEDICAL AND SURGICAL TREATMENT
ICD-9: 427.1 ,427.4- .5,746.86,996.01
CPT: 33200-33208,33212,33820,90000-99999
Line: 53 Category: 3

**Diagnosis:** FRACTURE OF RIBS AND STERNUM, OPEN
**Treatment:** STABILIZE
ICD-9: 807.1,807.3
CPT: 21805,21810,21825
Line: 54 Category: 1

**Diagnosis:** FATAL RICKETTSIAL AND OTHER ARTHROPOD-BORNE DISEASES
**Treatment:** MEDICAL THERAPY
ICD-9: 080-083,085.0,085.5,085 .9
CPT: 90000-99999
Line: 55 Category: 1

**Diagnosis:** POISONING BY INGESTION AND INJECTION
**Treatment:** MEDICAL THERAPY
ICD-9: 960.2-.5,961.0, .3- .9,962.0, .2-.8,963.0, .2- .9,964.5, .7-.8,965.5- .7,966,968.0,968.5- .7,969.6,970. 1,971.0-.2,972.3,972.6,972.8,974.0- .4,974.7,975.0- .1,975.7,977.0,978-985
CPT: 43235-47,90000-99999
Line: 56 Category: 1

**Diagnosis:** PERITONSILLAR ABSCESS
**Treatment:** INCISION AND DRAINAGE OF ABSCESS, MEDICAL THERAPY
ICD-9: 475
CPT: 10160,42700,90000-99999
Line: 57 Category: 1

**Diagnosis:** RUPTURE BLADDER, NONTRAUMATIC
**Treatment:** CYSTORRHAPHY SUTURE
ICD-9: 596.6
CPT: 51860-51865
Line: 58 Category: 1

**Diagnosis:** FRACTURE OF FACE BONES
**Treatment:** SURGERY
ICD-9: 802
CPT: 21310-37,21454-5,21461 ,21462, 21360,21365,21385-6, 21406, 21421 -22,21470,30140,30520,3062D,31021
Line: 59 Category: 1

**PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991**

**Diagnosis:** LIFE-THREATENING EPISTAXIS
**Treatment:** SEPTOPLASTY/REPAIR/CONTROL HEMORRHAGE
ICD-9: 784.7
CPT: 30520-30999
Line: 60 Category: 1

**Diagnosis:** ACUTE MASTOIDITIS
**Treatment:** MASTOIDECTOMY, MEDICAL THERAPY
ICD-9: 383.0
CPT: 69601-46,69670,90000-99999
Line: 61 Category: 1

**Diagnosis:** ACQUIRED DEFORMITY OF HEAD AND COMPOUND/DEPRESSED FRACTURES OF SKULL
**Treatment:** CRANIOTOMY/CRANIECTOMY
ICD-9: 738.0-.1,800,803,804
CPT: 21365,21395,61304-576,62000
Line: 62 Category: 1

**Diagnosis:** DISLOCATION OF ELBOW, HAND, ANKLE, FOOT, CLAVICLE AND SHOULDER, OPEN
**Treatment:** RELOCATION
ICD-9: 831 .04,831.1,832.1,833.1 ,834. 1,837.1,838.1
CPT: 23520-52,23650-80,24600-35,25660-95,26641 -715,27840-48
Line: 63 Category: 1

**Diagnosis:** SEPTICEMIA
**Treatment:** MEDICAL THERAPY
ICD-9: 002,003.1,004.9,020.0-.2,020.8-.9,021,022.3,024,027,036.2,038,054.5,098.89,771.8,998.5,999.3
CPT: 90000-99999
Line: 64 Category: 1

**Diagnosis:** ERYSIPELAS
**Treatment:** MEDICAL THERAPY
ICD-9: 035
CPT: 90000-99999
Line: 65 Category: 1

**Diagnosis:** STEVENS-JOHNSON SYNDROME
**Treatment:** MEDICAL THERAPY
ICD-9: 695.1
CPT: 90000-99999,11100-11101
Line: 66 Category: 1

**Diagnosis:** DISORDERS OF BILE DUCT
**Treatment:** EXCISION, REPAIR
[CD-9: 576.4-.9
CPT: 47420-60,47500-999
Line: 67 Category: 1

**Diagnosis:** RUPTURE LIVER
**Treatment:** SUTURE/REPAIR
ICD-9: 864.04
CPT: 47350,47360
Line: 68 Category: 1

**Diagnosis:** RESPIRATORY FAILURE
**Treatment:** MEDICAL THERAPY
ICD-9: 518.81
CPT: 31600,90000-99999
Line: 69 Category: 1

**Diagnosis:** LUNG CONTUSION OR LACERATION
**Treatment:** MEDICAL THERAPY
ICD-9: 861.21,861.31
CPT: 90000-99999
Line: 70 Category: 1

**Diagnosis:** TRANSPLACENTAL HEMORRHAGE
**Treatment:** MEDICAL THERAPY
ICD-9: 772.0,772.3- .4,776.5
CPT: '90000-99999
Line: 71 Category: 2

**PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991**

Diagnosis: NEONATAL THYROTOXICOSIS
Treatment: MEDICAL THERAPY
ICD-9: 775.3
CPT: 90000-99999
Line: 72 **Category: 2**

Diagnosis: DRUG REACTIONS & INTOXICATIONS SPECIFIC TO NEWBORN
Treatment: MEDICAL THERAPY
ICD-9: 779.4
CPT: 90000-99999
Line: 73 **Category: 2**

Diagnosis: NEONATAL MYASTHENIA GRAVIS
Treatment: MEDICAL THERAPY
ICD-9: 775.2
CPT: 90000-99999
Line: 74 **Category: 2**

Diagnosis: CLEFT PALATE WITH AIRWAY OBSTRUCTION, PIERRE ROBIN DEFORMITY
Treatment: LIP-TONGUE SUTURE, MEDICAL THERAPY
ICD-9: 749.0,519.8
CPT: 30140,30520,30620,41510,90000-99999
Line: 75 Category: 2

Diagnosis: DRUG WITHDRAWAL SYNDROME IN NEWBORN
Treatment: MEDICAL THERAPY
ICD-9: 779.5
CPT: 90000-99999
Line: 76 Category: 2

Diagnosis: TOXIC EFFECT OF GASES, FUMES, AND VAPORS REWIRING HYPERBARIC OXYGEN
Treatment: HYPERBARIC OXYGEN
ICD-9: 986-987
CPT: 99180-99182
Line: 77 Category: 3

Diagnosis: PHLEBITIS & THROMBOPHLEBITIS, DEEP
Treatment: LIGATION AND DIVISION, MEDICAL THERAPY
ICD-9: 451.0- .2,451.8
CPT: 11042,37720,37721,37735,37785,90000-99999
Line: 78 Category: 3

Diagnosis: DISLOCATION KNEE & HIP, OPEN
Treatment: RELOCATION
ICD-9: 835.1 ,836.4,836.6
CPT: 27250-55,27550-27557
Line: 79 Category: 3

Diagnosis: EMPYEMA AND ABSCESS OF LUNG
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 510,513.0
CPT: 90000-99999,31622,32000-32100
Line: 80 Category: 3

Diagnosis: CERVICAL VERTEBRAL DISLOCATIONS, OPEN OR CLOSED; OTHER VERTEBRAL DISLOCATIONS, OPEN
Treatment: REPAIR/RECONSTRUCTION
ICD-9: 839.0-.1,839.3,839.5,839. 7
CPT: 22315,22325-22327,22505,22590-22650,22840-22855
Line: 81 Category: 3

Diagnosis: OPEN FRACTURE OF EPIPHYSIS OF LOWER EXTREMITIES
Treatment: REDUCTION
ICD-9: 820.11,821.32
CPT: 27516-27519
Line: 82 Category: 3

Diagnosis: SPINAL CORD INJURY WITHOUT EVIDENCE OF VERTEBRAL INJURY
Treatment: MEDICAL THERAPY
ICD-9: 952
CPT: 90000-99999
Line: 83 Category: 3

PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991

Diagnosis: ASPIRATION PNEUMONIA
Treatment: MEDICAL THERAPY
[CD-9: 507
CPT: 90000-99999,31645,31500
Line: 84 Category: 3

Diagnosis: ACUTE INFLAMMATION OF THE HEART DUE TO RHEUMATIC FEVER
Treatment: MEDICAL THERAPY
ICD-9: 391,392.0
CPT: 90000-99999
Line: 85 Category: 3

Diagnosis: FRACTURE AND OTHER INJURY OF CERVICAL VERTEBRA
Treatment: CERVICAL LAMINECTOMY, MEDICAL THERAPY
ICD-9: 806.0-806.1 ,805.0-805.1,952.0
CPT: 22315,22326,22845,63250,63265,63270,63275,63280,63285,63001,63015,63020,63035-40,63045,63048,63075-76, 63081-82,63300,63304,63170-72,63180-82,63194,63196,63198,90000-99999
Line: 86 Category: 3

Diagnosis: FRACTURE OF HIP, CLOSED
Treatment: REDUCTION
ICD-9: 820.00,820.02- .09,820.2,820.8
CPT: 27230-27232,27235-27240,27242-27248
Line: 8 7 Category: 3

Diagnosis: SUBARACHNOID AND INTERCEREBRAL HEMORRHAGE/HEMATOMA
Treatment: BURR HOLES, CRANIECTOMY/CRANIOTOMY
ICD-9: 430-432,852-853
CPT: 22640,61120-61151,61154,61210,61304,61314-61315,61522-61712,62223
Line: 88 Category: 3

Diagnosis: ACUTE PANCREATITIS
Treatment: MEDICAL THERAPY
ICD-9: 577.0
CPT: 90000-99999
Line: 89 Category: 3

Diagnosis: HYDATIDIFORM MOLE
Treatment: D & C, HYSTERECTOMY
ICD-9: 630
CPT: 58120,58150-200
Line: 90 Category: 1

Diagnosis: THROMBOCYTOPENIA
Treatment: MEDICAL THERAPY
ICD-9: 287
CPT: 90000-99999
Line: 91 Category: 1

Diagnosis: TOXIC EFFECT OF VENOM
Treatment: MEDICAL THERAPY
ICD-9: 989.5
CPT: 90000-99999
Line: 92 Category: 1

Diagnosis: CANCRUM ORIS
Treatment: MEDICAL THERAPY
ICD-9: 528.1
CPT: 90000-99999
Line: 93 Category: 1

Diagnosis: CANDIDIASIS OF LUNG, DISSEMINATED CANDIDIASIS, CANDIDAL ENDOCARDITIS AND MENINGITIS
Treatment: MEDICAL THERAPY
[co-9: 112.4-.5,112.81,112.83
CPT: 90000-99999
Line: 94 Category: 1

Diagnosis: MYOCARDITIS, PERICARDITIS AND ENDOCARDITIS
Treatment: MEDICAL THERAPY
ICD-9: 420-423
CPT: 90000-99999
Line: 95 Category: 1

**PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991**

**Diagnosis: RUPTURE OF ESOPHAGUS**
**Treatment: SURGERY**
**ICD-9: 530.4**
**CPT: 43100-0 ,43110-43235,43330-31**
**Line: 96 Category: 1**

**Diagnosis: TOXIC EPIDERMAL NECROLYSIS AND STAPHYLOCOCCAL SCALDED SKIN SYNDROME**
**Treatment: MEDICAL THERAPY**
**[CD-9: 695.1**
**CPT: 90000-99999,11100-11101**
**Line: 97 Category: 1**

**Diagnosis: CHOLERA, RAT-BITE FEVER AND TOXIC EFFECTS OF MUSHROOMS, FISH, BERRIES, ETC.**
**Treatment: MEDICAL THERAPY**
**ICD-9: 001,026,988**
**CPT: 90000-99999**
**Line: 98 Category: 1**

**Diagnosis: DELIRIUM: AMPHETAMINE, COCAINE, OR OTHER PSYCHOACTIVE SUBSTANCE**
**Treatment: MEDICAL THERAPY**
**ICD-9: 292.81,293.00**
**CPT: 90220**
**Line: 99 Category: 1**

**Diagnosis: INJURY TO BLOOD VESSELS OF THE THORACIC CAVITY**
**Treatment: REPAIR**
**ICD-9: 901**
**CPT: 37616**
**Line: 100 Category: 1**

**Diagnosis: NECROTIZING ENTEROCOLITIS IN FETUS OR NEWBORN AND PERINATAL INTESTINAL PERFORATION**
**Treatment: MEDICAL AND SURGICAL TREATMENT**
**ICD-9: 777.5-.6**
**CPT: 36510,36660,90000-99999**
**Line: 101 Category: 2**

**Diagnosis: DISSEMINATED INTRAVASCULAR COAGULATION**
**Treatment: MEDICAL THERAPY**
**ICD-9: 286.6,776.2**
**CPT: 90000-99999**
**Line: 102 Category: 2**

**Diagnosis: CEREBRAL DEPRESSION, COMA, & OTHER ABNORMAL CEREBRAL SIGNS OF NEWBORN**
**Treatment: MEDICAL THERAPY**
**ICD-9: 779.2**
**CPT: 36510,36660,90000-99999**
**Line: 103 Category: 2**

**Diagnosis: TORSION OF OVARY**
**Treatment: OOPHORECTOMY, OVARIAN CYSTECTOMY**
**ICD-9: 620.5**
**CPT: 58925,58940-43,59120-26**
**Line: 104 Category: 1**

**Diagnosis: SPONTANEOUS ABORTION COMPLICATED BY INFECTION AND/OR HEMORRHAGE**
**Treatment: MEDICAL AND SURGICAL TREATMENT**
**ICD-9: 634.0-.1**
**CPT: 59820-21,90000-99999**
**Line: 105 Category: 1**

**Diagnosis: OTHER RESPIRATORY CONDITIONS OF FETUS AND NEWBORN**
**Treatment: MEDICAL THERAPY**
**ICD-9: 770.0- .6,770.8-.9**
**CPT: 90000-99999**
**Line: 106 Category: 2**

**Diagnosis: OTHER NONINFECTIOUS GASTROENTERITIS AND COLITIS**
**Treatment: MEDICAL THERAPY**
**[CD-9: 558**
**CPT: 90000-99999**
**Line: 107 Category: 3**

**PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991**

**Diagnosis:** UNSPECIFIED DISEASES DUE TO MYCOBACTERIA, ACTINOMYCOTIC INFECTIONS, AND TOXOPLASMOSIS
**Treatment:** MEDICAL THERAPY
ICD-9: 031.9,039,130
CPT: 90000-99999
Line: 108 Category: 3

**Diagnosis:** BOTULISM
**Treatment:** MEDICAL THERAPY
ICD-9: 005.1
CPT: 90000-99999
Line: 109 Category: 3

**Diagnosis:** FRACTURE OF JOINT, OPEN
**Treatment:** REDUCTION
ICD-9: 810.1,811.1,812.1,812.5,813.1,813.5,820.10,820.12-.19,820.3,820.9,821.30-.31,821.33-.39,822.1,823.1,824.1,.3,.5,.7,.9,825.1,.3,826.1,828.1,814.1,815.1,816.1,817.1,819.1
CPT: 23500-15,23570-630,24530-88,24650-85,25600-50,26600-15,26720-85,27230-48,27409,27420,27508-14,27520-40,27610,27764-66,27780-92,27806-23,27846-8,28400-530,28730,29874-9
Line: 110 Category: 3

**Diagnosis:** ABSCESS OF INTESTINE
**Treatment:** DRAIN ABSCESS, MEDICAL THERAPY
ICD-9: 569.5
CPT: 90000-99999,45355,45386,45310-45315
Line: 111 Category: 3

**Diagnosis:** ADULT RESPIRATORY DISTRESS SYNDROME
**Treatment:** MEDICAL THERAPY
ICD-9: 518.4-.5
CPT: 90000-99999
Line: 112 Category: 3

**Diagnosis:** HERPETIC ENCEPHALITIS
**Treatment:** MEDICAL THERAPY
ICD-9: 054.3
CPT: 90000-99999
Line: 113 Category: 3

**Diagnosis:** ARTHROPOD-BORNE VIRAL DISEASES
**Treatment:** MEDICAL THERAPY
ICD-9: 060-066
CPT: 90000-99999
Line: 114 Category: 3

**Diagnosis:** BURN, PARTIAL THICKNESS WITH VITAL SITE; FULL THICKNESS WITH VITAL SITE, LESS THAN 10% OF BODY SURFACE
**Treatment:** FREE SKIN GRAFT, MEDICAL THERAPY
ICD-9: 941.20-25,.28-.35,.38-.39,942.25,.35,944.25,.35,945.22,.32,946.2-.3,948,949.2-.3
CPT: 11000,11040-2,11970,14020,14040-1,15000-15121,15200,15220,15240,15260,15350,15500-10,15400-10,15505,15770,16000-16035,35206,90000-99999
Line: 115 Category: 3

**Diagnosis:** FRACTURE OF PELVIS, OPEN AND CLOSED
**Treatment:** REDUCTION
ICD-9: 808
CPT: 27033,27210-27225
Line: 116 Category: 3

**Diagnosis:** BURN FULL THICKNESS GREATER THAN 10% OF BODY SURFACE
**Treatment:** FREE SKIN GRAFT, MEDICAL THERAPY
ICD-9: 940,941.30-.35,941.4-.5,942.35,.4-.5,943.4-.5,944.35,.4-.5,945.32,.4-.5,946.3-.5,947,948.11-.19,.21-.29,.31-.39,.41-.49,.51-.59,.61-.69,.71-.79,.81-.89,.91-.99,949.4-.5
CPT: 11000,11040-1,11960-70,14020,14040-1,15000-15121,15200,15220,15240,15260,15350,15400,15500-10,15770,16000-16035,20550,35206,90000-99999
Line: 117 Category: 3

**Diagnosis:** SUBACUTE MENINGITIS (EG. TUBERCULOSIS, CRYPTOCOCCOSIS)
**Treatment:** MEDICAL THERAPY
ICD-9: 013,054.72, 117.5,117.9,123. 1,130.8,321-322
CPT: 90000-99999
Line: 118 Category: 3

**PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991**

Diagnosis: CRUSH INJURIES: TRUNK, UPPER LIMBS, LOWER LIMB INCLUDING BLOOD VESSELS
Treatment: SURGICAL TX
ICD-9: 900,902,926. 11- .12,927.03,927.2- .9,927. 10,928,925,927.00,927.01
CPT: 15220,24495,25020,25023,27600-27602,29105-29131 ,29240-29280,29345-29440, 29520-29580,37615-18
Line: 119 Category: 3

Diagnosis: ACUTE GLOMERULONEPHRITIS AND OTHER ACUTE RENAL FAILURE
Treatment: MEDICAL THERAPY INCLUDING DIALYSIS
ICD-9: 580.0,580.8-.9,584
CPT: 90000-99999
Line: 120 Category: 3

Diagnosis: ACCIDENTS INVOLVING EXPOSURE TO NATURAL ELEMENTS (EG. LIGHTNING STRIKE, HEATSTROKE)
Treatment: MEDICAL THERAPY
ICD-9: 991.0-.5,992.0,993.2,994.0-.1,994.4-.9
CPT: 90000-99999
Line: 121 Category: 1

Diagnosis: DISSECTING OR RUPTURED ANEURYSM
Treatment: SURGICAL TREATMENT
ICD-9: 441 .0-.1,441.3,441.5
CPT: 33860-77,35081-103,35301 -11,35331-51,35450-515,35526-31 ,35536-52,35560-63,35601- 16,35626-46,35651,35663
Line: 122 Category: 1

Diagnosis: ARTERIAL EMBOLISM/THROMBOSIS: ABDOMINAL AORTA, THORACIC AORTA
Treatment: SURGICAL TREATMENT
ICD-9: 444.0-.1,.8
CPT: 34101 ,34201,35081,35363,35381 ,35536-51
Line: 123 Category: 3

Diagnosis: CONGENITAL ANOMALIES OF DIGESTIVE SYSTEM EXCLUDING NECROSIS
Treatment: MEDICAL AND SURGICAL THERAPY
ICD-9: 751
CPT: 44050,45100,45120-21 ,46070,46080
Line: 124 Category: 2

Diagnosis: CONVULSIONS AND OTHER CEREBRAL IRRITABILITY IN NEWBORN
Treatment: MEDICAL THERAPY
ICD-9: 779.0-.1
CPT: 90000-99999
Line: 125 Category: 2

Diagnosis: ACUTE NECROSIS OF LIVER
Treatment: MEDICAL THERAPY
ICD-9: 570
CPT: 90000-99999
Line: 126 Category: 3

Diagnosis: COCCIDIOIDOMYCOSIS, HISTOPLASMOSIS, BLASTOMYCOTIC INFECTION, OPPORTUNISTIC AND OTHER MYCOSES
Treatment: MEDICAL THERAPY
ICD-9: 114-118
CPT: 90000-99999
Line: 127 Category: 3

Diagnosis: INTRASPINAL AND INTRACRANIAL ABSCESS
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 324
CPT: 63172-63173,63266-63273,90000-99999
Line: 128 Category: 3

Diagnosis: ANEURYSM OF PULMONARY ARTERY
Treatment: SURGICAL TREATMENT
ICD-9: 417.1
CPT: 33910-33915
Line: 129 Category: 3

Diagnosis: FLAIL CHEST
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 807.4
CPT: 21800-25,90000-99999
Line: 130 Category: 3

PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991

Diagnosis: SEVERE HEAD INJURY: HEMATOMA/EDEMA W/ MODERATE/PROLONGED LOSS OF CONSCIOUSNESS
Treatment: SURGICAL TREATMENT
ICD-9: 851 .03,851.13,851.83,851.93,851 .43,851 .53
CPT: 61108,61314-15,62140-41
Line: 131 Category: 3

Diagnosis: RUPTURE OF PAPILLARY MUSCLE
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 429.5-.6
CPT: 33542,90000-99999
Line: 132 Category: 3

Diagnosis: ANAEROBIC INFECTIONS REQUIRING HYPERBARIC OXYGEN
Treatment: HYPERBARIC OXYGEN
ICD-9: 611.3,639.0,639.6,670.2,670.4,673.0, 709.3, 729.4, 785.4,958.0,996.52,996.6- .7,998.8,999.1
CPT: 99180-99182
Line: 133 Category: 3

Diagnosis: TRAUMATIC AMPUTATION OF ARM(S) & HAND(S) (COMPLETE)(PARTIAL) U & U/O COMPLICATION
Treatment: REPLANTATION/AMPUTATE
ICD-9: 887.0-.3,887.5-.7
CPT: 20802,20804,20805,20806,23900,23920,23921 ,24900,24920,24925,24930,24931 ,24935,24940,25900-9
Line: 134 Category: 3

Diagnosis: ACUTE VASCULAR INSUFFICIENCY OF INTESTINE
Treatment: COLECTOMY
ICD-9: 557.0
CPT: 44140,44120-25,44141 ,44143,34151 ,34421,34451
Line: 135 Category: 3

Diagnosis: BURN, PARTIAL THICKNESS GREATER THAN 30% OF BODY SURFACE
Treatment: FREE SKIN GRAFT, MEDICAL THERAPY
ICD-9: 941.26-.27,942.20-.24, .29,943.2,944.20- .24,.26- .28,945.20- .21,.23-
.29,946.2,948.30, .40,.50,.60, .70, .80,.90,949.2
CPT: 11000,11040-1,11960-70,14020,14040-1,15000-15121,15200,15220,15240,15260,15350,15400,15500-
10, 15770,90200,16000-16035,35206,90000-99999
Line: 136 Category: 3

Diagnosis: ACUTE GLOMERULONEPHRITIS: WITH LESION OF RAPIDLY PROGRESSIVE GLOMERULONEPHRITIS
Treatment: MEDICAL THERAPY INCLUDING DIALYSIS
ICD-9: 580.4
CPT: 90000-99999
Line: 137 Category: 3

Diagnosis: IRON DEFICIENCY ANEMIA AND OTHER NUTRITIONAL DEFICIENCIES
Treatment: MEDICAL THERAPY
ICD-9: 260-268,269.0-.3,280
CPT: 90000-99999
Line: 138 Category: 5

Diagnosis: TETANUS NEONATORUM
Treatment: MEDICAL THERAPY
ICD-9: 771.3
CPT: 90000-99999
Line: 139 Category: 2

Diagnosis: TRAUMATIC AMPUTATION OF LEG(S) (COMPLETE)(PARTIAL) H/ & U/O COMPLICATION
Treatment: REPLANTATION/AMPUTATE
ICD-9: 897.0- .3,897.6-.7
CPT: 20832,20834,27290-27598,27880-27889,27880-84,27886-89
Line: 140 Category: 3

Diagnosis: TRAUMATIC AMPUTATION OF FOOT/FEET (COMPLETE)(PARTIAL) *W/ &* w/o COMPLICATION
Treatment: REPLANTATION/AMPUTATE
ICD-9: 896,897.6-.7
CPT: 20838, 20840,27888,28800-28805
Line: 141 Category: 3

**PRIORITIZED HEALTH SERVICES LIST OF NAY 1, 1991**

**Diagnosis:** ALCOHOL WITHDRAWAL DELIRIUM; ALCOHOL HALLUCINOSIS; UNCOMPLICATED ALCOHOL WITHDRAWAL; WITHDRAWAL FROM AMPHETAMINES, COCAINE, OPIOID, SEDATIVES, HYPNOTICS, ETC.
**Treatment:** MEDICAL THERAPY
ICD-9: 291.00,291.30,291.80
CPT: 90220,90844
Line: 142 Category: 1

**Diagnosis:** PREVENTIVE SERVICES, CHILDREN
**Treatment:** MEDICAL THERAPY
ICD-9: V01-V06,V20-V21,V40-V41,V60,V62.3-.4,V70.0,V77,V79
CPT: 90000-99999
Line: 143 Category: 4

**Diagnosis:** STREPTOCOCCAL SORE THROAT AND SCARLET FEVER
**Treatment:** MEDICAL THERAPY
ICD-9: 034
CPT: 90000-99999
Line: 144 Category: 10

**Diagnosis:** RHEUMATIC FEVER
**Treatment:** MEDICAL THERAPY
ICD-9: 390
CPT: 90000-99999
Line: 145 Category: 10

**Diagnosis:** CONGENITAL ANOMALIES OF UPPER ALIMENTARY TRACT, EXCLUDING TONGUE
**Treatment:** MEDICAL AND SURGICAL THERAPY
ICD-9: 750.2-.9
CPT: 43300-52,90000-999$9
Line: 146 Category: 2

**Diagnosis:** HYPERTENSION AND HYPERTENSIVE DISEASE
**Treatment:** MEDICAL THERAPY
ICD-9: 401,402.01
CPT: 90000-99999
Line: 147 Category: 5

**Diagnosis:** HYPERTENSIVE HEART AND RENAL DISEASE
**Treatment:** MEDICAL THERAPY
ICD-9: 404
CPT: 90000-99999
Line: 148 Category: 5

**Diagnosis:** ACUTE AND SUBACUTE ISCHEMIC HEART DISEASE
**Treatment:** SURGICAL TREATMENT
ICD-9: 411.1,996.03
CPT: 92950-93799,33510-16,33210,33570
Line: 149 Category: 3

**Diagnosis:** DIABETES MELLITUS, TYPE I
**Treatment:** MEDICAL THERAPY
ICD-9: 250.01,250.1-250.3,250.6, 251 .3,775.1
CPT: 10060,10100,11000,11042, 11050-1,11400-2,11420,11 700-1,11710-1,11730,11740, 12001,17002, 17100,17110,17200,17340,20550,20605,23420,25810,35656,39000,43204,43245,45310,45355,47600,59025,69200, 69210,90000-99999
Line: 150 Category: 5

**Diagnosis:** ASTHMA
**Treatment:** MEDICAL THERAPY
ICD-9: 493
CPT: 90000-99999
Line: 151 Category: 5

**Diagnosis:** ULCERS, GASTRITIS AND DUODENITIS
**Treatment:** MEDICAL THERAPY
ICD-9: 531-535
CPT: 90000-99999
Line: 152 Category: 5

PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991

Diagnosis: NON-INSULIN DEPENDENT DIABETES
Treatment: MEDICAL THERAPY
ICD-9: 250.00
CPT: 10060,10100,11000,11042, 11050-1 ,11600-2,11420,11700- 1, 11710-1, 11730,11740,12001 ,17000-2,17100, 17110,17200,17340,20550,20600-5,23420,25810,35656,39000,43204,43245,45310,45355,47600,59025,69200,69210,90000-99999
Line: 153 Category: 5

Diagnosis: ACQUIRED HYPOTHYROIDISM, DYSHORMONOGENIC GOITER
Treatment: MEDICAL THERAPY
ICD-9: 244,246.1
CPT: 90000-99999
Line: 154 Category: 5

Diagnosis: CALCULUS OF BILE DUCT WITH OTHER CHOLECYSTITIS
Treatment: MEDICAL THERAPY
ICD-9: 574.4
CPT: 90000-99999
Line: 155 Category: 5

Diagnosis: PHYSICAL AND SEXUAL ABUSE INCLUDING RAPE
Treatment: MEDICAL THERAPY
ICD-9: 992.91,994.2-.3,995.5,995.81,V61.21
CPT: 90000-99999
Line: 156 Category: 1

Diagnosis: GONOCOCCAL INFECTION OF EYE
Treatment: MEDICAL THERAPY
ICD-9: 098.4
CPT: 90000-99999
Line: 157 Category: 10

Diagnosis: HIV DISEASE INCLUDING ACQUIRED IMMUNODEFICIENCY SYNDROME
Treatment: MEDICAL THERAPY
ICD-9: 042.9,043.9,044.9
CPT: 90000-99999
Line: 158 Category: 5

Diagnosis: EPILEPSY
Treatment: MEDICAL THERAPY
ICD-9: 345.1,345.9
CPT: 90000-99999
Line: 159 Category: 5

Diagnosis: HEREDITARY HEMOLYTIC ANEMIAS (EG. SICKLE CELL)
Treatment: MEDICAL THERAPY
ICD-9: 282
CPT: 90000-99999
Line: 160 Category: 5

Diagnosis: STERILIZATION
Treatment: VASECTOMY
ICD-9: v25.2
CPT: 55250
Line: 161 Category: 6

Diagnosis: STERILIZATION
Treatment: TUBAL LIGATION
[CD-9: v25.2
CPT: 58600-11
Line: 162 Category: 6

Diagnosis: BIRTH CONTROL
Treatment: CONTRACEPTION MANAGEMENT
ICD-9: v25.0-.1,V25.4-.9
CPT: 90000-99999
Line: 163 Category: 6

**PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991**

**Diagnosis:** IMMINENT DEATH REGARDLESS OF DIAGNOSIS
**Treatment:** COMFORT CARE
ICD-9: o
CPT: 90000-99999
Line: 164 Category: 7

**Diagnosis:** DENTAL SERVICES (EG. INFECTIONS)
**Treatment:** RESTORATIVE DENTAL SERVICE
[CD-9: O
CPT: 00415,00501,01550,02910, 02920,02940,03110,03120, 03220,03310,03320,03330, D3340,03350,05410-1,05420,05510,05951,06930,071 10,07210,07440-1,07510,07S20,07910- 12,07990,09110
Line: 165 Category: 10

**Diagnosis:** PREVENTIVE DENTAL SERVICES
**Treatment:** CLEANING AND FLUORIDE
ICD-9: V72.2
CPT: 00502,00999,01201,01203,01330,01351 ,05931-5,05952-3,05956-7,05982,05986,07260,07490,07940-9,07955 ,09610
Line: 166 Category: 8

**Diagnosis:** PREVENTIVE SERVICES FOR ADULTS WITH PROVEN EFFECTIVENESS
**Treatment:** MEDICAL THERAPY
ICD-9: V01-V07,V10-V19,V41,V60-V65,V70.0,V70.9,V71,V72.0-.3,V72.8-.9,V73-V82
CPT: 90000-99999
Line: 167 Category: 9

**Diagnosis:** SOMATIC MEDICINE
**Treatment:** MEDICAL THERAPY
ICD-9: V70.4
CPT: 90000-99999
Line: 168 Category: 5

**Diagnosis:** CANCER OF CERVIX, TREATABLE
**Treatment:** MEDICAL AND SURGICAL TREATMENT
ICD-9: 180
CPT: 37799,38770,44320,51040,57452-54,57500,57505,57513,57820,58150,58200,58210,90000-99999
Line: 169 Category: 5

**Diagnosis:** GONOCOCCAL INFECTIONS AND OTHER VENEREAL DISEASES
**Treatment:** MEDICAL THERAPY
ICD-9: 098,099.O-099.2,099.4-099.9
CPT: 90000-99999
Line: 170 Category: 10

**Diagnosis:** DYSPLASIA OF CERVIX AND CERVICAL CARCINOMA IN SITU
**Treatment:** MEDICAL AND SURGICAL TREATMENT
ICD-9: 078.1 ,233. 1,622.0-.2,623.0- .1,623.4,623.7,795.0
CPT: 11623,11960-70,15720,19120,38745,45355,52240,56515,58200-10,58960,56501,57061-105,57150,57180,57400,57454,57510-20,90000-99999
Line: 171 Category: 5

**Diagnosis:** CANCER OF BREAST, TREATABLE
**Treatment:** MEDICAL AND SURGICAL TREATMENT
ICD-9: 174-175,198.2,233.0,238.3, 239.2
CPT: 11200, 11401-02,11623,11%0-70, 13132, 13300,15720,17100, 17200, 17999,19120,19160-240, 19316-8,19350,19499,20605,32000,37799,38525-30,38745,45355,49000,49080,49999,52240,56515,57510,62192,57260,58200-10,58960,62256,90000-99999
Line: 172 Category: 5

**Diagnosis:** UNDESCENDED TESTICLE
**Treatment:** ORCHIECTOMY, REPAIR
ICD-9: 752.5
CPT: 54520-54565,54300-440
Line: 173 Category: 5

**Diagnosis:** CANCER OF TESTIS, TREATABLE
**Treatment:** MEDICAL AND SURGICAL TREATMENT
ICD-9: 186,236.4
CPT: 49200,54521-35,54660,55530,38564,38780,64450,90000-99999
Line: 174 Category: 5

PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991

Diagnosis: COARCTATION OF THE AORTA
Treatment: SURGICAL/EXCISION
ICD-9: 747.10
CPT: 33840-33851
Line: 175 Category: 5

Diagnosis: PYODERMA
Treatment: MEDICAL THERAPY
ICD-9: 686.0-.1
CPT: 90000-99999
Line: 176 Category: 3

Diagnosis: ANGINA PECTORIS; OTHER FORMS OF CHRONIC ISCHEMIC HEART DISEASE
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 412-414,996.03
CPT: 33210,33405,33510-33516,92950-93799,33525,33570,35001,35226,35286,35518,35661,90000-99999
Line: 177 Category: 5

Diagnosis: CANCER OF ENDOCRINE SYSTEM, TREATABLE
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 164.0, 193-194, 198.7,234.8,237.0- .4,239.7
CPT: 11050-51 ,11600-46,12042,13132, 14060, 17000-1,17100,17340,31505,69081 ,21632,32095-100,32480-90,32480-525,38510,60200,60220-5,60240-5,60540,63277,90000-99999
Line: 178 Category: 5

Diagnosis: CANCER OF OVARY, TREATABLE
Treatment: MEDICAL AND SURGICAL TREATMENT
[CO-9: 183.0,198.6,236.2
CPT: 32000,32020,38760,44005,44320,44625,49000,49085,49999,51010,58180,58210,58720-40,58940-3,58943,58951,58960-85,90000-99999
Line: 179 Category: 5

Diagnosis: ADDISON'S DISEASE
Treatment: MEDICAL THERAPY
[CO-9: 255.4,255.5
CPT: 90000-99999
Line: 180 Category: 5

Diagnosis: CONSTITUTIONAL APLASTIC ANEMIA
Treatment: MEDICAL THERAPY
ICD-9: 284.0
CPT: 90000-99999
Line: 181 Category: 5

Diagnosis: CORONARY ARTERY ANOMALY
Treatment: ANOMALOUS CORONARY ARTERY LIGATION
ICD-9: 746.85
CPT: 33502
Line: 182 Category: 2

Diagnosis: CONGENITAL ANOMALIES OF URINARY SYSTEM
Treatment: RECONSTRUCTION
ICD-9: 753.0-.1,753.3-.9
CPT: 55899
Line: 183 Category: 5

Diagnosis: TOTAL ANOMALOUS PULMONARY VENOUS CONNECTION
Treatment: COMPLETE REPAIR
ICD-9: 747.41
CPT: 33730
Line: 184 Category: 2

Diagnosis: ULCERS, GI HEMORRHAGE
Treatment: HEMIGASTRECTOMY
ICD-9: 531-534,578
CPT: 43204,43610-41,43825-40
Line: 185 Category: 5

**PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991**

**Diagnosis:** CANCER OF UTERUS, TREATABLE
**Treatment:** MEDICAL AND SURGICAL TREATMENT
ICD-9: 179,182,236.0
CPT: 29811,38780,49201,56515,57065,57452-54,57500,57513,58210,58120,58150-285,58950-51,90000-99999
Line: 186 Category: 5

**Diagnosis:** COAGULATION DEFECTS
**Treatment:** MEDICAL THERAPY
ICD-9: 286.0-.5, .7-.9
CPT: 90000-99999
Line: 187 Category: 5

**Diagnosis:** COMMON TRUNCUS
**Treatment:** TOTAL REPAIR/REPLANT ARTERY
ICD-9: 745.0
CPT: 33786,33788
Line: 188 Category: 5

**Diagnosis:** HODGKIN'S DISEASE
**Treatment:** CHEMOTHERAPY, RADIATION THERAPY
ICD-9: 201
CPT: 38100,49000,49200,49220,90000-99999
Line: 189 Category: 5

**Diagnosis:** CONGENITAL STENOSIS AND INSUFFICIENCY OF AORTIC VALVE
**Treatment:** SURGICAL VALVE REPLACEMENT
ICD-9: 746.3-.4
CPT: 33405-33417
Line: 190 Category: 5

**Diagnosis:** ACQUIRED HEMOLYTIC ANEMIAS
**Treatment:** MEDICAL THERAPY
ICD-9: 283
CPT: 90000-99999
Line: 191 Category: 5

**Diagnosis:** BULBUS CORDIS ANOMALIES & ANOMALIES OF CARDIAC SEPTAL CLOSURE: DOUBLE OUTLET RIGHT VENTRICLE
**Treatment:** SHUNT
ICD-9: 745.11
CPT: 33750-33766
Line: 192 Category: 2

**Diagnosis:** CONGENITAL PULMONARY VALVE ATRESIA
**Treatment:** SHUNT
ICD-9: 746.01
CPT: 33750-33766
Line: 193 Category: 5

**Diagnosis:** NON-DISSECTING ANEURYSM WITHOUT RUPTURE
**Treatment:** SURGICAL TREATMENT
ICD-9: 441.2,441.4,441.9,442
CPT: 33860-77,35081-103,35188, 35301 - 11 ,35331 -51 ,35450-515,35526-31 ,35536-52,35560-63,35601 -16,35626-66,35651 ,35663,37618,61532,61700,61712
Line: 194 Category: 5

**Diagnosis:** PITUITARY DISORDERS: PANHYPOPITUITARISM, IATROGENIC AND OTHER
**Treatment:** MEDICAL THERAPY
ICD-9: 253.2,253.4,253.7, 253.8
CPT: 90000-99999
Line: 195 Category: 5

**Diagnosis:** OTHER AND UNSPECIFIED TYPE ENDOCARDIAL CUSHION DEFECTS
**Treatment:** REPAIR ATRIOVENTRICULAR
ICD-9: 745.60,745.69,745.8,745.9
CPT: 33670
Line: 196 Category: 5

**Diagnosis:** INTERRUPTED AORTIC ARCH
**Treatment:** TRANSVERSE ARCH GRAFT
ICD-9: 747.11
CPT: 33870
Line: 197 Category: 2

PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991

Diagnosis: HEREDITARY FRUCTOSE INTOLERANCE, INTESTINAL DISACCHARIDASE AND OTHER DEFICIENCIES
Treatment: MEDICAL THERAPY
ICD-9: 271 .2-.9
CPT: 90000-99999
Line: 198 Category: 5

Diagnosis: CONGENITAL TRICUSPID ATRESIA AND STENOSIS
Treatment: REPAIR
ICD-9: 746.1
CPT: 33649
Line: 199 Category: 5

Diagnosis: DISEASES AND DISORDERS OF AORTIC VALVE
Treatment: AV REPLACEMENT, VALVULOPLASTY, MEDICAL THERAPY
ICD-9: 395,424.1,996.02
CPT: 33400,33411,90000-99999
Line: 200 Category: 5

— $87.12 Pet Capita Cost Pet Month —

Diagnosis: CONGENITAL MITRAL VALVE STENOSIS
Treatment: MITRAL VALUE REPLACEMENT
ICD-9: 746.5
CPT: 33420-33430
Line: 201 Category: 2

Diagnosis: DISEASES OF MITRAL VALVE
Treatment: VALVULOPLASTY, MV REPLACE, MEDICAL THERAPY
ICD-9: 394,424.0,996.02
CPT: 33430,33425,90000-99999
Line: 202 Category: 5

Diagnosis: ADRENOGENITAL DISORDERS
Treatment: MEDICAL THERAPY
[co-9: 255.2
CPT: 90000-99999,50700
Line: 203 Category: 5

Diagnosis: CANCER OF VAGINA, VULVA AND OTHER FEMALE GENITAL ORGANS, TREATABLE
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 181, 183.2-.9,184,236.1,236.3
CPT: 11400-22,17000-2,32000,44005,46917,49000,49085,51010,56515,56620,57065,57150,57513,58180,58150,58200,58210, 58240,58260,58720,58960,90000-99999
Line: 204 Category: 5

Diagnosis: CANCER OF URINARY SYSTEM, TREATABLE
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 188-189, 198.0-.1,233.7,236.7,236.9,239.4
CPT: 11400,11440,11623,11960-70,15720,17000,19120,38745,45355,56515,57510,58200-10,58960,20550,50220-90,50650-60,51530,51550-97,51700,51720,52234-40,52281 ,52500,53670,53220,63277,90000-99999
Line: 205 Category: 5

Diagnosis: CANCER OF EYE & ORBIT, TREATABLE
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 190,234.0,238.8
CPT: 11050-51,11600-46,12042,13132,14060,17000-1,17100,17340,31505,49081,11401-02,11440,65101-05,90000-99999
Line: 206 Category: 5

Diagnosis: CANCER OF SOFT TISSUE, TREATABLE
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 164.1,171,238.1
CPT: 14040,21555-57,21925-35,23075-77,24075-77,25075-77,26115-17,27047-49,27075-79,27327-29,27615-19,27899, 28043-46,32522,90000-99999
Line: 207 Category: 5

Diagnosis: ARTERIAL ANEURYSM OF NECK
Treatment: REPAIR
ICD-9: 442.81-.82
CPT: 35321,35355-81,35516-21,35533,35556-58,35565-87,35621,35650-61,35665-71
Line: 208 Category: 5

**PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991**

**Diagnosis:** HODGKIN'S DISEASE
**Treatment:** BONE MARROW TRANSPLANT (5-6 LOCI MATCH)
ICD-9: 201
CPT: 38230-41
Line: 209 Category: 5

**Diagnosis:** TETRALOGY OF FALLOT (TOF)
**Treatment:** TOTAL REPAIR TETRALOGY
[CD-9: 745.2
CPT: 33692-33696
Line: 210 Category: 5

**Diagnosis:** COMPLETE , CORRECTED AND OTHER TGA
**Treatment:** TRANSPOSITION OF VESSELS
[CD-9: 745.10,745.12,745.19
CPT: 33782-33784
Line: 211 Category: 2

**Diagnosis:** CONGENITAL CYSTIC LUNG - MILD AND MODERATE
**Treatment:** LUNG RESECTION
[co-9: 748.4
CPT: 32500
Line: 212 Category: 5

**Diagnosis:** CHRONIC HEPATITIS
**Treatment:** MEDICAL THERAPY
ICD-9: 571.4,571.8-.9
CPT: 90000-99999
Line: 213 Category: 5

**Diagnosis:** OTHER SPECIFIED APLASTIC ANEMIAS
**Treatment:** BONE MARROW TRANSPLANT (5-6 LOCI MATCH)
ICD-9: 284.8
CPT: 38240
Line: 214 Category: 5

**Diagnosis:** CANCER OF PENIS AND OTHER MALE GENITAL ORGAN, TREATABLE
**Treatment:** MEDICAL AND SURGICAL TREATMENT
ICD-9: 187,233.5
CPT: 11623,11960-70,15720,19120,38745,45355,52240,56515,57510,58200-10,58960,54120-35,90000-99999
Line: 215 Category: 5

**Diagnosis:** BENIGN NEOPLASM OF THE BRAIN
**Treatment:** CRANIOTOMY/CRANIECTOMY
ICD-9: 225.0
CPT: 61304-61576,61712,62223,63276
Line: 216 Category: 5

**Diagnosis:** INFECTIOUS SKIN CONDITIONS
**Treatment:** MEDICAL THERAPY
ICD-9: 526.4,706.2,737.32,757.39,757.9
CPT: 10000-61,10141,11000,11100-446,17000-105,20000-05,21030,21044,21501,23030,23040,23930-31,25028-31,26010-30,26990-91,27301,27603-04,28001,40800-05,41800,90000-99999
Line: 217 Category: 5

**Diagnosis:** HEARING LOSS - AGE 3 OR UNDER
**Treatment:** MEDICAL THERAPY
ICD-9: 388-389
CPT: 90000-99999
Line: 218 Category: 4

**Diagnosis:** URETERAL CALCULUS
**Treatment:** CYSTOURETHROSCOPY W/FRAGMENTATION OF CALCULUS, MEDICAL THERAPY
ICD-9: 592.1
CPT: 50392,50561 ,50951-80,52320,52325,52332, 52335-36,53020,90000-99999
Line: 219 Category: 5

**Diagnosis:** BENIGN CEREBRAL CYSTS
**Treatment:** DRAINAGE
ICD-9: 348.0,349.2
CPT: 61120-61152,61314-61315,61522-61524,61680-61712
Line: 220 Category: 5

PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991

Diagnosis: CANCER OF BONES, TREATABLE
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 170, 198.5,238.0,239.2
CPT: 4001,17002,21620,23140,23900,24900-31,25900-31,26200,26910-52,27290,27365,27590-98,27880-89,28800-25,32500,60252-54,60500-605,63276,90000-99999
Line: 221 Category: 5

Diagnosis: AMEBIASIS
Treatment: MEDICAL THERAPY
ICD-9: 006.0-.1,006.9
CPT: 90000-99999
Line: 222 Category: 10

Diagnosis: LIVER ABSCESS AND SEQUELAE OF CHRONIC LIVER DISEASE
Treatment: MEDICAL THERAPY
ICD-9: 572.0-.2
CPT: 90000-99999
Line: 223 Category: 5

Diagnosis: 'EMPHIGUS, PEMPHIGOID; BENIGN MUCOUS MEMBRANE PEMPHIGOID, OTHER AND UNSPECIFIED BULLOUS DERMATOSES
Treatment: MEDICAL THERAPY
ICD-9: 694.4-.9
CPT: 90000-99999
Line: 224 Category: 5

Diagnosis: INTESTINAL MALABSORPTION
Treatment: MEDICAL THERAPY
ICD-9: 579
CPT: 90000-99999
Line: 225 Category: 5

Diagnosis: ACROMEGALY & GIGANTISM, OTHER & UNSPECIFIED ANTERIOR PITUITARY HYPERFUNCTION, BENIGN NEOPLASM OF THYROID GLANDS & OTHER ENDOCRINE GLANDS
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 253.0,253.1,253.6,253.9,226,227.0-.1,227.4-.9
CPT: 11401,14000,17000,17102,17200,52281,53670,60200-45,61548,61712,90000-99999
Line: 226 Category: 5

Diagnosis: MALIGNANT MELANOMA OF SKIN, TREATABLE
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 172,238.2,239.2
CPT: 11400-46,11600-46,12032,13120,14040-61,17000-110,17340,17999,19200-29,19272,21555-7,21632,21925-35,23075-7,24075-7,25075-7,26115-7,27047-9,27075-9,27327-9,27615-9,28043-6,28315,32480,38500-780,51575-95,54135,55842-45,90000-99999
Line: 227 Category: 5

Diagnosis: PARALYTIC ILEUS
Treatment: MEDICAL THERAPY
ICD-9: 560.1
CPT: 90000-99999
Line: 228 Category: 5

Diagnosis: URETERAL STRICTURE OR OBSTRUCTION
Treatment: OPEN RESECTION, PERCUTANEOUS NEPHROSTOLITHOTOMY, NEPHROLITHOTOMY, LITHOTRIPSY
ICD-9: 593.3-.4
CPT: 50060-81 ,50700-16,50590,52276
Line: 229 Category: 5

Diagnosis: TREATABLE DEMENTIA
Treatment: MEDICAL THERAPY
ICD-9: 291 .2,290.40,292.82,293.9,294.8
CPT: 90000-99999
Line: 230 Category: 5

Diagnosis: CHRONIC OSTEOMYELITIS
Treatment: INCISION & DRAINAGE
ICD-9: 730.1-.2
CPT: 23035,23170-82,23189,23935,24134-24147,25035,25145-25151,26034,26230-36,26992,27303,27075-79,27070-1,27607,28005,27360,27640- 1,28120-4
Line: 231 Category: 5

**PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991**

**Diagnosis:** CHRONIC PYELONEPHRITIS
**Treatment:** MEDICAL THERAPY
ICD-9: 590.0
CPT: 90000-99999
Line: 232 Category: 5

**Diagnosis:** TORSION OF TESTIS
**Treatment:** ORCHIECTOMY, REPAIR
ICD-9: 608.2
CPT: 54520-54560,54600,54640
Line: 233 Category: 10

**Diagnosis:** LEUKOPLAKIA OF CERVIX, DYSTROPHY OF VULVA
**Treatment:** MEDICAL THERAPY
ICD-9: 622.2,624.0
CPT: 90000-99999
Line: 234 Category: 5

**Diagnosis:** CANCER OF LUNG, BRONCHUS, PLEURA, TRACHEA, MEDIASTINUM & OTHER RESPIRATORY ORGANS, TREATABLE
**Treatment:** MEDICAL AND SURGICAL TREATMENT
ICD-9: 162-163,164.2-.9,165,195.1,197.0,197.2-.3,231.1-.2,235.7-.8
CPT: 11601,13151,17001-2,20605-10,22900,31300,31540-1,31640-45,31785-86,31899,32000,32020,32095-100,32480-90,32440-50,32500,32900,37799,38542,39010,39200,39400,42415,45333,46917,49421,63030,6471-21,66984,69433,90000-99999
Line: 235 Category: 5

**Diagnosis:** ACUTE LYMPHOCYTIC LEUKEMIA (CHILD)
**Treatment:** CHEMOTHERAPY, RADIATION THERAPY
ICD-9: 204.0
CPT: 90000-99999
Line: 236 Category: 5

**Diagnosis:** DISORDERS OF AMINO-ACID TRANSPORT AND METABOLISM (NON PKU)
**Treatment:** MEDICAL THERAPY
ICD-9: 270.0,270.2-270.9
CPT: 90000-99999
Line: 237 Category: 5

**Diagnosis:** PNEUMOCYSTIS CARINII PNEUMONIA
**Treatment:** MEDICAL THERAPY
ICD-9: 136.3
CPT: 90000-99999
Line: 238 Category: 5

**Diagnosis:** NON-HODGKIN'S LYMPHOMAS
**Treatment:** CHEMOTHERAPY, RADIATION THERAPY
ICD-9: 200,202.0-.2,202.8-.9
CPT: 11402,19340,20550,27125,38510,49080,38100,38510-25,38720,90000-99999
Line: 239 Category: 5

**Diagnosis:** CANCER OF STOMACH, TREATABLE
**Treatment:** MEDICAL AND SURGICAL TREATMENT
ICD-9: 151,230.2,235.2
CPT: 31300,31540-1,32100,38542,39200,42415,45170,45333,45385,46917,43120,43620-38,44100-30,44140-47,44625,45111,45550,46938,49000,60540,90000-99999
Line: 240 Category: 5

**Diagnosis:** DISORDERS OF THYROCALCITONIN SECRETION
**Treatment:** THYROIDECTOMY
ICD-9: 246.0
CPT: 60240
Line: 241 Category: 5

**Diagnosis:** AORTIC PULMONARY FISTULA
**Treatment:** REPAIR SINUS OF VALSALVA
ICD-9: 417.0
CPT: 33702-33710
Line: 242 Category: 5

PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991

Diagnosis: POLYARTERITIS NODOSA AND ALLIED CONDITIONS
Treatment: MEDICAL THERAPY
ICD-9: 446.0,446.4,446.6-.7
CPT: 90000-99999
Line: 243 Category: 5

Diagnosis: MYELOID, MONOCYTIC, ACUTE LYMPHOCYTIC AND OTHER SPECIFIED LEUKEMIAS
Treatment: BONE MARROW TRANSPLANT (5-6 LOCI MATCH)
ICD-9: 204.0,205.1-.9,206.1-.9,207.1-.8
CPT: 38230-41
Line: 244 Category: 5

Diagnosis: CANCER OF COLON, RECTUM, SMALL INTESTINE AND ANUS, TREATABLE
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 152-154,197.5,230.3-.4,235.5
CPT: 31300,31540-1,32100,39200,42415,45333,46917,11042,32020,32420,32900,37799,43630,44140-50,44345,44620-25,45110-12,45180,45360,45385,45550,49000,49999,50230,50810,60540,68760,90000-99999
Line: 245 Category: 5

Diagnosis: CARDIOMYOPATHY, HYPERTROPHIC MUSCLE
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 425
CPT: 21633,32100,33010,33245,33516,33999,43030,43130-36,90000-99999
Line: 246 Category: 5

Diagnosis: PERNICIOUS ANEMIA
Treatment: MEDICAL THERAPY
ICD-9: 281
CPT: 90000-99999
Line: 247 Category: 5

Diagnosis: CYSTIC FIBROSIS
Treatment: MEDICAL THERAPY
ICD-9: 277.0
CPT: 90000-99999
Line: 248 Category: 5

Diagnosis: AGRANULOCYTOSIS
Treatment: BONE MARROW TRANSPLANTATION (5-6 LOCI MATCH)
ICD-9: 288.0
CPT: 38240
Line: 249 Category: 5

Diagnosis: ATRIAL SEPTAL DEFECT, SECUNDUM
Treatment: REPAIR SEPTAL DEFECT
ICD-9: 745.5
CPT: 33640-33643
Line: 250 Category: 5

Diagnosis: ATRIAL SEPTAL DEFECT, PRIMUM
Treatment: REPAIR SEPTAL DEFECT
ICD-9: 745.61
CPT: 33640
Line: 251 Category: 5

Diagnosis: STROKE
Treatment: MEDICAL THERAPY
ICD-9: 434,436
CPT: 90000-99999
Line: 252 Category: 3

Diagnosis: GANGRENE; ATHEROSCLEROSIS OF ARTERIES OF EXTREMITIES, DIABETES MELLITUS w/PERIPHERAL CIRCULATORY DISORDER, CHRONIC ULCER OF SKIN, GAS GANGRENE, OTHER PERIPHERAL VASCULAR DISEASE
Treatment: AMPUTATION
ICD-9: 785.4,440.2,250.7,707.0,040.0,443.0
CPT: 11050-1,28800-25,27880-89,27590-98,27290-95,26910-52,25900-31,24900-40,23900-21,23930,25020-28,26025-30,26990-91,27301,27305,27600-03,28001-03
Line: 253 Category: 5

**PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991**

Diagnosis: BUDD-CHIARI SYNDROME, AND OTHER VENOUS EMBOLISM AND THROMBOSIS
Treatment: THROMBECTOMY/LIGATION
ICD-9: 453
CPT: 34101,37140,37160,37500,34401
Line: 254 Category: 5

Diagnosis: OPPORTUNISTIC INFECTIONS IN IMMUNOCOMPROMISED HOSTS
Treatment: MEDICAL THERAPY
ICD-9: 003.9,007.2,007.7,031.9,039,042.0-.2,042.9,043.0-.2,043.9,047.9,053-054,078.5,110,111.1,112.0,115,117.5,118,130,136.3,173,285.9,287.5,298.9,323.9,336.9,357
CPT: 90000-99999
Line: 255 Category: 5

— S92.10 Per Capita Cost Per Month —

Diagnosis: VENTRICULAR SEPTAL DEFECT
Treatment: CLOSURE
ICD-9: 745.4,745.7
CPT: 33681-33688
Line: 256 Category: 5

Diagnosis: CANCER OF SKIN, EXCLUDING MALIGNANT MELANOMA, TREATABLE
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 173,198.2
CPT: 10040-61,11000-51,11400-46,11600-46,12011,12031-2,13100-52,14000-60,14300,15240-60,15700,17000-999,19200-29,19272,21555-7,21632,21925-35,23075-7,24075-7,25075-7,26115-7,27047-9,27075-9,27327-9,27615-9,28043-6,38500-780,51575-95,54135,55842-45,90000-99999
Line: 257 Category: 5

Diagnosis: CANCER OF PROSTATE GLAND, TREATABLE
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 185,233.4,236.5
CPT: 11442-4,11623,11960-70,15720,17000-1,19120,38745,45355,52240,56515,57510,58200-10,58960,38564,38780,51700,52234,52281,52340,52601,52640,53600-1,54530,55000,55810-45,55899,90000-99999
Line: 258 Category: 5

Diagnosis: HEART FAILURE
Treatment: MEDICAL THERAPY
ICD-9: 428
CPT: 90000-99999
Line: 259 Category: 5

Diagnosis: APLASTIC ANEMIAS DUE TO DISEASE OR TREATMENT
Treatment: MEDICAL THERAPY
ICD-9: 284.8
CPT: 90000-99999
Line: 260 Category: 5

Diagnosis: ULCERATION OF INTESTINE
Treatment: COLECTOMY, ENTEROSTOMY
ICD-9: 569.82
CPT: 44150-60,64300-16,45385
Line: 261 Category: 5

Diagnosis: CANCER OF RETROPERITONEUM, PERITONEUM, OMENTUM & MESENTERY, TREATABLE
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 158, 197.6,197.8,235.5
CPT: 31300,31540- 1,32100,39200,42415,45333,46917, 21044-45,30117-18,30500,32900,39010,40810- 16,41116,41135,41150-55,42104-20,42842-45,42880,49081 ,90000-99999
Line: 262 Category: 5

Diagnosis: EBSTEIN'S ANOMALY
Treatment: REPAIR SEPTAL DEFECT
ICD-9: 746.2
CPT: 33640-33647
Line: 263 Category: 5

Diagnosis: DISEASES OF WHITE BLOOD CELLS
Treatment: MEDICAL THERAPY
ICD-9: 288.1-.9
CPT: 90000-99999
Line: 264 Category: 5

PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991

Diagnosis: CANCER OF ORAL CAVITY, PHARYNX, NOSE AND LARYNX, TREATABLE
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 140-149,160-161,231.0,235.0-.1,235.6
CPT: 11050,11420,11440-2,11601,13132,13151,17000-2,17100,17201,27090,31300,31540-1,32100,32480,39200,40525-50,40899,41130,41110-16,41155,42415,42826,43200,45333,46917,67961,90000-99999
Line: 265 Category: 5

Diagnosis: BENIGN NEOPLASM OF ISLETS OF LANGERHANS
Treatment: EXCISION OF TUMOR
ICD-9: 211.7
CPT: 60699
Line: 266 Category: 5

Diagnosis: PREMALIGNANT LESIONS AND CARCINOMA IN SITU OF SKIN
Treatment: DESTRUCT/EXCISION/MEDICAL THERAPY
ICD-9: 232,702
CPT: 10000,10040,11000,11400-46,13121,13131-2,14040-060,14300,17000-17200,17304,17340,11600-11646,19350,26116,30117,38745,58120,67405-13,67450,69100,69110-20,69300,90000-99999
Line: 267 Category: 5

Diagnosis: ADRENAL OR CUTANEOUS HEMORRHAGE OF FETUS OR NEONATE
Treatment: MEDICAL THERAPY
ICD-9: 772.5-.9
CPT: 90000-99999
Line: 268 Category: 2

Diagnosis: SIALOADENITIS, ABSCESS, FISTULA OF SALIVARY GLANDS
Treatment: SURGERY
ICD-9: 527.2-.4
CPT: 42305,42325,42330,42340,42408,42410,42440-42507,42509,42600,42665,40810-40816,42650,42655
Line: 269 Category: 5

Diagnosis: LIPIDOSES AND OTHER DISORDERS OF METABOLISM
Treatment: MEDICAL THERAPY
ICD-9: 272,277.1,277.5,277.9,330.1
CPT: 90000-99999
Line: 270 Category: 5

Diagnosis: LEUKOPLAKIA OF ORAL MUCOSA, INCLUDING TONGUE
Treatment: INCISION/EXCISION TONGUE, BIOPSY
ICD-9: 528.6
CPT: 41000-41599
Line: 271 Category: 5

Diagnosis: MALARIA AND RELAPSING FEVER
Treatment: MEDICAL THERAPY
ICD-9: 084,087
CPT: 90000-99999
Line: 272 Category: 1

Diagnosis: REGIONAL ENTERITIS, IDIOPATHIC PROCTOCOLITIS
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 555,556
CPT: 90000-99999,49000,44110,44140-60,44345,45112,44625,44650
Line: 273 Category: 5

Diagnosis: CONGENITAL PULMONARY VALVE STENOSIS
Treatment: PULMONARY VALVE REPAIR
ICD-9: 746.02
CPT: 33470-33471
Line: 274 Category: 2

Diagnosis: URETERAL FISTULA (INTESTINAL)
Treatment: NEPHROSTOMY
ICD-9: 593.82
CPT: 50951-50980,50040-50045, 50395-50398,50686-50688,50930
Line: 275 Category: 5

**PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991**

**Diagnosis:** DISORDERS OF ARTERIES, VISCERAL
**Treatment:** BYPASS GRAFT
**ICD-9:** 447.08447.2-.9
**CPT:** 35501-15,35526-31,35536-51,35560-63,35601-16,35626-46,35663
**Line:** 276 **Category:** 5

**Diagnosis:** DISEASES OF ENDOCARDIUM
**Treatment:** MEDICAL THERAPY
**ICD-9:** 424
**CPT:** 90000-99999
**Line:** 277 **Category:** 5

**Diagnosis:** CHRONIC LEUKEMIAS
**Treatment:** CHEMOTHERAPY, RADIATION THERAPY
**ICD-9:** 202.4,203.1,204.1-.9,205.1-.9,206.1-.9,207.1-.8,208.1-.9
**CPT:** 11402,11646,22899,36825,37799,38100,38308,38520-
5,38760,38999,43832,45360,58150,58720,58805,59840,60500,90000-99999
**Line:** 278 **Category:** 5

**Diagnosis:** CYSTICERCOSIS, OTHER CESTODE INFECTION, TRICHINOSIS
**Treatment:** MEDICAL THERAPY
**ICD-9:** 123.1-.9,124
**CPT:** 90000-99999
**Line:** 279 **Category:** 5

**Diagnosis:** LEPTOSPIROSIS
**Treatment:** MEDICAL THERAPY
**ICD-9:** 100
**CPT:** 90000-99999
**Line:** 280 **Category:** 1

**Diagnosis:** ENCEPHALOCELE; CONGENITAL HYDROCEPHALUS
**Treatment:** SHUNT
**ICD-9:** 742.0,742.3
**CPT:** 62180-62258
**Line:** 281 **Category:** 2

**Diagnosis:** ANAL AND RECTAL POLYP
**Treatment:** EXCISION OF POLYP
**ICD-9:** 569.0
**CPT:** 45310,45333,45170
**Line:** 282 **Category:** 5

**Diagnosis:** BENIGN NEOPLASMS OF DIGESTIVE SYSTEM
**Treatment:** SURGICAL TREATMENT
**ICD-9:** 211.0-.6,211.8-.9
**CPT:** 11400-3,17000-2,43202,43251,43450,43600,44100-20,44140-45,44152,44369,44392,45310,45333,45355-85,45383-
5,46500,46610
**Line:** 283 **Category:** 11

**Diagnosis:** DIABETES INSIPIDUS
**Treatment:** MEDICAL THERAPY
**ICD-9:** 253.5
**CPT:** 90000-99999
**Line:** 284 **Category:** 5

**Diagnosis:** DISORDERS OF PLASMA PROTEIN METABOLISM
**Treatment:** MEDICAL THERAPY
**ICD-9:** 273
**CPT:** 90000-99999
**Line:** 285 **Category:** 5

**Diagnosis:** CUSHING'S SYNDROME; HYPERALDOSTERONISM, OTHER CORTICOADRENAL OVERACTIVITY, MEDULLOADRENAL HYPERFUNCTION
**Treatment:** MEDICAL THERAPY/ADRENALECTOMY
**ICD-9:** 255.0,255. 1,255.3,255.6
**CPT:** 90000-99999,60540,61546
**Line:** 286 **Category:** 5

PRIORITIZED HEALTH SERVICES LIST OF NAY 1, 1991

Diagnosis: DISORDERS OF PANCREATIC ENDOCRINE SECRETION
Treatment: MEDICAL THERAPY
ICD-9: 251 .4-.9
CPT: 90000-99999,48155
Line: 287 Category: 13

Diagnosis: GUILLAIN-BARRE SYNDROME
Treatment: MEDICAL THERAPY
ICD-9: 357.0
CPT: 90000-99999
Line: 288 Category: 3

Diagnosis: LEUKOPLAKIA OF ORAL MUCOSA, INCLUDING TONGUE
Treatment: MEDICAL THERAPY
ICD-9: 528.6
CPT: 90000-99999
Line: 289 Category: 5

Diagnosis: HEREDITARY ANGIONEUROTIC EDEMA
Treatment: MEDICAL THERAPY
ICD-9: 277.6
CPT: 90000-99999
Line: 290 Category: 5

Diagnosis: METASTATIC INFECTIONS WITH LOCALIZED SITES
Treatment: MEDICAL THERAPY
ICD-9: 003.2,006.3- .9,014-018,022. 1
CPT: 90000-99999
Line: 291 Category: 5

Diagnosis: CHRONIC RESPIRATORY DISEASE ARISING IN THE NEONATAL PERIOD
Treatment: MEDICAL THERAPY
ICD-9: 770.7
CPT: 90000-99999
Line: 292 Category: 5

Diagnosis: NON LIFE-THREATENING ARRHYTHMIAS
Treatment: MEDICAL THERAPY, PACEMAKER
ICD-9: 426,427.3,427.6,996.01
CPT: 33201,33210,33212,33999,90000-99999
Line: 293 Category: 5

Diagnosis: LYMPHOID LEUKEMIA
Treatment: BONE MARROW TRANSPLANT (5-6 LOCI MATCH)
ICD-9: 204.1-.9
CPT: 38240
Line: 294 Category: 5

Diagnosis: SYSTEMIC LUPIS ERYTHEMATOSUS, OTHER DIFFUSE DISEASES OF CONNECTIVE TISSUE
Treatment: MEDICAL THERAPY
ICD-9: 710.0,710.8,710.9
CPT: 90000-99999
Line: 295 Category: 5

Diagnosis: HYPOPLASIA AND DYSPLASIA OF LUNG
Treatment: MEDICAL THERAPY
ICD-9: 748.5
CPT: 90000-99$99
Line: 296 Category: 2

Diagnosis: PORTAL VEIN THROMBOSIS
Treatment: SHUNT
ICD-9: 452
CPT: 37140,49625
Line: 297 Category: 5

Diagnosis: TETANUS
Treatment: MEDICAL THERAPY
ICD-9: 037
CPT: 90000-99999
Line: 298 Category: 1

**PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991**

**Diagnosis:** VESICOURETERAL REFLUX
**Treatment:** MEDICAL THERAPY, REPLANTATION
ICD-9: 593.7
CPT: 90000-99999
Line: 299 Category: 5

**Diagnosis:** CONGENITAL HYDRONEPHROSIS
**Treatment:** NEPHRECTOMY/REPAIR
ICD-9: 753.2
CPT: 50230,50400-504
Line: 300 Category: 5

**Diagnosis:** DISORDERS OF PARATHYROID GLAND; BENIGN NEOPLASM OF PARATHYROID GLAND
**Treatment:** MEDICAL AND SURGICAL TREATMENT
ICD-9: 227.1,252
CPT: 60500-05,90000-99999
Line: 301 Category: 5

**Diagnosis:** PULMONARY FIBROSIS
**Treatment:** MEDICAL THERAPY
ICD-9: 515-517
CPT: 90000-99999
Line: 302 Category: 5

**Diagnosis:** INTRACEREBRAL HEMORRHAGE
**Treatment:** MEDICAL THERAPY
ICD-9: 431
CPT: 90000-99999
Line: 303 Category: 3

**Diagnosis:** COARCTATION OF THE AORTA
**Treatment:** BALLOON DILATION - VALVE REPLACEMENT
ICD-9: 747.10
CPT: 33405-33417
Line: 304 Category: 5

**Diagnosis:** LEPROSY
**Treatment:** MEDICAL THERAPY
ICD-9: 030
CPT: 90000-99999
Line: 305 Category: 5

**Diagnosis:** CHRONIC OBSTRUCTIVE PULMONARY DISEASE
**Treatment:** MEDICAL THERAPY
ICD-9: 492,496
CPT: 90000-99999
Line: 306 Category: 5

**Diagnosis:** CONSTITUTIONAL APLASTIC ANEMIAS
**Treatment:** BONE MARROW TRANSPLANT (5-6 LOCI MATCH)
ICD-9: 284.0
CPT: 38240
Line: 307 Category: 5

**Diagnosis:** ACUTE LYMPHOCYTIC LEUKEMIAS (ADULT) AND MULTIPLE MYELOMA
**Treatment:** CHEMOTHERAPY, RADIATION THERAPY
ICD-9: 204.0,203.0,203.8
CPT: 45360,90000-99999
Line: 308 Category: 5

**Diagnosis:** DISORDERS RELATING TO LONG GESTATION AND HIGH BIRTHWEIGHT
**Treatment:** MEDICAL THERAPY
ICD-9: 766
CPT: 90000-99999
Line: 309 Category: 2

PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991

Diagnosis: NEPHROTIC SYNDROME AND OTHER CHRONIC RENAL FAILURE
Treatment: MEDICAL THERAPY INCLUDING DIALYSIS
ICD-9: 581.0-581.2,581.8-.9,582,585,587-589
CPT: 90000-99999
Line: 310 Category: 5

— $98.51 Per Capita Cost Per Month —

Diagnosis: ACUTE NON-LYMPHOCYTIC LEUKEMIAS
Treatment: BONE MARROW TRANSPLANT (5-6 LOCI MATCH)
ICD-9: 205.0, 206.0,207.0,208.0
CPT: 38230-41
Line: 311 Category: 5

Diagnosis: END STAGE RENAL DISEASE
Treatment: RENAL TRANSPLANT
ICD-9: 583.8-.9
CPT: 50360
Line: 312 Category: 5

Diagnosis: OTHER ANEURYSM OF ARTERY, PERIPHERAL
Treatment: SURGICAL TREATMENT
ICD-9: 442.0,462.3,442.9
CPT: 24900-31,25900-31,26910-52,27080,27590-98,27880-89,28800-25,37609,64510-20,64802-18,35001-03,35011,35013-21.35141-62
Line: 313 Category: 5

Diagnosis: DISORDERS MINERAL METABOLISM
Treatment: MEDICAL THERAPY
ICD-9: 275
CPT: 90000-99999
Line: 314 Category: 5

Diagnosis: NEONATAL CONJUNCTIVITIS, DACRYOCYSTITIS AND CANDIDA INFECTION
Treatment: MEDICAL THERAPY
ICD-9: 771.6-.7
CPT: 90000-99999
Line: 315 Category: 2

Diagnosis: ESOPHAGEAL VARICES
Treatment: MEDICAL THERAPY/SHUNT/SCLEROTHERAPY
ICD-9: 456.0-.2
CPT: 90000-99999,37145,37160,37181,38100,43400
Line: 316 Category: 5

Diagnosis: CHRONIC PANCREATITIS
Treatment: MEDICAL THERAPY
ICD-9: 577.1
CPT: 90000-99999
Line: 317 Category: 5

Diagnosis: HYPERPLASIA OF PROSTATE
Treatment: TRANSURETHRAL RESECTION, MEDICAL THERAPY
ICD-9: 600
CPT: 52601,55040,55821,90000-99999
Line: 318 Category: 11

Diagnosis: END STAGE RENAL DISEASE
Treatment: MEDICAL THERAPY INCLUDING DIALYSIS
ICD-9: 250.4,583.8-.9
CPT: 11060,90000-99999
Line: 319 Category: 5

Diagnosis: GIANT CELL ARTERITIS, KAWASAKI DISEASE, HYPERSENSITIVITY ANGIITIS
Treatment: MEDICAL THERAPY
ICD-9: 446.1- .2,446.5
CPT: 90000-99999
Line: 320 Category: 3

Diagnosis: DERMATOMYOSITIS, POLYMYOSITIS
Treatment: MEDICAL THERAPY
ICD-9: 710.3,710.4
CPT: 90000-99999
Line: 321 Category: 5

**PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991**

**Diagnosis:** SYSTEMIC SCLEROSIS
**Treatment:** MEDICAL THERAPY
ICD-9: 710.1
CPT: 90000-99999
Line: 322 Category: 5

**Diagnosis:** UNWANTED PREGNANCY (Note: This line item is not priced as part of the list.)
**Treatment:** ABORTION
ICD-9: 635-639,779.6
CPT: 59105-06,59840-52
Line: 323 Category: 6

**Diagnosis:** COMMON VENTRICLE
**Treatment:** TOTAL REPAIR TETRALOGY
ICD-9: 745.3
CPT: 33692-33696
Line: 324 Category: 5

**Diagnosis:** HERPES ZOSTER & HERPES SIMPLEX U/OPHTHALMIC COMPLICATIONS
**Treatment:** MEDICAL THERAPY
ICD-9: 053.2,054.4
CPT: 90000-99999
Line: 325 Category: 10

**Diagnosis:** HYPHEMA
**Treatment:** REMOVAL OF BLOOD CLOT
ICD-9: 364.41
CPT: 65815,65930
Line: 326 Category: 10

**Diagnosis:** PENETRATING WOUND OF ORBIT
**Treatment:** SURGICAL TREATMENT
ICD-9: 870.3,870.8,870.9
CPT: 12011-3,12051-2,13132,13150-2,67400-50
Line: 327 Category: 12

**Diagnosis:** PURULENT ENDOPHTHALMITIS
**Treatment:** VITRECTOMY
ICD-9: 360.0
CPT: 67005-67036
Line: 328 Category: 12

**Diagnosis:** PRIMARY AND OTHER ANGLE-CLOSURE GLAUCOMA
**Treatment:** IRIDECTOMY, LASER SURGERY
ICD-9: 365.20,365.22
CPT: 66761,66505,66625-66630
Line: 329 Category: 10

**Diagnosis:** GLAUCOMA ASSOCIATED WITH DISORDERS OF THE LENS
**Treatment:** EXTRACTION OF CATARACT
ICD-9: 365.5,360.19
CPT: 66920-66984
Line: 330 Category: 11

**Diagnosis:** PRIMARY AND OPEN ANGLE GLAUCOMA
**Treatment:** TRABECULECTOMY
ICD-9: 365.10-365.11
CPT: 66170
Line: 331 Category: 11

**Diagnosis:** GLAUCOMA: BORDERLINE, OPEN-ANGLE, CORTICOSTEROID-INDUCED, ASSOC. U/CONGENITAL ANOMALIES, DYSTROPHIES & SYSTEMIC SYNDROMES, ASSOC. U/DISORDER OF THE LENS, ASSOC. U/OTHER OCULAR DISORDERS, OTHER & UNSPECIFIED
**Treatment:** MEDICAL THERAPY
ICD-9: 365.0-365 .1,365.3-365.9
CPT: 90000-99999
Line: 332 Category: 13

**Diagnosis:** DEGENERATION OF MACULA AND POSTERIOR POLE
**Treatment:** VITRECTOMY, LASER SURGERY
ICD-9: 362.5
CPT: 67038,67210
Line: 333 Category: 11

**Diagnosis:** VITREOUS HEMORRHAGE
**Treatment:** VITRECTOMY
ICD-9: 379.23
CPT: 67036
Line: 334 Category: 12

PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991

Diagnosis: PRIMARY AND OTHER OPEN-ANGLE GLAUCOMA
Treatment: LASER TRABECULOPLASTY
ICD-9: 365.10-365.11
CPT: 65855
Line: 335 Category: 11

Diagnosis: PRIMARY AND OTHER OPEN-ANGLE GLAUCOMA
Treatment: CYCLOCRYOTHERAPY
ICD-9: 365.10-365.11
CPT: 66720-66721
Line: 336 Category: 11

Diagnosis: CATARACT
Treatment: EXTRACTION OF CATARACT
ICD-9: 366.0-.3
CPT: 66920-84
Line: 337 Category: 11

Diagnosis: RETINAL DETACHMENT WITH RETINAL DEFECT
Treatment: VITRECTOMY
ICD-9: 361.0
CPT: 67036-67112
Line: 338 Category: 12

Diagnosis: OPEN WOUND OF EYEBALL
Treatment: CORNEAL LACERATION REPAIR
ICD-9: 871
CPT: 65280-65285
Line: 339 Category: 12

Diagnosis: CHRONIC INFLAMMATORY DISORDER OF ORBIT
Treatment: MEDICAL THERAPY
ICD-9: 376.1
CPT: 90000-99999
Line: 340 Category: 13

Diagnosis: AFTER CATARACT
Treatment: DISCISSION, LENS CAPSULE
ICD-9: 366.5
CPT: 66800-66821
Line: 341 Category: 11

Diagnosis: ACUTE, SUBACUTE, CHRONIC AND OTHER CERTAIN TYPES OF IRIDOCYCLITIS
Treatment: MEDICAL THERAPY
ICD-9: 364.0-.3
CPT: 90000-99999
Line: 342 Category: 13

Diagnosis: DIABETIC AND OTHER RETINOPATHY
Treatment: LASER SURGERY
ICD-9: 250.5,362.0-362.2
CPT: 67210,67227-8
Line: 343 Category: 11

Diagnosis: RETROLENTAL FIBROPLASIA
Treatment: CRYOSURGERY
ICD-9: 362.21
CPT: 67101-67122
Line: 344 Category: 11

Diagnosis: APHAKIA AND OTHER DISORDERS OF LENS
Treatment: INTRAOCULAR LENS
ICD-9: 379.3
CPT: 66985
Line: 345 Category: 11

Diagnosis: EXOTROPIA
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 378
CPT: 67311-67335,90000-99999
Line: 346 Category: 11

**PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991**

**Diagnosis:** FOREIGN BODY IN CONJUNCTIVAL SAC
**Treatment:** REMOVAL CONJUNCTIVAL FOREIGN BODY
ICD-9: 930.1
CPT: 65205-22
Line: 347 Category: 10

**Diagnosis:** BENIGN NEOPLASM OF PITUITARY GLAND
**Treatment:** MEDICAL AND SURGICAL TREATMENT
ICD-9: 227.3
CPT: 11401,14000,17000,17102,17200,52281,53670,60225,61070,61305,61548,61546-48,61712,90000-99999
Line: 348 Category: 5

**Diagnosis:** TRAUMATIC AMPUTATION OF THUMB OR OTHER FINGER (COMPLETE)(PARTIAL) U/ & U/O COMPLICATION
**Treatment:** REPLANTATION/AMPUTATE
ICD-9: 885-886
CPT: 11000-1,11042,20812-28,26350-6,26410-8,26910-52,64450,64830-2
Line: 349 Category: 12

**Diagnosis:** OPEN WOUNDS
**Treatment:** REPAIR
ICD-9: 872.0-.1,872.62-.69,872.7-.9,878.4-
9,880.00,880.10,880.13,880.20,880.23,881.00,881.02,881.10,881.12,881.20,881.22,883,884.2,890-
891,892.2,893,894.2
CPT: 11043,12001-13300,15000-15510,15540-15550,15580-15625,15650-15720,15710-15770,24999,25260-72,56800,64856-
7,69440,69666,69667
Line: 350 Category: 10

**Diagnosis:** ABSCESSES AND CYSTS OF BARTHOLIN'S GLAND AND VULVA
**Treatment:** INCISION AND DRAINAGE, MEDICAL THERAPY
ICD-9: 616.2-.9
CPT: 90000-99999,56400,56420,56440,56501,56600
Line: 351 Category: 10

**Diagnosis:** PILONIDAL CYST WITH ABSCESS
**Treatment:** MEDICAL AND SURGICAL TREATMENT
ICD-9: 685.0
CPT: 10080-81 ,11770-72,90000-99999
Line: 352 Category: 14

**Diagnosis:** ACUTE THYROIDITIS
**Treatment:** MEDICAL THERAPY
ICD-9: 245.0
CPT: 90000-99999
Line: 353 Category: 10

**Diagnosis:** ACUTE OTITIS MEDIA
**Treatment:** MEDICAL THERAPY
ICD-9: 381.0-.4,381.8-.9,382.0,382.4,382.9
CPT: 90000-99999
Line: 354 Category: 10

**Diagnosis:** CHRONIC OTITIS MEDIA
**Treatment:** PE TUBES/T & A/TYMPANOPLASTY
ICD-9: 381.5- .7,382.1-.3
CPT: 69400-69410,42820,69631-69633
Line: 355 Category: 11

**Diagnosis:** CHOLESTEATOMA
**Treatment:** SURGICAL TREATMENT
ICD-9: 385.30
CPT: 69501-5,69511,69601-5,69610,69620,60131-7,69641-6,69670
Line: 356 Category: 13

**Diagnosis:** ACUTE SINUSITIS
**Treatment:** MEDICAL THERAPY
ICD-9: 461
CPT: 90000-99999
Line: 357 Category: 1

PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991

Diagnosis: ACUTE CONJUNCTIVITIS
Treatment: MEDICAL THERAPY
[CD-9: 372.0,077
CPT: 90000-99999
Line: 358 Category: 14

Diagnosis: SPINA BIFIDA WITHOUT HYDROCEPHALUS
Treatment: MEDICAL THERAPY
ICD-9: 741.9
CPT: 90000-99999
Line: 359 Category: 2

Diagnosis: EDEMA AND OTHER CONDITIONS INVOLVING THE INTEGUMENT OF THE FETUS AND NEWBORN
Treatment: MEDICAL THERAPY
ICD-9: 778.5-.9
CPT: 90000-99999
Line: 360 Category: 2

Diagnosis: CONGENITAL RUBELLA AND OTHER CONGENITAL INFECTIOUS DISEASES
Treatment: MEDICAL THERAPY
ICD-9: 771.0-.2
CPT: 90000-99999
Line: 361 Category: 2

Diagnosis: FEEDING PROBLEMS IN NEWBORN
Treatment: MEDICAL THERAPY
[CO-9: 779.3
CPT: 90000-99999
Line: 362 Category: 2

Diagnosis: DYSTONIA (UNCONTROLLABLE)
Treatment: MEDICAL THERAPY
ICD-9: 333
CPT: 90000-99999
Line: 363 Category: 5

Diagnosis: MULTIPLE VALVULAR DISEASE
Treatment: SURGICAL TREATMENT
ICD-9: 396-397
CPT: 33450-74,33480-92
Line: 364 Category: 5

Diagnosis: BILIARY ATRESIA
Treatment: LIVER TRANSPLANT
ICD-9: 751,61
CPT: 47135
Line: 365 Category: 5

— $102.26 Per Capita Cost Per Month

Diagnosis: CIRRHOSIS OF LIVER OR BILIARY TRACT WITHOUT MENTION OF ALCOHOL
Treatment: LIVER TRANSPLANT
ICD-9: 571 .5-.6
CPT: 47135
Line: 366 Category: 5

Diagnosis: CHRONIC PULMONARY HEART DISEASE, OTHER DISEASES OF PULMONARY CIRCULATION, ACUTE & SUBACUTE ENDOCARDITIS, ACUTE MYOCARDITIS, CARDIOMYOPATHY, OTHER CONG. ANOMALIES OF HEART AND CIRC. SYSTEM
Treatment: CARDIAC TRANSPLANT
ICD-9: 416-417,421-422,425,746-747
CPT: 33945
Line: 367 Category: 5

Diagnosis: ACUTE AND SUBACUTE NECROSIS OF LIVER
Treatment: LIVER TRANSPLANT
ICD-9: 570
CPT: 47135
Line: 368 Category: 3

Diagnosis: DIVERTICULITIS OF COLON
Treatment: COLON RESECTION
ICD-9: 562.1
CPT: 44005,44140,44141,44143,44144,44145,44147,44320,44620-25,49000
Line: 369 Category: 3

**PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991**

Diagnosis: CYST AND PSEUDOCYST OF PANCREAS
Treatment: DRAINAGE OF PANCREATIC CYST
ICD-9: 577.2
CPT: ,7480,47610,48100-45,48151,48180,48500-40
Line: 370 Category: 5

Diagnosis: CANCER OF BRAIN AND NERVOUS SYSTEM, TREATABLE
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 91-192,198.3-.4,237.5-.9,239.6
CPT: 0060,61310,61516,61712,62141,62223,61516,61712,61751,61770,62223,63241,63275-90,64774-818,90000-99999
Line: 371 Category: 5

Diagnosis: ATHEROSCLEROSIS, VISCERAL
Treatment: SURGICAL TREATMENT
ICD-9: 440.0-.1
CPT: 35501-15,35526-31,35536-51 ,35560-63,35601-16,35626-46,35663
Line: 372 Category: 5

Diagnosis: HYPERSOMNIA W/SLEEP APNEA
Treatment: MEDICAL THERAPY, TRACHEOTOMY
ICD-9: 780.53,347
CPT: 90000-99999,31600-10
Line: 373 Category: 5

Diagnosis: DISLOCATION KNEE & HIP, CLOSED
Treatment: RELOCATION
ICD-9: 835.0,836.3,836.5,718.35- .36
CPT: 27250-55,27550-27557
Line: 374 Category: 12

Diagnosis: DISLOCATION OF ELBOW, HAND, ANKLE, FOOT, CLAVICLE AND SHOULDER, CLOSED
Treatment: RELOCATION
ICD-9: 831.0,832.0,833.0,834.0,837.0,838.0,718.30-.34,718.36-.39
CPT: 23520-52,23650-80,24600-24635,25660-95,26641-715,27840-48,
Line: 375 Category: 12

Diagnosis: TRACHOMA
Treatment: MEDICAL THERAPY
ICD-9: 076
CPT: 90000-99999
Line: 376 Category: 10

Diagnosis: CLEFT LIP, CONGENITAL FISTULA OF LIP
Treatment: LIP EXCISION AND REPAIR
ICD-9: 749.1,750.25
CPT: 40650-720
Line: 377 Category: 11

Diagnosis: CLEFT PALATE
Treatment: REPAIR & PALATOPLASTY
ICD-9: 749.0
CPT: 42200-26,42235-81
Line: 378 Category: 11

Diagnosis: CLEFT PALATE WITH CLEFT LIP
Treatment: EXCISION & REPAIR VESTIBULE OF MOUTH
ICD-9: 749.2
CPT: 40800-40899
Line: 379 Category: 11

Diagnosis: CLOSED FRACTURE OF EPIPHYSIS OF LOWER EXTREMITIES
Treatment: REDUCTION
ICD-9: 820.01,821.22
CPT: 27516-27519
Line: 380 Category: 12

Diagnosis: FRACTURE OF SHAFT OF BONE, CLOSED
Treatment: REDUCTION
ICD-9: 812.2,813.2,813.8,818.0,821.0,823.2,823.8
CPT: 24500-15,25500-25575,25610-25620,27409,27500-06,27664,27750-58,27800-06
Line: 381 Category: 10

PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991

Diagnosis: PARAPLEGIA, QUADRIPLEGIA
Treatment: MEDICAL THERAPY AND REHABILITATION
[CD-9: 343,344.0-.1
CPT: 90000-99999
Line: 382 Category: 13

Diagnosis: PARKINSON'S DISEASE
Treatment: MEDICAL THERAPY
ICD-9: 332
CPT: 90000-99999
Line: 383 Category: 13

Diagnosis: MULTIPLE SCLEROSIS AND OTHER DEMYELINATING DISEASES OF CENTRAL NERVOUS SYSTEM
Treatment: MEDICAL THERAPY AND REHABILITATION
ICD-9: 340-341,334
CPT: 90000-99999
Line: 384 Category: 5

Diagnosis: CEREBRAL PALSY
Treatment: MEDICAL THERAPY
ICD-9: 343.0-.3,.9,344.1,741 .9,335.21 ,335.11,335.0
CPT: 90000-99999
Line: 385 Category: 13

Diagnosis: SUPERFICIAL INJURIES WITH INFECTION
Treatment: MEDICAL THERAPY
ICD-9: 910.1,.3,.5,.7,.9,911.1,.3,.5,.7,.9,912.1,.3,.5,.7,.9,913.1,.3,.5,.7,.9,914.1,.3,.5,.7,.9,915.1,.3,.5,
.7,.9,916.1,.3,.5,.7,.9,917.1,.3,.5,.7,.9,919.1,.3,.5,.7,.9
CPT: 12001-14,90000-99999
Line: 386 Category: 10

Diagnosis: LYME DISEASE
Treatment: MEDICAL THERAPY
ICD-9: 088
CPT: 90000-99999
Line: 387 Category: 13

Diagnosis: CHRONIC ULCER OF SKIN
Treatment: MEDICAL THERAPY
ICD-9: 707
CPT: 90000-99999, 11000-44,15920-99
Line: 388 Category: 13

Diagnosis: CELLULITIS, NON-ORBITAL
Treatment: MEDICAL THERAPY
ICD-9: 527.3,566,597.0,607.2,608.4,611.0,616.0,681-682,686.8
CPT: 90000-99999
Line: 389 Category: 10

Diagnosis: ATOPIC DERMATITIS
Treatment: MEDICAL THERAPY
ICD-9: 691.8
CPT: 90000-99999,11100
Line: 390 Category: 13

Diagnosis: CONTACT DERMATITIS AND OTHER ECZEMA
Treatment: MEDICAL THERAPY
ICD-9: 692
CPT: 90000-99999,11900-11901
Line: 391 Category: 13

Diagnosis: ACNE
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 695.3
CPT: 90000-99999,10040-61,11450-71,11900-11901,17100-05,17340
Line: 392 Category: 13

Diagnosis: PSORIASIS AND SIMILAR DISORDERS
Treatment: MEDICAL THERAPY
[cD-9: 696
CPT: 90000-99999,11900-11901
Line: 393 Category: 13

**PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991**

**Diagnosis:** ABSCESS OF BURSA OR TENDON
**Treatment:** INCISION AND DRAINAGE
ICD-9: 727.89
CPT: 27301 ,26990,26034,23930,23030,28001 ,27603
Line: 394 Category: 10

**Diagnosis:** ABSCESS OF PROSTATE
**Treatment:** TURP, DRAIN ABSCESS
ICD-9: 601.2
CPT: 52601
Line: 395 Category: 10

**Diagnosis:** INFECTIVE OTITIS EXTERNA
**Treatment:** MEDICAL THERAPY
ICD-9: 380.1-.2,054.73,112.82
CPT: 90000-99999
Line: 396 Category: 14

**Diagnosis:** CHRONIC OTITIS MEDIA
**Treatment:** MEDICAL THERAPY
ICD-9: 381.5-.7,382.1-.3
CPT: 90000-99999
Line: 397 Category: 13

**Diagnosis:** DENTAL SERVICES (EC. DENTAL CARIES, FRACTURED TOOTH)
**Treatment:** RESTORATIVE DENTAL SERVICE
ICD-9: o
CPT: 01110-20,02110-61,02210,02330-35,02930-2,02951,02970-80,03410-50,04910,05983-5,07120-30,07220-50,07285-6,07430-1,07450-65,07530-50,07981,09210-40,09310,09410-40
Line: 398 Category: 10

**Diagnosis:** RHEUMATOID ARTHRITIS, OSTEOARTHRITIS, AND ASEPTIC NECROSIS OF BONE
**Treatment:** ARTHROPLASTY
ICD-9: 714.0,714.3,715.1-.3,715.9,733.4
CPT: 27437-27454,27457,27580 ,23470-23472,23800-23802,27284-27286,27122-27132,27700-27703,27870-27871,24360-24366,24800-2&802,26516-26536
Line: 399 Category: 11

**Diagnosis:** RHEUMATOID ARTHRITIS AND OTHER INFLAMMATORY POLYARTHROPATHIES
**Treatment:** MEDICAL THERAPY
ICD-9: 714
CPT: 90000-99999
Line: 400 Category: 13

**Diagnosis:** GOUT
**Treatment:** MEDICAL THERAPY
ICD-9: 274
CPT: 90000-99999
Line: 401 Category: 13

**Diagnosis:** CRYSTAL ARTHROPATHIES
**Treatment:** MEDICAL THERAPY
ICD-9: 712
CPT: 90000-99999
Line: 402 Category: 13

**Diagnosis:** SYMPATHETIC UVEITIS AND DEGENERATIVE DISORDERS AND CONDITIONS
**Treatment:** ENUCLEATION
ICD-9: 360.11 ,360.2,360.4
CPT: 65105
Line: 403 Category: 12

**Diagnosis:** DISLOCATIONS OF NON-CERVICAL VERTEBRA, CLOSED
**Treatment:** REPAIR/RECONSTRUCTION
ICD-9: 839.2,839.4,839.6
CPT: 22315,22325-22327,22505,22590-22650,22840-22855
Line: 404 Category: 12

PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991

Diagnosis: LUMBAR SPINAL STENOSIS
Treatment: LAMINECTOMY/LAMINOTOMY
ICD-9: 344.6
CPT: 63005,63017,63031 ,63042,63047
'Line: 405 Category: 11

Diagnosis: FISTULA INVOLVING FEMALE GENITAL TRACT
Treatment: CLOSURE OF FISTULA
ICD-9: 619
:PT: 57300,57310,57320,51900-51920,50930,46715,44660
Line: 406 Category: 11

Diagnosis: HYMEN AND VAGINAL SEPTUM
Treatment: HYMENECTOMY
ICD-9: 623.2-.3,752.40,752.42
CPT: 56700-20
Line: 407 Category: 11

Diagnosis: RECTAL PROLAPSE
Treatment: PARTIAL COLECTOMY
[CD-9: 569.1
CPT: 44140-44
Line: 408 Category: 11

Diagnosis: CONGENITAL ABSENCE OF VAGINA
Treatment: ARTIFICIAL VAGINA
ICD-9: 752.49
CPT: 57291-57292
Line: 409 Category: 11

Diagnosis: PLEURISY
Treatment: MEDICAL THERAPY
ICD-9: 511
CPT: 90000-99999,32000
Line: 410 Category: 10

Diagnosis: HYPOSPADIAS AND EPISPADIAS
Treatment: REPAIR
ICD-9: 752.6
CPT: 54300-440
Line: 411 Category: 11

Diagnosis: FRACTURE OF VERTEBRAL COLUMN WITH SPINAL CORD INJURY, SACRUM AND COCCYX
Treatment: LAMINECTOMY
ICD-9: 806.6-806.9
CPT: 61720-61793
Line: 412 Category: 10

Diagnosis: LOWER EXTREMITY: COMPARTMENT SYNDROME
Treatment: DECOMPRESSION
ICD-9: 958.8
CPT: 27600-02
Line: 413 Category: 3

Diagnosis: OCCLUSION AND STENOSIS OF PRECEREBRAL ARTERIES
Treatment: THROMBOENDARTERECTOMY
ICD-9: 433
CPT: 35301
Line: 414 Category: 11

Diagnosis: ATHEROSCLEROSIS, PERIPHERAL
Treatment: SURGICAL TREATMENT
ICD-9: 440.2-.9,444.2
CPT: 20605,27590,34101,34201,35081,35361,35381,35516-21,35533,35556-58,35565-87,35621,35650-61,35665-71,35721,37609,64510-20,64802-19
Line: 415 Category: 11

Diagnosis: DISPLACEMENT OF CERVICAL INTERVERTEBRAL DISC WITHOUT MYELOPATHY
Treatment: CERVICAL LAMINECTOMY, MEDICAL THERAPY
ICD-9: 722.0,722.2
CPT: 63250,63265,63270,63275,63280,63285,63001,63015,63020,63035-40,63045,63048,63075-76,63081-82,63300,63304,63170-72,63180-82,63194,63196,63198,90000-99999
Line: 416 Category: 11

**PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991**

Diagnosis: FRACTURE OF JOINT, CLOSED (EXCEPT HIP)
Treatment: REDUCTION
ICD-9: 810.0,811.0,812.0,.4,813.0,813.4,814.0,815.0,816.0,817.0,819.0,821.20-.21,821.23-.29,,822.0,823.0,824.0,.2,.4,.6,.8,825.0,.2,826.0,828.0
CPT: 23500-23515,23570-23630,24530-88,24650-52,25350,25440,25600-50,26600-15,26720-85,27330,27409,27424,27508-14,27520-40,27610,27760-62,27780-92,27808-23,27846-8,28400-530,28730,29874-9
Line: 417 Category: 12

**Diagnosis: CALCULUS OF BLADDER OR KIDNEY**
**Treatment: OPEN RESECTION, PERCUTANEOUS NEPHROSTOLITHOTOMY, NEPHROLITHOTOMY, LITHOTRIPSY**
**ICD-9: 592.0,594.1**
**CPT: 50060-81 ,50130,50392-93,50700- 16,50590,52317**
**Line: 418 Category: 11**

**Diagnosis: ANAL FISTULA**
**Treatment: FISTULECTOMY**
**ICD-9: 565.1**
**CPT: 46211,46270-85,46000-30**
**Line: 419 Category: 10**

**Diagnosis: RESIDUAL FOREIGN BODY IN SOFT TISSUE**
**Treatment: REMOVAL**
**ICD-9: 729.6**
**CPT: 28190,28192**
**Line: 420 Category: 10**

**— S11O.59 Per Capita Cost Per Month —**

**Diagnosis: GLYCOGENOSIS**
**Treatment: MEDICAL THERAPY**
**ICD-9: 271.0**
**CPT: 90000-99999**
**Line: 421 Category: 5**

**Diagnosis: MALUNION & NONUNION OF FRACTURE**
**Treatment: SURGICAL TX**
**ICD-9: 733.8**
CPT: 24410,24430-35,23840-85,25400-25440,27165-27170,27470-27472,27720-25,28320-22,24400
**Line: 422 Category: 11**

**Diagnosis: OSTEOPOROSIS**
**Treatment: MEDICAL THERAPY**
**ICD-9: 733.0**
**CPT: 90000-99999**
**Line: 423 Category: 13**

**Diagnosis: OPHTHALMIC INJURY: LACRIMAL SYSTEM LACERATION**
**Treatment: CLOSURE**
**ICD-9: 870.2**
**CPT: 68760**
**Line: .424 Category: 17**

**Diagnosis: DISORDERS OF REFRACTION AND ACCOMMODATION**
**Treatment: MEDICAL THERAPY**
**ICD-9: 367**
**CPT: 90000-99999**
**Line: 425 Category: 13**

**Diagnosis: VINCENT'S DISEASE**
**Treatment: MEDICAL THERAPY**
**ICD-9: 101**
**CPT: 90000-99999**
**Line: 426 Category: 1**

**Diagnosis: URETHRITIS**
**Treatment: MEDICAL THERAPY**
**ICD-9: 597**
**CPT: 90000-99999**
**Line: 427 Category: 10**

PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991

Diagnosis: TRICHOMONAL URETHRITIS, TRICHOMONAL PROSTATITIS
Treatment: MEDICAL THERAPY
ICD-9: 131.02,131.03,131.8,131 .9
CPT: 90000-99999
Line: 428 Category: 10

Diagnosis: UTERINE LEIOMYOMA
Treatment: TOTAL HYSTERECTOMY OR MYOMECTOMY
[CD-9: 218-219
CPT: 11422,49581,51010,51840,57410,57511,57820,58120-80,58200,58260-
5,58340,58400,58720,58740,58925,58940,58951,58980-95,59050,59820,64435,
Line: 429 Category: 11

Diagnosis: REDUCTION DEFORMITY OF LOWER LIMB
Treatment: EPIPHYSEAL,OSTEOPLASTY
[CD-9: 755.3
CPT: 27475-27485,27466-27468,27730-27742,27715
Line: 430 Category: 11

Diagnosis: MIGRAINE
Treatment: MEDICAL THERAPY
ICD-9: 346
CPT: 90000-99999
Line: 431 Category: 13

Diagnosis: ANAL FISSURE
Treatment: FISSURECTOMY
ICD-9: 565.0
CPT: 46200,46700,46940
Line: 432 Category: 10

Diagnosis: STRESS INCONTINENCE, FEMALE
Treatment: URETHROPEXY/PESSARY
ICD-9: 625.6
CPT: 51840-41,57160
Line: 433 Category: 11

Diagnosis: BODY INFESTATIONS (EG. LICE, SCABIES)
Treatment: MEDICAL THERAPY
ICD-9: 132-134
CPT: 90000-99999
Line: 434 Category: 14

Diagnosis: SIALOLITHIASIS, MUCOCELE, DISTURBANCE OF SALIVARY SECRETION, OTHER AND UNSPECIFIED DISEASES OF SALIVARY GLANDS
Treatment: SURGERY
[co-9: 527.5-527.9
CPT: 42305,42325,42330,42340,42408,42410,42440-42507,42509,42600,42665,40810-40816,42650,42655
Line: 435 Category: 11

Diagnosis: ANOMALIES OF EXTERNAL EAR U/ IMPAIRMENT OF HEARING
Treatment: RECONSTRUCT OF EAR CANAL
ICD-9: 744.0
CPT: 69320
Line: 436 Category: 11

Diagnosis: CERVICITIS, ENDOCERVICITIS, HEMATOMA OF VULVA, OVARIAN CYSTS AND NONINFLAMMATORY DISORDERS OF THE VAGINA
Treatment: MEDICAL THERAPY
ICD-9: 616.0,620.0- .2,620.9,622.3- .4,622.6- .7,623.6,623.8- .9,624.5,626.7
CPT: 90000-99999
Line: 437 Category: 10

Diagnosis: BENIGN NEOPLASM OF KIDNEY
Treatment: MEDICAL THERAPY
ICD-9: 223.1
CPT: 90000-99999
Line: 438 Category: 11

**PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991**

Diagnosis: NONINFLAMMATORY DISORDERS OF CERVIX
Treatment: MEDICAL THERAPY
ICD-9: 622.4- .9,624.2,624.5-.9
CPT: 90000-99999
Line: 439 Category: 11

Diagnosis: CEREBRAL PALSY
Treatment: REPAIR/RECONSTRUCTION
ICD-9: 343.0- .38343.9,344.1,741.9,335 .21,335.11,335.0
CPT: 17097-122,27140-85,27315,27320,27390-400,27605-06,27685-92,28010-11,28030,28130,28220-36,28240,28705-10,27306-07,28300-13
Line: 440 Category: 11

Diagnosis: HYPOPLASTIC LEFT HEART SYNDROME
Treatment: NORWOOD PROCEDURE
ICD-9: 746.7
CPT: 33480-33485
Line: 441 Category: 2

Diagnosis: OTHER SPECIFIED ANOMALIES OF HEART
Treatment: APICAL-AORTIC CONDUIT
ICD-9: 746.8
CPT: 33404
Line: 442 Category: 5

Diagnosis: UTERINE PROLAPSE
Treatment: SURGICAL REPAIR
ICD-9: 618
CPT: 57160,58150,58260-85
Line: 443 Category: 11

Diagnosis: SHIGELLOSIS, GIARDIASIS, INTESTINAL HELMINTHIASIS
Treatment: MEDICAL THERAPY
ICD-9: 004,007. 1,120-122,123.0,125- 129
CPT: 90000-99999
Line: 444 Category: 10

Diagnosis: CORNEAL ULCER
Treatment: MEDICAL THERAPY
ICD-9: 370.0
CPT: 90000-99999,65286
Line: 445 Category: 10

Diagnosis: CARPAL TUNNEL SYNDROME, CONTRACTURE OF PALMAR FACIA
Treatment: SURGICAL TREATMENT
ICD-9: 354.0,354.2,728.6
CPT: 26035-60,26120-80,26440-597,26820-63,27095-7,27100-22,27140-85,27306-7,27448-55,27466-8,27475-35,27715,27730-42,64702-4,64718-27,64774-83,64788-95,64850-7,64872-999
Line: 446 Category: 11

Diagnosis: DEFORMITIES OF UPPER BODY & LIMBS
Treatment: REPAIR/REVISION/RECONSTRUCTION/RELOCATION/FASCIECTOMY
ICD-9: 354.0,354.2,718.25,718.35,732.1-.3,736.06,736.21-.22,736.3-.5,736.8
CPT: 26035-60,26120-80,26440-597,26820-63,27095-7,27100-22,27140-85,27306-7,27448-55,27466-8,27475-35,27715,27730-42,64702-4,64718-27,64774-83,64788-95,64850-7,64872-999
Line: 447 Category: 11

Diagnosis: MENSTRUAL BLEEDING DISORDERS
Treatment: MEDICAL THERAPY
ICD-9: 626.2- .6,626.8,627.0
CPT: 90000-99999
Line: 448 Category: 10

Diagnosis: RUPTURE OF SYNOVIUM
Treatment: REMOVAL OF BAKER'S CYST
ICD-9: 727.51
CPT: 27435
Line: 449 Category: 11

PRIORITIZED HEALTH SERVICES LIST OF HAY 1, 1991

Diagnosis: DEFORMITIES OF FOOT
Treatment: FASCIOTOMY/INCISION/REPAIR/ARTHRODESIS
ICD-9: 727.1,736.73,700,736.74,736.71,754.71,754.69,755.67,735.0-.2,735.4-.9,732.5,355.6,355.5
CPT: 28008,28010,28035,28050-28092,28110-28119,28126-28160,28220-28238,28240-28360,28705-28760,29425
Line: 450 Category: 11

Diagnosis: FOREIGN BODY IN UTERUS, VULVA AND VAGINA
Treatment: MEDICAL AND SURGICAL TREATMENT
[CD-9: 939.1-.2
CPT: 57410,58120,90000-99999
Line: 451 Category: 10

Diagnosis: VAGINITIS
Treatment: MEDICAL THERAPY
ICD-9: 112. 1,131.00-.01,131.09,623.5,625 .1
CPT: 57150,90000-99999
Line: 452 Category: 10

Diagnosis: PRIAPISM, ORCHITIS, EPIDIDYMITIS, SEMINAL VESICULITIS, FOREIGN BODY IN PENIS, URETHRAL STRICTURE
Treatment: MEDICAL THERAPY, REMOVAL OF FOREIGN BODY, DILATION
ICD-9: 595.0,598,604,607.3,608.0,939.9
CPT: 51700,52275-76,53600-01 ,53620-21 ,53660-61 ,53670,54115,54154,54640,54700-861 ,55401,55450,90000-99999
Line: 453 Category: 10

Diagnosis: BENIGN NEOPLASM OF EXTERNAL FEMALE GENITAL ORGANS
Treatment: BIOPSY/EXCISION
ICD-9: 221 .1-221.9
CPT: 56-440, 56501,56600,57105,57135
Line: 454 Category: 11

Diagnosis: BALANOPOSTHITIS AND OTHER DISORDERS OF PENIS
Treatment: MEDICAL THERAPY
ICD-9: 607.1,607.8
CPT: 90000-99999
Line: 455 Category: 10

Diagnosis: NONINFLAMMATORY DISORDERS AND BENIGN NEOPLASMS OF OVARY AND FALLOPIAN TUBES
Treatment: SALPINGECTOMY, OOPHORECTOMY
ICD-9: 620.4,620.8,220,221.0
CPT: 58140-50,58700-58720,58925,58940
Line: 456 Category: 11

Diagnosis: BONE SPUR
Treatment: OSTECTOMY
ICD-9: 726.91
CPT: 28119,28899
Line: 457 Category: 11

Diagnosis: BELL'S PALSY, EXPOSURE KERATOCON JUNCTIVITIS
Treatment: TARSORRHAPHY
ICD-9: 351.0,370.34
CPT: 67880
Line: 458 Category: 10

Diagnosis: NASAL POLYP, BENIGN NEOPLASM OF NASAL CAVITIES, MIDDLE EAR & ACCESSORY SINUSES
Treatment: RECONSTRUCTION
[CD-9: 471 .9,212.0
CPT: 17000,31032,31201,31020,30425,30520,39010,39400
Line: 459 Category: 11

Diagnosis: CYST OF THYROID
Treatment: SURGERY - EXCISION
ICD-9: 246.2
CPT: 60200,60100
Line: 460 Category: 11

Diagnosis: ORBITAL CYST
Treatment: ORBITOTOMY
ICD-9: 376.81
CPT: 67400-67450
Line: 461 Category: 11

**PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991**

Diagnosis: OTOSCLEROSIS
Treatment: STAPEDECTOMY
ICD-9: 387
CPT: 69650-62
Line: 462 Category: 11

Diagnosis: FOREIGN BODY: ACCIDENTALLY LEFT DURING A PROCEDURE, GRANULOMA OF MUSCLE, GRANULOMA OF SKIN & SUBCUTANEOUS TISSUE
Treatment: REMOVAL OF FOREIGN BODY
ICD-9: 998.4,728.82,709.4
CPT: 12330,22331,24200,24201,25248,20520,20525,27086,27087,27372,28190,28192,28193
Line: 463 Category: 11

Diagnosis: HYPERTROPHY OF BREAST
Treatment: SUBCUTANEOUS TOTAL MASTECTOMY, BREAST REDUCTION
ICD-9: 611.1
CPT: 19140,19318
Line: 464 Category: 11

Diagnosis: OBSTRUCTION OF NASOLACRIMAL DUCT, NEONATAL
Treatment: PROBING NASOLACRIMAL DUCT
ICD-9: 375.55
CPT: 68825-68830
Line: 465 Category: 11

Diagnosis: THROMBOSED AND COMPLICATED HEMORRHOIDS
Treatment: HEMORRHOIDECTOMY, INCISION
ICD-9: 455.1-.2,455.4-.5,455.7- .8
CPT: 10140,45336,46083,46220,46250-62,66320,46934-36
Line: 466 Category: 11

Diagnosis: STENOSIS OF NASOLACRIMAL DUCT (ACQUIRED)
Treatment: DACRYOCYSTORHINOSTOMY
ICD-9: 375.4,375.56
CPT: 68720-68730
Line: 467 Category: 11

Diagnosis: URETHRAL FISTULA
Treatment: EXCISION, MEDICAL THERAPY
ICD-9: 599.1
CPT: 50650-50660,90000-99999
Line: 468 Category: 11

Diagnosis: ENDOMETRIOSIS
Treatment: MEDICAL AND SURGICAL TREATMENT WITHOUT HYSTERECTOMY
ICD-9: 617
CPT: 58145-50,58984,90000-99999
Line: 469 Category: 13

Diagnosis: PTOSIS (ACQUIRED) WITH VISION IMPAIRMENT
Treatment: PTOSIS REPAIR
ICD-9: 374.3
CPT: 15823,67904
Line: 470 Category: 11

Diagnosis: ENTROPION AND TRICHIASIS OF EYELID; ECTROPION; BENIGN NEOPLASM OF EYELID
Treatment: ECTROPION/ENTROPION REP.
ICD-9: 216. 1,374.0-374.1
CPT: 17340,67700-67850,67880, 67914-67924
Line: 471 Category: 11

Diagnosis: BENIGN NEOPLASM BONE & ARTICULAR CARTILAGE, OTHER BENIGN NEOPLASM OF CONNECTIVE AND OTHER SOFT TISSUE
Treatment: BIOPSY-EXCISION
ICD-9: 213,215,225.3-.4
CPT: 10003,11050,11400-46, 13131 ,17100-200,20550,21556, 21600, 21920-21935,22106,23065- 23077,23140-23156,23100-23101,24065-24077,24110, 25120-25136,25170,26100-261 17,26200- 15,26250-62,26449,27040-49, 27065-7,27075-9,27323-9, 27637,28108,28122-4 ,28285,64774,69140
Line: 472 Category: 11

PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991

Diagnosis: FOREIGN BODY IN EAR & NOSE
Treatment: REMOVAL OF FOREIGN BODY
[CD-9: 931-932
CPT: 69200-69205,30300-20
Line: 473 Category: 10

Diagnosis: PTERYGIUM
Treatment: EXCISION OR TRANSPOSITION OF PTERYGIUM U/O GRAFT
ICD-9: 372.4
CPT: 65420
Line: 474 Category: 11

Diagnosis: OPEN WOUND OF EAR DRUM
Treatment: TYMPANOPLASTY
ICD-9: 872.61
CPT: 69610-43
Line: 475 Category: 10

— $117.21 Per Capita Cost Per Month —

Diagnosis: ENOPHTHALMOS
Treatment: ORBITAL IMPLANT
ICD-9: 376.50
CPT: 67550
Line: 476 Category: 11

Diagnosis: HEARING LOSS - OVER AGE OF THREE
Treatment: MEDICAL THERAPY
ICD-9: 388-389
CPT: 90000-99999
Line: 477 Category: 11

Diagnosis: PARALYSIS OF VOCAL CORDS OR LARYNX, OTHER DISEASES OF LARYNX
Treatment: INCISION/EXCISION/ENDOSCOPY
ICD-9: 478.3,478.7
CPT: 31300-31579,31580-31605
Line: 478 Category: 11

Diagnosis: DENTAL CARIES (PERIAPICAL INFECTION)
Treatment: SURGERY
ICD-9: 521.0
CPT: 41899
Line: 479 Category: 11

Diagnosis: IMPACTED TEETH
Treatment: SURGERY
ICD-9: 520.6,524.3-.4
CPT: 21254,30520,41899
Line: 480 Category: 11

Diagnosis: RECURRENT EROSION OF THE CORNEA
Treatment: CORNEAL TATTOO, REMOVAL OF CORNEAL EPITHELIUMS; WITH OR WITHOUT CHEMOCAUTERIZATION
ICD-9: 371.42
CPT: 65600,65435
Line: 481 Category: 11

Diagnosis: CHRONIC SINUSITIS, NASAL POLYPS, OTHER DISORDERS OF NASAL CAVITY AND SINUSES
Treatment: SURGICAL
ICD-9: 471,473,478.1
CPT: 11426-41,30000-31299
Line: 482 Category: 11

Diagnosis: OSTEOARTHRITIS AND ALLIED DISORDERS
Treatment: MEDICAL THERAPY
ICD-9: 715
CPT: 90000-99999
Line: 483 Category: 13

Diagnosis: DEVIATED NASAL SEPTUM, ACQUIRED DEFORMITY OF NOSE, OTHER DISEASES OF UPPER RESPIRATORY TRACT
Treatment: EXCISION OF CYST/RHINECTt14Y/PROSTHESES
ICD-9: 470,738.0,478.0,478.2-.9
CPT: 14060,15823,20912,21325-35,30115-17,30124-30320,30400-30,30520,30580,30620,30999,31021-90,31200
Line: 484 Category: 11

**PRIORITIZED HEALTH SERVICES LIST OF HAY 1, 1991**

**Diagnosis:** ADHESIVE CAPSULITIS OF SHOULDER, ARTICULAR CARTILAGE DISORDER OF SHOULDER, PERIOSTITIS OF SHOULDER
**Treatment:** REPAIR/RECONSTRUCTION
ICD-9: 718.01,726.0,726.2,730.31
CPT: 29815-29825,23410-23420,23440-23466,23107-23125,23190,23000,23020
Line: 485 Category: 11

**Diagnosis:** MENOPAUSAL MANAGEMENT
**Treatment:** MEDICAL THERAPY OTHER THAN HORMONE REPLACEMENT
ICD-9: 627.2-.9
CPT: 90000-99999
Line: 486 Category: 13

**Diagnosis:** EQUINUS DEFORMITY OF FOOT, ACQUIREO
**Treatment:** ARTHROTOMY
ICD-9: 736.72
CPT: 27612
Line: 487 Category: 11

**Diagnosis:** CYSTS OF ORAL SOFT TISSUES
**Treatment:** MEDICAL THERAPY
ICD-9: 528.4
CPT: 90000-99999
Line: 488 Category: 11

**Diagnosis:** STOMATITIS, CELLULITIS AND ABSCESS OF ORAL SOFT TISSUE, AND DISEASES OF LIPS
**Treatment:** MEDICAL THERAPY
ICD-9: 528.0,528.3,528.5
CPT: 90000-99999
Line: 489 Category: 10

**Diagnosis:** OTHER SPECIFIED CONDITIONS OF THE TONGUE
**Treatment:** EXCISION, BIOPSY
ICD-9: 529.8
CPT: 41100,41105,41110,41112-41114,41599
Line: 490 Category: 11

**Diagnosis:** SPECIFIC DISORDERS OF THE TEETH AND SUPPORTING STRUCTURES
**Treatment:** EXCISION OF DENTOALVEOLAR STRUCTURE
ICD-9: 525.8
CPT: 41822,41823,41830,41874,41825-41827,41828,42299,41899,40899,17999
Line: 491 Category: 11

**Diagnosis:** PARAPLEGIA
**Treatment:** SURGICAL PREVENTION OF CONTRACTURES
ICD-9: 344.1
CPT: 27003
Line: 492 Category: 11

**Diagnosis:** PERIPHERAL ENTHESOPATHIES
**Treatment:** SURGICAL TREATMENT
ICD-9: 726.30-.32,726.4-.6,726.70,726.8,726.90
CPT: 29105,29125-29131,24105,27060-27062,29240,29260,29270,29280,29345,29355,29365,29405-50,20550,20600-10,29345,29355,29365
Line: 493 Category: 11

**Diagnosis:** CHRONIC DISEASE OF TONSILS AND ADENOIDS
**Treatment:** TONSILLECTOMY AND ADENOIDECTOMY
ICD-9: 474
CPT: 42820-36,42860,42870
Line: 494 Category: 11

**Diagnosis:** GANGLION OF TENDON OR JOINT
**Treatment:** EXCISION
ICD-9: 727.4
CPT: 28090
Line: 495 Category: 11

**Diagnosis:** KERATOCON JUNCTIVITIS SICCA, NOT SPECIFIED AS SJOGREN'S
**Treatment:** PUNCTAL OCCLUSION, TARSORRHAPHY
ICD-9: 370.33
CPT: 68760,67880
Line: 496 Category: 11

PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991

Diagnosis: PARAPLEGIA
Treatment: ARTHRODESIS
ICD-9: 344.1
CPT: 27870
Line: 497 Category: 11

Diagnosis: OVARIAN CYST
Treatment: OOPHORECTOMY
ICD-9: 256.1,256.4
CPT: 58940
Line: 498 Category: 12

Diagnosis: HISTIOCYTOSIS
Treatment: MEDICAL THERAPY
ICD-9: 277.8
CPT: 90000-99999
Line: 499 Category: 5

Diagnosis: CANCER OF ESOPHAGUS, TREATABLE
Treatment: MEDICAL AND SURGICAL THERAPY
ICD-9: 150,195.2,230.1
CPT: 17002,38542,43260,44305,47600-20,47710,43100-43120,43340-41,44140-47,45111,45550,49000,60540,90000-99999
Line: 500 Category: 5

Diagnosis: OCCUPATIONAL LUNG DISEASES
Treatment: MEDICAL THERAPY
ICD-9: 500-505
CPT: 90000-99999
Line: 501 Category: 5

Diagnosis: LESION OF PLANTAR NERVE
Treatment: MEDICAL THERAPY, EXCISION
ICD-9: 355.6
CPT: 28080,90000-99999
Line: 502 Category: 11

Diagnosis: NONTOXIC NODULAR GOITER
Treatment: THYROIDECTOMY
ICD-9: 241
CPT: 60245,60220
Line: 503 Category: 11

Diagnosis: HERNIA WITHOUT OBSTRUCTION OR GANGRENE
Treatment: REPAIR
ICD-9: 550.9,553
CPT: 39502-41,43330-31,43885,44050,44346,49000,49500-611,51500,55540
Line: 504 Category: 11

Diagnosis: BENIGN NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS
Treatment: LOBECTOMY, MEDICAL THERAPY
ICD-9: 212
CPT: 17000,31512,31599,90000-99999,60220-60225
Line: 505 Category: 11

Diagnosis: MUSCULAR DYSTROPHY
Treatment: MEDICAL THERAPY
ICD-9: 359
CPT: 90000-99999
Line: 506 Category: 5

Diagnosis: TRANSIENT CEREBRAL ISCHEMIA
Treatment: MEDICAL THERAPY
ICD-9: 435
CPT: 90000-99999
Line: 507 Category: 10

Diagnosis: PERITONEAL ADHESION
Treatment: SURGICAL TREATMENT
ICD-9: 568
CPT: 44005,44610,45110,49000
Line: 508 Category: 1

**PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991**

**Diagnosis:** ALCOHOLIC FATTY LIVER OR ALCOHOLIC HEPATITIS
**Treatment:** MEDICAL THERAPY
ICD-9: 571.0-.1
CPT: 90000-99999
Line: 509 Category: 5

**Diagnosis:** SPINA BIFIDA WITH HYDROCEPHALUS
**Treatment:** MEDICAL THERAPY
ICD-9: 741.0
CPT: 90000-999999,63706
Line: 510 Category: 5

**Diagnosis:** OTHER DEFICIENCIES OF CIRCULATING ENZYMES (ALPHA 1-ANTITRYPSIN DEFICIENCY)
**Treatment:** MEDICAL THERAPY
ICD-9: 277.6
CPT: 90000-99999
Line: 511 Category: 5

**Diagnosis:** DIABETES MELLITUS WITH END STAGE RENAL DISEASE
**Treatment:** PANCREAS/KIDNEY TRANSPLANT
ICD-9: 250.4
CPT: 50389
Line: 512 Category: 5

**Diagnosis:** CANCER OF GALLBLADDER AND OTHER BILIARY, TREATABLE
**Treatment:** MEDICAL AND SURGICAL TREATMENT
ICD-9: 156,197.8,230.8
CPT: 36845,47600-20,47710,49000,60540,90000-99999
Line: 513 Category: 5

**Diagnosis:** ACUTE POLIOMYELITIS
**Treatment:** MEDICAL THERAPY
ICD-9: 045
CPT: 90000-99999
Line: 514 Category: 3

**Diagnosis:** PITUITARY DWARFISM
**Treatment:** MEDICAL THERAPY
ICD-9: 253.3
CPT: 90000-99999
Line: 515 Category: 13

**Diagnosis:** UNSPECIFIED POLYNEUROPATHY
**Treatment:** MEDICAL THERAPY
ICD-9: 357.9
CPT: 90000-99999
Line: 516 Category: 3

**Diagnosis:** HEREDITARY HEMORRHAGIC TELANGIECTASIA
**Treatment:** EXCISION
ICD-9: 448.0
CPT: 11400-11426
Line: 517 Category: 5

**Diagnosis:** DISEASES OF THYMUS GLAND
**Treatment:** MEDICAL THERAPY
ICD-9: 254
CPT: 90000-99999
Line: 518 Category: 5

**Diagnosis:** CEREBRAL DEGENERATIONS USUALLY MANIFEST IN CHILDHOOD
**Treatment:** MEDICAL THERAPY
ICD-9: 330
CPT: 90000-99999
Line: 519 Category: 5

**Diagnosis:** CHRONIC RHEUMATIC PERICARDITIS, RHEUMATIC MYOCARDITIS
**Treatment:** MEDICAL THERAPY
ICD-9: 393,398.0
CPT: 90000-99999
Line: 520 Category: 5

PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991

Diagnosis: CANCER OF LIVER, TREATABLE
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 155, 197.7,235.3
CPT: 31300,31540-1 ,32100,39200,42415,45333,46917, 11042,32900,37617,43260,43630-38,43860,44005,44025,44305,47010,48150,44131 ,47120-30,47600-20,47710,49000,49080,90000-99999
Line: 521 Category: 5

Diagnosis: ACUTE NON-LYMPHOCYTIC LEUKEMIAS
Treatment: CHEMOTHERAPY
ICD-9: 205.0,206.0,207.0,208.0
CPT: 11646,37799,38100,38308,38760,38999,45360,58150,58720,58805,59840,60500,90000-99999
Line: 522 Category: 5

Diagnosis: MULTIPLE MYELOMA AND CHRONIC LEUKEMIAS
Treatment: BONE MARROW TRANSPLANT (5-6 LOCI MATCH)
ICD-9: 202.4,203,205.1-.9,206.1- .9,207.1- .8,208.1-.9
CPT: 38230-41
Line: 523 Category: 5

Diagnosis: MALIGNANT NEOPLASM OF OTHER ENDOCRINE GLANDS AND RELATED STRUCTURES, TREATABLE
Treatment: BONE MARROW RESCUE AND TRANSPLANT
ICD-9: 194
CPT: 38240,38230
Line: 524 Category: 5

Diagnosis: ANOMALIES OF GALLBLADDER, BILE DUCTS, AND LIVER
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 751.6
CPT: 90000-99999,47400-47999
Line: 525 Category: 5

Diagnosis: CANCER OF PANCREAS, TREATABLE
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 157,230.9
CPT: 31370-82,37799,42410-26,47760,47721,49000,60540,90000-99999
Line: 526 Category: 5

Diagnosis: PARASITIC INFESTATION OF EYELID
Treatment: MEDICAL THERAPY
ICD-9: 373.6
CPT: 90000-99999
Line: 527 Category: 10

Diagnosis: ATELECTASIS (COLLAPSE OF LUNG)
Treatment: MEDICAL THERAPY
ICD-9: 518.0-.1
CPT: 90000-99999,31645
Line: 528 Category: 10

Diagnosis: HEMORRHAGE AND INFARCTION OF THYROID
Treatment: MEDICAL THERAPY
ICD-9: 246.3
CPT: 90000-99999
Line: 529 Category: 10

Diagnosis: RETINAL TEAR
Treatment: LASER PROPHYLAXIS
ICD-9: 361.30
CPT: 67141-67145
Line: 530 category: 10

— $120.76 Per capita Cost Per Month —

Diagnosis: SPONTANEOUS AND MISSED ABORTION
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 631-632,634.2-.9
CPT: 59820-21,90000-99999
Line: 531 Category: 10

Diagnosis: INFLAMMATION OF LACRIMAL PASSAGES
Treatment: MEDICAL THERAPY
ICD-9: 375
CPT: 90000-99999
Line: 532 Category: 10

PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991

Diagnosis: MINOR BURNS
Treatment: MEDICAL THERAPY
ICD-9: 941.0-.1,942.0-.1,943.0-.1,944.0-.1,945.0-.1,946.0-.1,948.00,.10,.20,.30,.40,.50,.60,.70,.80,.90,949.0-.1
CPT: 11000-1,11040-4,11960-70, 14020,14040-1,14060,15200, 15220,15240,15260,15350, 15400, 15500-10,15770,16000-16035,20550,20610,35206,64450,90000-99999
Line: 533 Category: 10

Diagnosis: ALLERGIC RHINITIS AND CONJUNCTIVITIS
Treatment: MEDICAL THERAPY
ICD-9: 477,471,472,372.00-.14
CPT: 90000-99999
Line: 534 Category: 13

Diagnosis: CORNEAL ULCER
Treatment: CONJUNCTIVAL FLAP
ICD-9: 370.0
CPT: 68360
Line: 535 Category: 10

Diagnosis: HYPERESTROGENISM
Treatment: HYSTERECTOMY, MEDICAL THERAPY
ICD-9: 256.0
CPT: 58120,58150,90000-99999
line: 536 Category: 10

Diagnosis: PELVIC PAIN SYNDROME
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 614.1 -.2,614.4,614.6-.9,615. 1-.9,625.0-.2,625.4-.5,625 .8-.9
CPT: 11043,58150,58805,58925,58980,90000-99999
Line: 537 Category: 13

Diagnosis: RETAINED DENTAL ROOT
Treatment: EXCISION OF DENTOALVEOLAR STRUCTURE
ICD-9: 525.3
CPT: 41822,41823,41830,41874,41825-41827,41828,42299,41899,40899,17999
Line: 538 Category: 10

Diagnosis: KERATITIS: CORNEAL ULCER, SUPERFICIAL U/O CONJUNCTIVITIS, OTHER AND UNSPECIFIED KERATOCON JUNCTIVITIS, INTERSTITIAL & DEEP, CORNEAL NEOVASCULARIZATION
Treatment: KERATOPLASTY
ICD-9: 370.0,371 .0-371.1,371.23,371 .4-371.6
CPT: 65730,65920,66985
Line: 539 Category: 10

Diagnosis: TRANSIENT NEPHROTIC SYNDROME WITH LESION OF MINIMAL CHANGE GLOMERULONEPHRITIS
Treatment: MEDICAL THERAPY
ICD-9: 581.3
CPT: 90000-99999
Line: 540 Category: 10

Diagnosis: TONGUE TIE AND OTHER ANOMALIES OF TONGUE
Treatment: FRENOTOMY, TONGUE TIE
ICD-9: 750.0-.1
CPT: 40806,40819,41010,41115
Line: 541 Category: 11

Diagnosis: BRANCHIAL CLEFT CYST
Treatment: EXCISION
ICD-9: 744.42
CPT: 42810,42815
Line: 542 Category: 11

Diagnosis: ATROPHY OF EDENTULOUS ALVEOLAR RIDGE
Treatment: VESTIBULOPLASTY, GRAFTS, IMPLANTS
ICD-9: 525.2
CPT: 40840,40842,40845,15999,20902,15350,15510,21210,21215,21244-50
Line: 543 Category: 11

PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991

Diagnosis: SPINE DEFORMITIES
Treatment: ARTHRODESIS/REPAIR/RECONSTRUCTION
ICD-9: 754.2,268.1,756.14,737.0,756.19,737.11-.12,356.1,731.0,252.0,737.30-.31,737.33-.39,724.3
CPT: 22800-22812,22820,22840-22899,22210-22230,22590-22650,22554-22585,29010-29035
Line: 544 Category: 11

Diagnosis: BENIGN NEOPLASM OF MALE GENITAL ORGANS: TESTIS, PROSTATE, EPIDIDYMIS
Treatment: MEDICAL THERAPY
ICD-9: 222.0,222.2,222.3,222.8, 222.9
CPT: 90000-99999
Line: 545 Category: 11

Diagnosis: DISORDERS OF BLADDER
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 596.0-.5,5%.7-.9
CPT: 90000-99999,51800-45,51880-980,53660-61 ,53670
Line: 546 Category: 11

Diagnosis: HYPERTELORISM OF ORBIT
Treatment: ORBITOTOMY
ICD-9: 376.41
CPT: 67400
Line: 547 Category: 11

Diagnosis: DENTAL SERVICES (EG. TOOTH LOSS)
Treatment: RESTORATIVE DENTAL SERVICE
ICD-9: 0
CPT: 01510-25,04240-60,04345,05110-40,05213-4,05860,05911-21,05954-5,05949,07270,07310-20,07560,07610-80,07710-80,07950,09630
Line: 548 Category: 12

Diagnosis: DENTAL SERVICES (EG. MALPOSITIONED TOOTH)
Treatment: RESTORATIVE DENTAL SERVICE
ICD-9: 0
CPT: 02960,05211-2,05520,05610,05630-60,05710-21,05750-61,06212,06242,06792,06972-80,07271,07280-1,07290,07340-50,07470-80,07810-50,07860-80,07920,07960-80,079823,079914
Line: 549 Category: 11

Diagnosis: DENTAL SERVICES (EG. INSUFFICIENT ROOM TO RESTORE TOOTH)
Treatment: RESTORATIVE DENTAL SERVICE
ICD-9: 0
CPT: 03950,04210-1,04320-1,05620,05730-41,05810-05850,06211,06241,06520-40,06752,06780,06970
Line: 550 Category: 11

Diagnosis: UNSPECIFIED DISEASE OF HARD TISSUES OF TEETH (AVULSION)
Treatment: INTERDENTAL WIRING
ICD-9: 525.9
CPT: 21497
Line: 551 Category: 12

Diagnosis: RETAINED INTRAOCULAR FOREIGN BODY, MAGNETIC & NONMAGNETIC
Treatment: FOREIGN BODY REMOVAL
ICD-9: 360.5-360.6
CPT: 65230,65260-65265
Line: 552 Category: 12

Diagnosis: INTERNAL DERANGEMENT OF KNEE
Treatment: ARTHROSCOPIC REPAIR
ICD-9: 717.1-.3,717.40,717.42-.49
CPT: 29870-89,27403-29
Line: 553 Category: 12

Diagnosis: CLOSED FRACTURE OF EPIPHYSIS OF UPPER EXTREMITIES
Treatment: REDUCTION
ICD-9: 812.09,812.44,813.43
CPT: 25350,25600-20
Line: 554 Category: 12

**PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991**

**Diagnosis:** CONGENITAL DISLOCATION OF HIP; COXA VARA & VALGA, CONGENITAL
**Treatment:** REPAIR/RECONSTRUCTION
ICD-9: 754.3,755.62,755.61
CPT: 27179,27181,27185
Line: 555 Category: 12

**Diagnosis:** MECHANICAL AND OTHER COMPLICATION OF INTERNAL ORTHOPEDIC AND PROSTHETIC DEVICE, IMPLANT AND GRAFT; IMPLANT OR GRAFT; INFECTION & INFLAMMATORY REACTION DUE TO INTERNAL PROSTHETIC DEVICE
**Treatment:** TREATMENT, ARTHROPLASTY
ICD-9: 996.4,996.77,996.66
CPT: 27485-27488,27265,27266, 27134,27137,27138
Line: 556 Category: 12

**Diagnosis:** DISORDERS OF SHOULDER
**Treatment:** REPAIR/RECONSTRUCTION
ICD-9: 727.61 ,726.10,840.4
CPT: 29815-29825,23410-23420,23440-23466,23107-23125,23190,23000,23020
Line: 557 Category: 12

**Diagnosis:** CONGENITAL DISLOCATION OF KNEE, GENU VARUM & VALGUM (ACQ'D), CONGENITAL BOWING OF FEMUR, TIBIA & FIBULA, GENU RECURVAUM (ACQ'D), CONGITAL GENU RECURVATUM LONG BONES OF LEGS, CONGENITAL DEFORMITIES OF KNEE
**Treatment:** OSTEOTOMY
ICD-9: 736.42,754.40-.43,755.64
CPT: 27455,27448-27450
Line: 558 Category: 12

**Diagnosis:** CONGENITAL DEFORMITIES OF KNEE
**Treatment:** ARTHROSCOPIC REPAIR
ICD-9: 755.64
CPT: 29870-89,27403-29
Line: 559 Category: 13

**Diagnosis:** UNSPECIFIED RETINAL VASCULAR OCCLUSION; CENTRAL RETINAL VEIN OCCLUSION, VENOUS TRIBUTARY (BRANCH) OCCLUSION
**Treatment:** LASER SURGERY
ICD-9: 362.30,362.35,362.36
CPT: 67228
Line: 560 Category: 12

**Diagnosis:** EXFOLIATION OF TEETH DUE TO SYSTEMIC CAUSES
**Treatment:** EXCISION OF DENTOALVEOLAR STRUCTURE
ICD-9: 525.0
CPT: 41822,41823,41830,41874,41825-41827,41828,42299,41899,40899,17999
Line: 561 Category: 12

**Diagnosis:** RUBEOSIS IRIDIS
**Treatment:** LASER SURGERY
ICD-9: 364.42
CPT: 67228,66720-66721
Line: 562 Category: 12

**Diagnosis:** TRAUMATIC AMPUTATION OF TOE (COMPLETE)(PARTIAL) W/ & W/O COMPLICATION
**Treatment:** REPLANTATION/AMPUTATE
ICD-9: 895
CPT: 20838-40,28810-25
Line: 563 Category: 12

**Diagnosis:** PERIPHERAL NERVE DISORDERS (NON-INJURY)
**Treatment:** NEUROPLASTY
ICD-9: 353.0-.4,354.1,354.9,355.0,350.2,355.6,355.8
CPT: 64702-64727,64413-64450,64774-64792
Line: 564 Category: 12

**Diagnosis:** DISORDERS OF SWEAT GLANDS
**Treatment:** MEDICAL THERAPY
ICD-9: 705.0,705.81,705.89,705.9, 780.8
CPT: 90000-99999
Line: 565 Category: 13

PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991

Diagnosis: CHONDROMALACIA
Treatment: MEDICAL THERAPY
ICD-9: 733.92
CPT: 90000-99999
Line: 566 Category: 13

Diagnosis: EPIPHYSEAL ARREST
Treatment: MEDICAL THERAPY
ICD-9: 733.91
CPT: 90000-99999
Line: 567 Category: 13

Diagnosis: DIAPHYSITIS
Treatment: MEDICAL THERAPY
ICD-9: 733.99
CPT: 90000-99999
Line: 568 Category: 13

Diagnosis: FRACTURES OF RIBS AND STERNUM, CLOSED
Treatment: MEDICAL THERAPY
ICD-9: 807.0,807.2
CPT: 90000-99999
Line: 569 Category: 10

Diagnosis: FRACTURE OF ONE OR MORE PHALANGES OF FOOT
Treatment: SET
ICD-9: 826
CPT: 29425,28470,28480,28505,28550
Line: 570 Category: 10

Diagnosis: BRACHIAL PLEXUS LESIONS
Treatment: *MEDICAL* THERAPY
ICD-9: 353.0
CPT: 90000-99999
Line: 571 Category: 13

Diagnosis: CHRONIC SINUSITIS
Treatment: MEDICAL THERAPY
ICD-9: 473
CPT: 90000-99999
Line: 572 Category: 13

Diagnosis: LUMBAGO; THORACIC OR LUMBOSACRAL NEURITIS OR RADICULITIS, UNSPECIFIED; POSTLAMINECTOMY SYNDROME
Treatment: MEDICAL THERAPY
ICD-9: 724.2,724.4,722.8
CPT: 90000-99999
Line: 573 Category: 13

Diagnosis: DYSMENORRHEA
Treatment: MEDICAL THERAPY
ICD-9: 625.3
CPT: 90000-99999
Line: 574 Category: 13

Diagnosis: TIBIAL BURSITIS, OSTEOCHONDROPATHIES AND CONGENITAL DEFORMITIES OF KNEE
Treatment: MEDICAL THERAPY
ICD-9: 726.62,726.69,732.4,732.7,755.64
CPT: 90000-99999
Line: 575 Category: 13

Diagnosis: EPICONDYLITIS AND RADIAL STYLOID TENOSYNOVITIS
Treatment: MEDICAL AND SURGICAL TREATMENT
[CD-9: 726.31-.32,727.04
CPT: 26035-60,26120-80,26440-597,26820-63,27095-7,27100-22,27140-85,27306-7,27448-55,27466-8,27475-85,27715,27730-42,64702-4,64718-27,64774-95,64850-7,64872-999,90000-99999
Line: 576 Category: 13

Diagnosis: ROLYMYALGIA RHEUMATICA
Treatment: MEDICAL THERAPY
ICD-9: 725
CPT: 90000-99999
Line: 577 Category: 13

PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991

Diagnosis: RAYNAUD SYNDROME
Treatment: MEDICAL THERAPY
ICD-9: 443
CPT: 90000-99999
Line: 578 Category: 13

Diagnosis: REITER'S DISEASE
Treatment: MEDICAL THERAPY
ICD-9: 099.3
CPT: 90000-99999
Line: 579 Category: 13

Diagnosis: URTICARIA, CHRONIC
Treatment: MEDICAL THERAPY
ICD-9: 708,995.1
CPT: 90000-99999,11000-11101
Line: 580 Category: 13

Diagnosis: KERATODERMA, ACQUIRED; ACQUIRED ACANTHOSIS NIGRICANS, STRIAE ATROPHICAE, OTHER AND UNSPECIFIED HYPERTROPHIC AND ATROPHIC CONDITIONS OF SKIN
Treatment: MEDICAL THERAPY
ICD-9: 690,698,700,701.1-.3,701 .8,701.9,706.7
CPT: 11000- 101,11900,11950-54,90000-99999
Line: 581 Category: 13

Diagnosis: VERTIGINOUS SYNDROMES AND OTHER DISOROERS OF VESTIBULAR SYSTEM
Treatment: MEDICAL THERAPY
ICD-9: 386.0-.2,386.4-.9
CPT: 90000-99999
Line: 582 Category: 13

Diagnosis: DISORDERS OF CERVICAL REGION
Treatment: CERVICAL LAMINECTOMY, MEDICAL THERAPY
ICD-9: 721.0,722.4,722.81,723
CPT: 63250,63265,63270,63275,63280,63285,63001,63015,63020,63035-40,63045,63048,63075-76,63081-82,63300,63304,63170-72,63180-82,63194,63196,63198,90000-99999
Line: 583 Category: 13

Diagnosis: ERYTHEMATOUS CONDITIONS: TOXIC, NODOSUM, ROSACEA, LUPUS
Treatment: MEDICAL THERAPY
ICD-9: 695.0,695.2-.9
CPT: 90000-99999,11100-11101
Line: 584 Category: 13

Diagnosis: PLANTAR FASCIAL FIBROMATOSIS
Treatment: MEDICAL THERAPY
ICD-9: 728.71
CPT: 90000-99999
Line: 585 Category: 13

$127.01 Per Capita Cost Per Month

Diagnosis: SPONDYLOSIS AND OTHER CHRONIC DISOROERS OF BACK
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 720,721.2-.5,721.7,721.9,722.3-.5,722.7-.9,723.0,724,738.4,756.11,847
CPT: 22100,22105,22110,22140-230,22548-54,22590-650,22820-99,62284,62290-1,63001-48,63075-8,63081-2,63085-8,63090-1,63300-4,90000-99999
Line: 586 Category: 13

Diagnosis: ESOPHAGITIS
Treatment: MEDICAL THERAPY
ICD-9: 530.1
CPT: 90000-99999
Line: 587 Category: 13

Diagnosis: INTERVERTEBRAL DISC DISORDERS
Treatment: THORACIC-LUMBAR LAMINECTOMY, MEDICAL THERAPY
ICD-9: 722.0-.1,722.7,952.1-.9
CPT: 63003,63005,63016,63017,63030-31,63035,63042,63046-48,63056-57,63064,63066,63077-78,63085-91,63170,63173,90000-99999
Line: 588 Category: 13

PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991

**Diagnosis:** CHRONIC PROSTATITIS, OTHER DISORDERS OF PROSTATE
**Treatment:** MEDICAL THERAPY
ICD-9: 601.1,602
CPT: 90000-99999
Line: 589 Category: 13

**Diagnosis:** CHRONIC CYSTITIS
**Treatment:** MEDICAL THERAPY
[CD-9: 595.1-595.3
CPT: 90000-99999
Line: 590 Category: 13

**Diagnosis:** IMPETIGO HERPETIFORMIS AND SUBCORNEAL PUSTULAR DERMATOSIS
**Treatment:** MEDICAL THERAPY
[co-9: 694.0-.3
CPT: 90000-99999
Line: 591 Category: 13

**Diagnosis:** TRIGEMINAL NERVE DISORDERS
**Treatment:** MEDICAL & SURGICAL TREATMENT
ICD-9: 350
CPT: 64400,64600-64610,61450,61458,90000-99999
Line: 592 Category: 13

**Diagnosis:** MYASTHENIA GRAVIS
**Treatment:** MEDICAL THERAPY, THYMECTOMY
ICD-9: 358
CPT: 90000-99999,60520
Line: 593 Category: 13

**Diagnosis:** SPRAINS, STRAINS AND NON-ALLOPATHIC SPINAL LESIONS: THORACIC, LUMBAR AND SACRUM ACUTE
**Treatment:** MEDICAL THERAPY
ICD-9: 847.0-.3,739.0-.4
CPT: 90000-99999
Line: 594 Category: 14

**Diagnosis:** HORDEOLUM AND OTHER DEEP INFLAMMATION OF EYELID; CHALAZION
**Treatment:** INCISION AND DRAINAGE/MEDICAL THERAPY
IcD-9: 373.1-.2
CPT: 90000-99999,67700
Line: 595 Category: 14

**Diagnosis:** LABYRINTHITIS
**Treatment:** MEDICAL THERAPY
ICD-9: 386.3
CPT: 90000-99999
Line: 596 Category: 14

**Diagnosis:** VIRAL HEPATITIS
**Treatment:** MEDICAL THERAPY
ICD-9: 070
CPT: 90000-99999
Line: 597 Category: 14

**Diagnosis:** ANOVULATION (INFERTILITY)
**Treatment:** MEDICAL THERAPY
[CD-9: 621 .3,626.0-.1,628.0
CPT: 58100,58920-25,58940,61548,90000-99999
Line: 598 Category: 15

**Diagnosis:** HYDROCELE
**Treatment:** MEDICAL THERAPY, EXCISION
ICD-9: 603
CPT: 54840,55000,55040-41,55060,55500,90000-99999
Line: 599 Category: 11

**Diagnosis:** ABSENCE OF BREAST AFTER MASTECTOMY AS TREATMENT FOR NEOPLASM
**Treatment:** BREAST RECONSTRUCT
ICD-9: 176,217,233.0,238.3
CPT: 11400-46,17340,19120-60,19324-42,19360-96,19499
Line: 600 Category: 11

**PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991**

**Diagnosis:** SPASTIC DYSPHONIA
**Treatment:** MEDICAL THERAPY
[CD-9: 478.79
CPT: 90000-99999
Line: 601 Category: 11

**Diagnosis:** FEMALE INFERTILITY OF CERVICAL ORIGIN, MALE INFERTILITY
**Treatment:** ARTIFICIAL INSEMINATION, MEDICAL THERAPY
ICD-9: 628.8-.9,606
CPT: 90000-99999,58310-58311
Line: 602 Category: 15

**Diagnosis:** TUBAL DISEASE
**Treatment:** MICROSURGERY
ICD-9: 256,628.2-.4
CPT: 58700,58740-70
Line: 603 Category: 15

**Diagnosis:** KELOID SCAR; OTHER ABNORMAL GRANULATION TISSUE
**Treatment:** INTRALESIONAL INJECTIONS/DESTRUCTION/EXCISION
ICD-9: 701 .4-.5
CPT: 11900- 11901,17000-17105,1 1200-11446
Line: 604 Category: 17

**Diagnosis:** CONJUNCTIVAL CYST
**Treatment:** EXCISION OF CONJUNCTIVAL CYST
ICD-9: 372.75
CPT: 68110
Line: 605 Category: 17

**Diagnosis:** HEPATORENAL SYNDROME
**Treatment:** MEDICAL THERAPY
ICD-9: 572.4
CPT: 90000-99999
Line: 606 Category: 3

**Diagnosis:** OTHER DEFICIENCIES OF CIRCULATING ENZYMES (ALPHA 1-ANTITRYPSIN DEFICIENCY)
**Treatment:** LUNG TRANSPLANT
1(X)-9: 277.6
CPT: 33935
Line: 607 Category: 5

**Diagnosis:** LETHAL MIDLINE GRANULOMA
**Treatment:** MEDICAL THERAPY
ICD-9: 446.3
CPT: MEDICAL THERAPY
Line: 608 Category: 5

**Diagnosis:** AMYOTROPHIC LATERAL SCLEROSIS (ALS)
**Treatment:** MEDICAL THERAPY
ICD-9: 335.20,335.22-.29
CPT: 90000-999999
Line: 609 Category: 5

**Diagnosis:** CANCER OF LIVER AND INTRAHEPATIC BILE DUCTS
**Treatment:** LIVER TRANSPLANT
ICD-9: 155
CPT: 47135
Line: 610 Category: 5

**Diagnosis:** HEMATOMA OF AURICLE OR PINNA AND HEMATOMA OF EXTERNAL EAR
**Treatment:** DRAINAGE
ICD-9: 216.2,380.0,380.31
CPT: 69000-20
Line: 611 Category: 10

**Diagnosis:** ENOPHTHALMOS
**Treatment:** REVISION
ICD-9: 376.5
CPT: 67400
Line: 612 Category: 10

PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991

Diagnosis: ACUTE LYMPHADENITIS
Treatment: INCISION AND DRAINAGE
ICD-9: 683
CPT: 10060
Line: 613 Category: 10

Diagnosis: CONGENITAL ANOMALIES OF FEMALE GENITAL ORGANS
Treatment: SURGICAL TREATMENT
ICD-9: 752.0-.3,752.41
CPT: 57135,57500,57720,58540,58700,58940,58987,58995
Line: 614 Category: 11

Diagnosis: GENERALIZED CONVULSIVE OR PARTIAL EPILEPSY WITHOUT MENTION OF IMPAIRMENT OF CONSCIOUSNESS
Treatment: FOCAL SURGERY
ICD-9: 345.1,345.5
CPT: 61720,61533-61536
Line: 615 Category: 11

Diagnosis: VARICOSE VEINS OF LOWER EXTREMITIES
Treatment: STRIPPING/SCLEROTHERAPY
ICD-9: 454
CPT: 36468-71,37700,37720-35,37760,37785-99
Line: 616 Category: 11

Diagnosis: DISEASE OF CAPILLARIES
Treatment: EXCISION
ICD-9: 448.1-.9
CPT: 11400-11426
Line: 617 Category: 11

Diagnosis: ANOMALIES OF RELATIONSHIP OF JAW TO CRANIAL BASE, MAJOR ANOMALIES OF JAW SIZE, OTHER SPECIFIED AND UNSPECIFIED DENTOFACIAL ANOMALIES
Treatment: OSTEOPLASTY, MAXILLA/MANDIBLE
ICD-9: 524.0- .2,524.5,524.85,524.9
CPT: 21110,21200-21208,21250-54,21209,30520
Line: 618 Category: 11

Diagnosis: CONGENITAL ANOMALIES OF THE EAR WITHOUT IMPAIRMENT OF HEARING
Treatment: OTOPLASTY, REPAIR & AMPUTATION
ICD-9: 744.1-.3
CPT: 69300,69110
Line: 619 Category: 11

Diagnosis: TMJ DISORDER
Treatment: TMJ SPLINTS
ICD-9: 524.6
CPT: 90000-99999
Line: 620 Category: 13

Diagnosis: TMJ DISORDERS
Treatment: TMJ SURGERY
ICD-9: 524.6,524.5,718.08,718.18,718.28,718.38,718.58
CPT: 21499,21010,20910,21050-70,21116,21240-
21243,21480,21485,21490,21210,21215,29909,21230,21235,21254,20926,30520
Line: 621 Category: 11

Diagnosis: DISEASE OF NAILS, HAIR AND HAIR FOLLICLES
Treatment: MEDICAL THERAPY
ICD-9: 703.8- .9,704.0,704.2-.9,757.4- .5
CPT: 11900, 11700-11765,11000-11001 ,90000-99999
Line: 622 Category: 13

Diagnosis: CIRCUMSCRIBED SCLERODERMA
Treatment: MEDICAL THERAPY
ICD-9: 701.0
CPT: 90000-99999,11900-11901
Line: 623 Category: 13

PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991

Diagnosis: CAVUS DEFORMITY OF FOOT
Treatment: MEDICAL THERAPY, ORTHOTIC
ICD-9: 736.73
CPT: 90000-99999
Line: 624 Category: 13

Diagnosis: CERVICAL RIB
Treatment: SURGICAL TREATMENT
ICD-9: 756.2
CPT: 21615-16,21705
Line: 625 Category: 11

Diagnosis: ERYTHROPLAKIA, LEUKOEDEMA OF MOUTH OR TONGUE
Treatment: MEDICAL THERAPY
ICD-9: 528.7
CPT: 90000-99999
Line: 626 Category: 13

Diagnosis: CHRONIC CONJUNCTIVITIS, ELEPHAROCON JUNCTIVITIS
Treatment: MEDICAL THERAPY
ICD-9: 372.1-372.3
CPT: 90000-99999
Line: 627 Category: 13

Diagnosis: DERMATOPHYTOSIS
Treatment: MEDICAL THERAPY
ICD-9: 110-111
CPT: 90000-99999,11100
Line: 628 Category: 13

Diagnosis: KERATITIS: SUPERFICIAL U/O CONJUNCTIVITIS, CERTAIN TYPES, OTHER AND UNSPECIFIED K-CONJUNCTIVITIS, INTERSTITIAL & DEEP, CORNEAL NEOVASCULARIZATION, OTHER AND UNSPECIFIEO FORMS
Treatment: MEDICAL THERAPY
ICD-9: 370.2-370.9
CPT: 90000-99999
Line: 629 Category: 13

Diagnosis: DISORDERS OF SYNOVIUM, TENDON AND BURSA; DISORDERS OF SOFT TISSUE AND JOINTS
Treatment: MEDICAL THERAPY
ICD-9: 727.2-.3,729
CPT: 90000-99999
Line: 630 Category: 13

Diagnosis: TENDINITIS AND BURSITIS
Treatment: MEDICAL AND SURGICAL THERAPY
ICD-9: 726.33,726.71-.72
CPT: 29105,29125-29131,24105,27060-27062,29240,29260,29270,29280,29345,29355,29365,29405-50,20550,20600-10,29345,29355,29365,90000-99999
Line: 631 Category: 14

Diagnosis: BLEPHARITIS
Treatment: MEDICAL THERAPY
ICD-9: 373.0
CPT: 90000-99999
Line: 632 Category: 13

Diagnosis: XEROSIS
Treatment: MEDICAL THERAPY
ICD-9: 706.8
CPT: 90000-99999,11000-11101
Line: 633 Category: 13

Diagnosis: OBESITY
Treatment: NUTRITIONAL AND LIFE STYLE COUNSELING
ICD-9: 278
CPT: 90000-99999
Line: 634 Category: 13

PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991

Diagnosis: DISORDERS OF FUNCTION OF STOMACH AND OTHER FUNCTIONAL DIGESTIVE DISORDERS
Treatment: MEDICAL THERAPY
ICD-9: 536,564
CPT: 90000-99999
Line: 635 Category: 13

Diagnosis: LICHEN PLANUS
Treatment: MEDICAL THERAPY
ICD-9: 697
CPT: 90000-99999, 11900-11901
Line: 636 Category: 13

Diagnosis: MONONEUROPATHY
Treatment: MEDICAL THERAPY
ICD-9: 354.0,354.2-.9
CPT: 90000-99999
Line: 637 Category: 13

Diagnosis: POSTCONCUSSION SYNDROME
Treatment: MEDICAL THERAPY
ICD-9: 310.2
CPT: 90000-99999
Line: 638 Category: 13

Diagnosis: HERPES SIMPLEX WITHOUT COMPLICATIONS
Treatment: MEDICAL THERAPY
ICD-9: 054.0,054.2,054.6,054.8-.9
CPT: 90000-99999
Line: 639 Category: 13

Diagnosis: TESTICULAR AND POLYGLANDULAR DYSFUNCTION
Treatment: MEDICAL THERAPY
ICD-9: 257-258
CPT: 90000-99999
Line: 640 Category: 13

$134.61 Per Capita Cost Per Month

Diagnosis: OTOSCLEROSIS
Treatment: MEDICAL THERAPY
ICD-9: 387
CPT: 90000-99999
Line: 641 Category: 13

Diagnosis: PERIPHERAL ENTHESOPATHIES
Treatment: MEDICAL THERAPY
ICD-9: 726.30- .32,726.4-.6,726.70,726.8,726.90
CPT: 90000-99999
Line: 642 Category: 13

Diagnosis: CHRONIC BRONCHITIS
Treatment: MEDICAL THERAPY
ICD-9: 490-491,493.9
CPT: 90000-99999
Line: 643 Category: 13

Diagnosis: SARCOIDOSIS
Treatment: MEDICAL THERAPY
ICD-9: 135
CPT: 90000-99999
Line: 644 Category: 13

Diagnosis: BENIGN INTRACRANIAL HYPERTENSION
Treatment: MEDICAL THERAPY
ICD-9: 348.2
CPT: 90000-99999
Line: 645 Category: 13

Diagnosis: LYMPHEDEMA
Treatment: MEDICAL THERAPY, OTHER OPERATION ON LYMPH CHANNEL
ICD-9: 457,140-144
CPT: 90000-99999, 38300-38308,38382-38555,38700- 38761
Line: 646 Category: 13

**PRIORITIZED HEALTH SERVICES LIST OF HAY 1, 1991**

**Diagnosis: PHLEBITIS AND THROMBOPHLEBITIS, SUPERFICIAL**
**Treatment: MEDICAL THERAPY**
**ICD-9: 451**
**CPT: 90000-99999**
**Line: 647 Category: 13**

**Diagnosis: SYNOVITIS AND TENOSYNOVITIS**
**Treatment: MEDICAL THERAPY**
**ICD-9: 727.0**
**CPT: 90000-99999,20550**
**Line: 648 Category: 14**

**Diagnosis: DIAPER OR NAPKIN RASH**
**Treatment: MEDICAL THERAPY**
**ICD-9: 691.0**
**CPT: 9oooo-99999,11100**
**Line: 649 Category: 14**

**Diagnosis: ORAL APHTHAE**
**Treatment: MEDICAL THERAPY**
**[CD-9: 528.2**
**CPT: 90000-99999**
**Line: 650 Category: 14**

**Diagnosis: DERMATITIs DUE TO SUBSTANCES TAKEN INTERNALLY**
**Treatment: MEDICAL THERAPY**
**[CD-9: 693**
**CPT: 90000-99999,11100**
**Line: 651 Category: 14**

**Diagnosis: FOOD ALLERGY**
**Treatment: MEDICAL THERAPY**
**ICD-9: 692.5**
**CPT: 90000-99999**
**Line: 652 Category: 13**

**Diagnosis: SPRAINS OF JOINTS AND ADJACENT MUSCLES**
**Treatment: MEDICAL THERAPY**
ICD-9: 717.5,717.8,840.1-844.2,844.8-.9,845.00-.03,845.1,848.5
CPT: 29049-29085,29105-29131,29200-29280,29305-29580,29700-29799,90000-99999
**Line: 653 Category: 14**

**Diagnosis: SUBLINGUAL, SCROTAL, AND PELVIC VARICES**
**Treatment: VENOUS INJECTION, VASCULAR SURGERY**
**ICD-9: 456.3-.5**
CPT: 36470,37798-9,55530-35
**Line: 654 Category: 11**

**Diagnosis: SPRAIN/STRAIN OF ACHILLES TENDON**
**Treatment: MEDICAL THERAPY**
**ICD-9: 845.09**
**CPT: 90000-99999**
**Line: 655 Category: 14**

**Diagnosis: FRACTURE OF VERTEBRAL COLUMN WITHOUT SPINAL CORD INJURY, SACRUM AND COCCYX**
**Treatment: LAMINECTOMY**
**ICD-9: 805.6-805.9**
**CPT: 22845,61720-61793**
**Line: 656 Category: 14**

**Diagnosis: ACUTE URTICARIA**
**Treatment: MEDICAL THERAPY**
**ICD-9: 708,995.1**
**CPT: 90000-99999**
**Line: 657 Category: 14**

**Diagnosis: CANDIDIASIS**
**Treatment: MEDICAL THERAPY**
**[CD-9: 112.0,112.3**
CPT: 90000-99999
**Line: 658 Category: 14**

PRIORITIZED HEALTH SERVICES LIST OF HAY 1, 1991

Diagnosis: SCLERITIS & EPISCLERITIS
Treatment: MEDICAL THERAPY
ICD-9: 379.0
CPT: 90000-99999
Line: 659 Category: 14

Diagnosis: INTERNAL INFECTIONS AND OTHER BACTERIAL FOOD POISONING
Treatment: MEDICAL THERAPY
ICD-9: 003.0,003.8-.9,005.0,005.2-.9,008-009,027.1-.9
CPT: 90000-99999
Line: 660 Category: 14

Diagnosis: OPEN WOUND OF INTERNAL STRUCTURES OF MOUTH U/O COMPLICATION
Treatment: REPAIR SOFT TISSUES
ICD-9: 873.6
CPT: 13300,41251,41282,12001-57,13131,13132,13151-2,40831
Line: 661 Category: 14

Diagnosis: VIRAL, SELF-LIMITING ENCEPHALITIS, MYELITIS AND ENCEPHALOMYELITIS
Treatment: MEDICAL THERAPY
ICD-9: 056.0,323
CPT: 90000-99999
Line: 662 Category: 14

Diagnosis: ACUTE TONSILLITIS
Treatment: MEDICAL THERAPY
ICD-9: 463
CPT: 90000-99999
Line: 663 Category: 14

Diagnosis: ERYTHEMA MULTIFORME
Treatment: MEDICAL THERAPY
ICD-9: 695.1
CPT: 90000-99999,11100-11101
Line: 664 Category: 14

Diagnosis: CENTRAL SEROUS RETINOPATHY
Treatment: LASER SURGERY
ICD-9: 362.41
CPT: 67210
Line: 665 Category: 14

Diagnosis: VULVAL VARICES
Treatment: VASCULAR SURGERY
ICD-9: 456.6
CPT: 37799
Line: 666 Category: 14

Diagnosis: ASEPTIC MENINGITIS
Treatment: MEDICAL THERAPY
ICD-9: 047-049
CPT: 90000-99999
Line: 667 Category: 14

Diagnosis: INFECTIOUS MONONUCLEOSIS
Treatment: MEDICAL THERAPY
ICD-9: 075
CPT: 90000-99999
Line: 668 Category: 14

Diagnosis: OTHER NONFATAL VIRAL INFECTIONS
Treatment: MEDICAL THERAPY
ICD-9: 051-053,055,056.9,057,072,074,078.0,078.2-.8,,079,480,487.2-.9
CPT: 90000-99999
Line: 669 Category: 14

Diagnosis: ACUTE PHARYNGITIS AND LARYNGITIS AND OTHER DISEASES OF VOCAL CORDS
Treatment: MEDICAL THERAPY
ICD-9: 462,478.5
CPT: 90000-99999
Line: 670 Category: 14

**PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991**

**Diagnosis:** PREVENTIVE SERVICES FOR ADULTS WITH QUESTIONABLE OR NO PROVEN EFFECTIVENESS
**Treatment:** MEDICAL THERAPY
ICD-9: 0
CPT: 90000-99999
Line: 671 Category: 16

**Diagnosis:** OLD LACERATION OF CERVIX AND VAGINA
**Treatment:** MEDICAL THERAPY
ICD-9: 622.38624.4
CPT: 90000-99999
Line: 672 Category: 17

**Diagnosis:** BENIGN NEOPLASMS OF SKIN
**Treatment:** MEDICAL THERAPY
ICD-9: 210,214,216,221 ,222.1,222.4
CPT: 10000-61,10120-61,11000,11050-446,11600-46,12031-2,13100-51,14001,17000-306,19120,20000-5,20550,21030,21044,21499,21501,23030,23040,23930-1,25028-31,26010-30,26989-91,27301,27603-4,28001,31540,40800-12,41116,41800,41826,41899,42415,42440,42808,90000-99999
Line: 673 Category: 17

**Diagnosis:** REDUNDANT PREPUCE AND PHIMOSIS
**Treatment:** MEDICAL THERAPY, DILATION
ICD-9: 605
CPT: 54150-61,90000-99999
Line: 674 Category: 17

**Diagnosis:** VITILIGO, CONGENITAL PIGMENTARY ANOMALIES OF SKIN
**Treatment:** MEDICAL THERAPY
ICD-9: 709.0,757.3,757.9
CPT: 90000-99999
Line: 675 Category: 17

**Diagnosis:** DENTAL SERVICES (MARGINAL IMPROVEMENT)
**Treatment:** RESTORtATIVE DENTAL SERVICE
ICD-9: o
CPT: 01204-5,09910,09940,09952,07291,07272,06940,04261-72,03910-20
Line: 676 Category: 17

**Diagnosis:** SEBORRHEIC KERATOSIS, DYSCHROMIA, AND VASCULAR DISORDERS, SCAR CONDITIONS, AND FIBROSIS OF SKIN
**Treatment:** MEDICAL THERAPY
ICD-9: 702,709.1-.3,709.8-.9
CPT: 11000, 11050,17000,90000-99999
Line: 677 Category: 17

**Diagnosis:** VIRAL WARTS
**Treatment:** MEDICAL THERAPY, CRYOSURGERY
ICD-9: 078.1
CPT: 90000-99999,17100,17110,17340,17000,11900,28043,46900-46924,54050-54065,56486,11050,11100-11101,11901
Line: 678 Category: 17

**Diagnosis:** UPPER EXTREMITY: FINGERTIP EVULSION W/O PEDICLE GRAFT
**Treatment:** REPAIR
ICD-9: 883.1,883.2
CPT: 12401
Line: 679 Category: 17

**Diagnosis:** AGENESIS OF LUNG
**Treatment:** MEDICAL THERAPY
ICD-9: 748.5
CPT: 9oooo-99999
Line: 680 Category: 17

**Diagnosis:** GALLSTONES WITHOUT CHOLECYSTITIS
**Treatment:** MEDICAL THERAPY, CHOLECYSTECTOMY
ICD-9: 574.2,575.6
CPT: 90000-99999,47490,47600-20,49000
Line: 681 Category: 17

PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991

Diagnosis: SIMPLE AND UNSPECIFIED GOITER, NONTOXIC NODULAR GoITER
Treatment: MEDICAL THERAPY
ICD-9: 260-241
CPT: 90000-99999
Line: 682 Category: 17

Diagnosis: SICCA SYNDROME
Treatment: MEDICAL THERAPY
ICD-9: 710.2
CPT: 90000-99999
Line: 683 Category: 17

Diagnosis: TRAUMATIC BRAIN INJURY, STATIC DEMENTIA, BRAIN ANOXIA DUE TO INFECTION OR TRAUMA
Treatment: MEDICAL THERAPY
CD-9: 295.9,299.0,319,348.1,348.3-.4,851.0,850.2-.5,854.0,905.0
CPT: 61107,90000-99999
Line: 684 Category: 17

Diagnosis: ICHTHYOSIS
Treatment: MEDICAL THERAPY
ICD-9: 757.1
CPT: 90000-99999
Line: 685 Category: 17

Diagnosis: PROGRESSIVE DEMENTIA, ORGANIC BRAIN SYNDROME
Treatment: MEDICAL THERAPY
ICD-9: 046. 1,090.40,094.1,290,294. 1,310,331
CPT: 90000-99999
Line: 686 Category: 1 7

Diagnosis: INTRAVENTRICULAR AND SUBARACHNOID HEMORRHAGE OF FETUS OR NEONATE
Treatment: MEDICAL THERAPY
ICO-9: 772.1-.2
CPT: 90000-99999
Line: 687 Category: 2

Diagnosis: CANCER OF VARIOUS SITES WITH DISTANT METASTASIS WHERE TREATMENT WILL NOT RESULT IN A 10% 5 YEAR SURVIVAL
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 140-198
:PT: 11600-46,38720-24,41110-14,41130,42120,42842-45,42880,47610,44131,47420-40,58951,61500,61510,61518-21,
61546-68,90000-99999
Line: 688 Category: 17

Diagnosis: SENSORINEURAL HEARING LOSS
Treatment: COCHLEAR IMPLANT
ICD-9: 389.1
CPT: 69930
Line: 689 Category: 11

Diagnosis: ALCOHOLIC CIRRHOSIS OF LIVER
Treatment: LIVER TRANSPLANT
ICD-9: 571.2
CPT: 47135
Line: 690 Category: 5

Diagnosis: NON-HODGKIN'S LYMPHOMAS
Treatment: BONE MARROW TRANSPLANT (5-6 LOCI MATCH)
ICD-9: 200,202.0- .2,202.8-.9
CPT: 38230-41
Line: 691 Category: 5

Diagnosis: OBESITY
Treatment: GASTROPLASTY
ICD-9: 278
CPT: 43845
Line: 692 Category: 11

Diagnosis: CONGENITAL CYSTIC LUNG - SEVERE
Treatment: LUNG RESECTION
[CD-9: 748.4
CPT: 32500
Line: 693 Category: 17

PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991

Diagnosis: BENIGN POLYPS OF VOCAL CORDS
Treatment: MEDICAL THERAPY
ICD-9: 478.4
CPT: 90000-99999
Line: 694 Category: 10

Diagnosis: ACUTE UPPER RESPIRATORY INFECTIONS AND COMMON COLD
Treatment: MEDICAL THERAPY
ICD-9: 460,465
CPT: 90000-99999
Line: 695 Category: 14

— $142.44 Per Capita Cost Per Month —

Diagnosis: TUBAL DYSFUNCTION AND OTHER CASES OF INFERTILITY
Treatment: IN-VITRO FERTILIZATION, GIFT
ICD-9: 256
CPT: 58970-76
Line: 696 Category: 15

Diagnosis: DENTAL SERVICES (EG. OBSOLETE TREATMENTS FOR VARIOUS CONDITIONS)
Treatment: RESTORATIVE DENTAL SERVICE
ICD-9: O
CPT: 01310,01380-7,02410-30,02510-630,02710-810,02950,02952-4,02961-2,03460,03960,05215-B1,05862,05976,06210,06240,06250-2,06545,06720-51,06790-1,06950,08110-999,09950
Line: 697 Category: 17

Diagnosis: UNCOMPLICATED HEMORRHOIDS
Treatment: HEMORRHOIDECTOMY
ICD-9: 455.0,455.3,455 .6,455.9
CPT: 10140,45336,46083,46220-62,46320,46500,46934-36
Line: 698 Category: 17

Diagnosis: MINOR HEAD INJURY: HEMATOMA/EDEMA W/ NO/BRIEF LOSS OF CONSCIOUSNESS
Treatment: MEDICAL THERAPY
ICD-9: 851.02,851.12,851.82,851 .92,851 .42,851.52,850.9
CPT: 90000-99999
Line: 699 Category: 17

Diagnosis: GYNECOMASTIA
Treatment: MASTOPEXY
ICD-9: 611.1
CPT: 19316
Line: 700 Category: 17

Diagnosis: CYST OF KIDNEY, ACQUIRED
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-9: 593.2
CPT: 50010,50390,90000-99999
Line: 701 Category: 17

Diagnosis: END STAGE HIV DISEASE
Treatment: MEDICAL THERAPY
ICD-9: 042-043
CPT: 90000-99999
Line: 702 Category: 17

Diagnosis: CHRONIC PANCREATITIS
Treatment: SURGICAL TREATMENT
ICD-9: 577.1
CPT: 48000,48999,49000
Line: 703 Category: 17

Diagnosis: SUPERFICIAL WOUNDS WITHOUT INFECTION AND CONTUSIONS
Treatment: MEDICAL THERAPY
ICD-9: 910.0,.2,.4,.6,.8,911.0,.2,.4,.6,.8,912.0,.2,.4,.6,.8,913.0,.2,.4,.6,.8,914.0,.2,.4,.6,.8,915.0,.2,.4,.6, .8,916.0, .2,.4,.6, .8,917.0, .2,.4,.6,.8,919. 0,.2,.4,.6,.8,920-924
CPT: 10140,11740,12001-14,90000-99999
Line: 704 Category: 17

PRIORITIZED HEALTH SERVICES LIST OF MAY 1, 1991

Diagnosis: CONSTITUTIONAL APLASTIC ANEMIA
Treatment: MEDICAL THERAPY
ICD-9: 284.0
CPT: 90000-99999
Line: 705 Category: 17

Diagnosis: PROLAPSED URETHRAL MUCOSA
Treatment: SURGICAL TREATMENT
ICD-9: 599.5
CPT: 51840-41
Line: 706 Category: 11

Diagnosis: CENTRAL RETINAL ARTERY OCCLUSION
Treatment: PARACENTESIS OF AQUEOUS
ICD-9: 362.31
CPT: 67015,67505
Line: 707 Category: 17

Diagnosis: EXTREMELY LOU BIRTH WEIGHT (UNDER 500 GM) AND UNDER 23 WEEK GESTATION
Treatment: LIFE SUPPORT
ICD-9: 765.0,765.11
CPT: 0
Line: 708 Category: 17

Diagnosis: ANENCEPHALOUS AND SIMILAR ANOMALIES AND REDUCTION DEFORMITIES OF THE BRAIN
Treatment: LIFE SUPPORT
ICD-9: 740,742.2
CPT: 0
Line: 709 Category: 17

— $145.15 Per Capita Cost Per Month —

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## Appendix E

# Glossary of Terms

Access: Potential and actual entry of a population into the health care delivery system.

Acute: In medical care, used to describe a condition that has a sudden onset, sharp rise, and short course (compare with chronic).

Adverse event (outcome): Any disease or injury. Usually used in the context of an injury that arises during the course of medical treatment, e.g., a premature death or unnecessary morbidity.

Age-adjusted mortality rate: The death or mortality rate adjusted for the age distribution of the population under study. Age adjustment allows a direct comparison of the overall mortality experience of two or more populations, or examination of mortality over time in a single population, by using a single statistic. Age adjustment is necessary because populations differ in their proportions of people in different age categories, and different age groups have different mortality rates; for example, death rates for 25 to 34 year olds are much lower than for 55-64 year olds. Comparing populations without adjusting for the different age distributions of persons within each population could lead to erroneous conclusions about the relative health of the populations being compared.

Aid to Families with Dependent Children (AFDC): A program, established by the Social Security Act of 1935, providing cash payments to needy children (and their caretakers) who lack support because at least one parent is dead, disabled, continually absent from the home, or unemployed. Eligible families must meet income and resource criteria specified by the State.

Alcoholic cirrhosis of the liver: A liver condition caused by continued alcoholic intake over time, which destroys liver cells and stimulates the formation of collagen nodules that impede the liver's functioning by causing it to shrink and harden. Alcoholic cirrhosis can be fatal.

Allowable costs or charges: Costs or charges that are within the limits recognized as reimbursable under a particular insurance program (e.g., Medicare).
Ambulatory care: See *outpatient care.*

Amyotrophic lateral sclerosis (ALS): A degenerative disease of the spinal motor neurons that control skeletal muscles, resulting in gradual paralysis and ultimately, death. The cause of the disorder, which most frequently attacks men in their 40s, is unknown. Also known as Lou Gehrig's Disease.

Ancillary services or technology: In this report, medical technology or services used directly to support basic clinical services, including diagnostic radiology, radiation therapy, clinical laboratory, physical therapy, and other special services.

Anencephaly: A neural tube defect characterized by a failure of the brain to develop.

Asthma: Constriction of the bronchial tubes, producing wheezing and difficulty breathing, in response to irritation, allergy, or other stimuli.

Beneficiary: An individual receiving benefits (e.g., Medicaid). In this report, someone who is enrolled and participating in the Medicaid program. See *enrollee.*

Benefit package: The package of health care services covered by a particular insurer.

Billed charges: The physician's (or supplier's) actual (billed) charge for a service. Compare with *customary, prevailing, and reasonable charges.*

Bronchitis: Inflammation of the bronchial tubes of the lungs.

Capitated payment: Periodic (e.g., monthly) payment to a health care provider to cover all costs of providing all or selected types of health care services to a single individual (i.e., per capita). The provider assumes financial risk for patients whose actual costs exceed the average.

Capitated services: Health care services covered under a capitated payment (see *capitated payment).*

Cavitation rate: See *capitated payment.*

**Case-managed fee-for-service system: A** system of health care delivery where each patient is enrolled with a primary care provider who preauthorizes all the patient's health care and where all authorized health services are paid for on a fee-for-service basis.

Case **management: As** used in this report, a system wherein a single "gatekeeper" (the case manager) provider monitors, coordinates, or preauthorizes all or selected health care services for an enrolled patient.

Catastrophic cost: High cost related to treatment of severe or lengthy illness or disability.

Categorically eligible Medicaid beneficiary: An individual qualifying for Medicaid under the federally mandated coverage groups which include: *Aid to Families with Dependent Children (AFDC)* participants; unemployed parent families; *poverty level medical (PLM)* women and children; foster care children; and, certain aged, blind, and disabled individuals.

Charity care: Care provided free of charge to individuals who the provider knows are unable to pay for services rendered (compare with *uncompensated care).*

Chronic: Persistent or long-lasting (compare with ***acute).***

Coinsurance: That percentage of covered medical expenses, after subtraction of any deductible, for which an insured person *is* responsible. Under Medicare Part B, after the annual deductible has been met, Medicare will generally pay 80 percent of approved charges for covered services and supplies; the remaining 20 percent is the coinsurance, for which the beneficiary is liable. Also see *copayment* and *deductible.*

**Comorbidity:** Coexisting health problems that tend to worsen the patient's overall clinical condition.

**Community health center (CHC): An** organization that provides primary health care and other health-related services to individuals in the local community. As of 1989, there were about 1,200 community health centers providing services at more than 2,000 sites throughout the country. Roughly half of these centers were receiving Federal grants under section 330 of the Public Health Services Act, which authorizes grants to public and private nonprofit organizations that provide primary health care to populations or areas that are "medically underserved." (See also *federally qualified health center.)*

**Community hospital:** A hospital-public or private—whose services are available to the general public. Excludes military and veterans hospitals.

**Condition-treatment (CT) pair: The** basic unit of the prioritized list compiled by the Oregon Health Services Commission, which couples medical condition codes from the ***International Classification of Diseases (ICD-9) with*** corresponding treatment/therapy codes from the *Physicians' Current Procedural Terminology, 4th Edition (CPT-4). An* example of a (CT pair is the condition appendicitis, with the treatment appendectomy.

**Control group: In** a randomized clinical trial or other experiment, the group with which the group receiving experimental treatment is compared. The control group generally receives either a standard treatment, a placebo, or no treatment. The control group can be established by random assignment of subjects, or by nonrandomized distribution, Nonrandom methods include **historical controls, in** which individuals treated with a ''control treatment" outside the study proper, at some time previous to the trial, are compared with the experimentally treated individuals; and matched controls, in which individuals in the control group are selected for their similarity to members of the experimental group. In the case of evaluating the Oregon Medicaid population, for example, individuals in the program could be matched and compared to another State's Medicaid population.

Copayment: In insurance, a form of cost sharing whereby the insured pays a specific amount at the point of service or use (e.g., $10 per visit). See also *coinsurance* and *deductible.*

Coronary artery bypass graft (CABG) surgery: A surgical procedure in which a blood vessel from elsewhere in the body is used to bypass a constricted portion of one or more arteries feeding the heart muscle. This procedure has become the primary surgical approach to the treatment of coronary artery disease.

Coronary artery disease: Narrowing or blockage of the coronary arteries, which usually results in reduced blood flow to the heart muscle.

Coronary heart disease: See *coronary artery disease.*

Cost-based reimbursement: Reimbursement based on the actual or reported costs of a provider for delivering a health care service or services.

**Cost-benefit analysis** (CBA): An analytical technique that compares the costs of a project or technological application to the resultant benefits, with both costs and benefits expressed by the same measure. This measure is nearly always monetary.

Cost-effectiveness analysis (CEA): An analytical technique that compares the costs of alternative projects to the resultant benefits, with costs and benefits/effectiveness expressed by different measures. Costs are usually expressed in dollars, but benefits/effectiveness are ordinarily expressed in terms such as "lives saved, " ''disability avoided," "quality-adjusted life years saved, ' or some other relevant objective,

Coverage (Medicaid): In the Medicaid program, 'coverage' refers to the benefits available to eligible beneficiaries. It differs from payment, which refers to the amount and methods of payment for covered services. See also *benefit package.*

Covered services: See *coverage.*

Current Procedural Terminology, **4th** Revision (CPT-4) Coding: A taxonomy of procedures performed by physicians that is used for recording and billing for services rendered. In this taxonomy, each procedure is assigned a unique numerical code.

Customary, prevailing, and reasonable (CPR) **method: The** method used by some insurers (including Medicare) to determine the allowed charge for certain services of physicians or suppliers based on the actual charge for the service, previous charges for the service by the physician or supplier in question, and previous charges by peer physicians or suppliers in the same locality. Customary charge: In the absence of unusual medical circumstances, the maximum amount that the insurer will approve for payment for a particular service provided by a particular physician practice. The insurer computes the customary charge on the basis of the actual amount that a physician practice or supplier generally charges for a specific service. Prevailing

charge: In the absence of unusual medical circumstances, the maximum amount an insurer will approve for payment for a particular service provided by any physician practice within a particular peer group and locality. Generally, this amount is equal to the lowest charge in an array of customary charges that is high enough to include 75 percent of all the relevant customary charges. Approved or reasonable charge: An individual charge determination made by an insurer on a covered medical service or supply. In the absence of unusual medical circumstances, it is the lowest of: 1) the physician's or suppliers's customary charge for that service; 2) the prevailing charge for similar services in the locality; 3) the actual charge made by the physician or supplier and 4) for Medicare, the carrier's private business charge for a comparable service. Also called the *allowed charge.*

Deductible: In insurance, an aspect of cost sharing in which the insured incurs an initial expense of a specified amount within a given time period (e.g., $250 per year) before the insurer assumes liability for any additional costs of covered services.

Delphi technique: A technique used to obtain the most reliable consensus of opinion from a group of experts. Consensus is achieved after an iterative process where group members offer written individual opinions, discuss group opinion, and then revise individual opinions.

Demonstration (Medicaid): An experiment designed to test alternative health care financing, delivery, and/or coverage mechanisms within the context of a State Medicaid program. States must apply to the Federal Government for special waiver permission if any aspect of the proposed demonstration does not fall within what is allowed under Federal Medicaid law. The demonstration can be population-based (e.g., apply only to certain eligibility categories), geography-based, or statewide.

Dental care organization: In Oregon, an organization that provides dental services on a prepaid, capitated basis.

Diagnosis-related groups (DRGs): Groupings of diagnostic categories drawn from the International Classification of Diseases and modified by the presence of a surgical procedure, patient age, presence or absence of significant comorbidities or complications, and other relevant criteria. DRGs are the case-mix measure mandated for Medicare's prospective hospital payment system by the Social Security Amendments of 1983 (Public Law 98-21). They are also the basis for Oregon's current inpatient hospital payment under Medicaid.

Disability: A term used to denote the presence of one or more functional limitations. A person with a disability has a limited ability or an inability to perform one or more basic life functions (e.g., walking) at a level considered "typical."

Disproportionate-share hospital: A hospital that serves a relatively high number of low-income patients. Disproportionate-share hospitals are eligible for special payment bonuses under Medicare and Medicaid. For Medicare, the increased reimbursement takes the form of a percentage adjustment in payment rates under Prospective Payment System (PPS). Under Medicaid, each State must establish its own methodology for adjusting Medicaid reimbursement to disproportionate-share hospitals.

Doctor of Osteopathy (DO): A physician trained in a system of therapy that utilizes generally accepted physical, medicinal, and surgical methods of diagnosis and therapy, while placing chief emphasis on the importance of normal body mechanics and manipulative methods of detecting and correcting illness and injury. (DOS make up approximately 5 percent of the total physician population in the United States. In general, State licensing boards recognize the DO degree as equivalent to the MD (allopathic) degree.

Early and Periodic Screening, Diagnosis, and Treatment Program (EPSDT): A **State** and federally funded program, administered by the State under the Medicaid program, that is intended to provide screening exams and followup services for illnesses, abnormalities, and treatable conditions to Medicaid-eligible children under age 21, The EPSDT benefit was enacted in 1967,

Effectiveness: Same as *efficacy (see* below) except that it refers to average conditions of use.

Efficacy: The probability of benefit to individuals in a defined population from a medical technology applied for a given medical problem under ideal conditions of use.

Elective procedure: A surgical procedure that may be important to an individual's health but is neither an emergency nor life threatening.

Eligibility: The quality of meeting specific requirements to qualify for a particular program (e.g., Medicaid) or benefit. Eligible: An individual who qualifies for a program (e.g., Medicaid) or benefit whether or not he or she actually takes advantage of that qualification and participates in the program (see *enrollee).*

Encounter data: Data describing the content of care and other characteristics of discrete outpatient health care visits. Encounter data usually include provider identification, patient demographics, diagnoses, procedures performed, charges, and date and setting of service.

Enrollee: An individual who qualifies for (Medicaid) benefits and is "enrolled" in the (Medicaid) program, receiving benefits when needed.

External validity: A measure of the extent to which study results can be generalized to the population that is represented by individuals in the study, assuming that the characteristics of that population are accurately specified.

Federal poverty level (FPL): The official U.S. Government definition of poverty based on cash income levels for families of different sizes. In 1992, the FPL for a family of three in the continental United States was $11,570. (The FPL is slightly higher in Alaska and Hawaii.) Responsibility for changing poverty concepts and definitions rests with the Office of Management and Budget.

Federally qualified health center (FQHC): A community health center, migrant health center, or health center for the homeless that provides primary care services for uninsured and Medicaid patients. These clinics are funded under sections 329, 330, and/or 340 of the Public Health Services Act.

**Fee-for-service payment:** A method of paying for medical services in which each service performed by an individual provider bears a related charge. This charge (or some related fee) is paid by the individual patient receiving the service or by an insurer on behalf of the patient.

Fee schedule: A **list of covered health care services in which each entry is associated with a specific monetary amount that represents the approved payment level for that service under a given insurance plan.**

Fixed costs: The **portion of total costs of a program incurred even when output is negligible-e. g., costs associated with overhead, facilities, and overhead salaries (compare with *variable costs).***

Freestanding facilities: Facilities **that are not physically, administratively, or financially connected to a hospital,** such as a freestanding ambulatory surgery center.

Fully capitated health plan (FCHP): Under the Oregon Medicaid program, FCHPs are prepaid on a per capita basis for all inpatient, outpatient, and ancillary services provided to enrollees, with certain exceptions (e.g., dental and psychiatric care). The FCHP provides these services either directly or through subcontractors. (See *capitated payment).*

**General assistance** ((; A): An Oregon State program of limited health care benefits provided (without Federal funding) to medically unemployable adults who would not be disabled long enough to qualify for Social Security benefits.

Health maintenance organization (HMO): A health care organization that, in return for prospective per capita (cavitation) payments, acts as both insurer and provider of comprehensive but specified medical services. A defined set of physicians provide services to a voluntarily enrolled population. Prepaid group practices and individual practice associations are types of HMOs. A Federally qualified HMO is one that has been determined by the Department of Health and *Human Services to meet the* standards set forth in Title XIII of the Public Health Service Act, in such areas as financial and administrative stability, quality, scope of services covered, and rate-setting practices.

Health Services Commission (HSC): An 1 l-member committee authorized in the Oregon Basic Health Services Act (Oregon Senate Bill 27) and appointed by the Governor to formulate a list of health services ranked in order of priority.

Historical controls: See *control group.*

Human immunodeficiency virus (HIV): The virus that causes acquired immunodeficiency syndrome (AIDS).

Impetigo herpetiformis: A rare, redness and inflammation of the pustules of the skin that affects pregnant women and results in fetal death, stillbirth, placental insufficiency, and perinatal death. Steroid treatments and antipsoriatic agents are ineffective and termination of the pregnancy is the only cure.

Independent practice association (IPA): See *health maintenance organization **(HMO).***

**infant mortality rate:** Number of deaths among children less than 1 year old as a fraction of the total number of live births in a year.

Inpatient care: Care that includes an overnight stay in a medical facility. Internal validity: A measure of the extent to which study results reflect the true relationship of a ''risk factor' (e.g., treatment or technology) to the outcome of interest in study subjects.

International Classification of Diseases, **9th** Revision, Clinical Modification (ICD-9-CM) Coding: A two-part system of coding patient medical information used in abstracting systems and for classifying patients into diagnosis-related groups for Medicare. The first part is a comprehensive list of diseases with corresponding codes compatible with the World Health Organization's list of disease codes, The second part contains procedure codes, which are independent of the disease codes. (Oregon did not use the ICD-9-CM procedure codes in its prioritized list.)

Joint and several liability: The ability of a plaintiff to sue one or more parties for a tort and the right of a plaintiff to collect the entire compensation from a single entity.

Length of stay (LOS): The number of days a patient remains in the hospital from admission to discharge.

Managed **health care: Care** provided to enrollees in *case-managed fee-for service plans, health maintenance organizations (HMOs)* and *preferred provider organizations (PPOs).* Patients in managed

health care plans do not have open access to physicians or hospitals and usually must obtain prior approval from a "gatekeeper" primary care provider from the health plan administration before admission to a hospital. HMOs and PPOs may also require that the health provider's treatment plan be reviewed to ensure that all services are necessary. Patients who do not follow the HMO or PPO guidelines may face larger out-of-pocket costs or be denied payment altogether. Some managed health care plans contain "individual benefits management' programs that allow payment for otherwise uncovered benefits (e.g., home- and community-based services) in order to avoid the utilization of more costly covered services.

Mandatory benefits (Medicaid): The core package of Medicaid services that by Federal law (Title XIX of the Social Security Act) must be covered by State Medicaid programs. Includes basic hospital, ambulatory, long-term care, and ancillary services, (Compare with *optional benefits (Medicaid)).*

Mandatory group (Medicaid): Refers to Medicaid eligibility groups that must be covered by a State Medicaid program according to Federal law. Includes *Aid to Families with Dependent Children (AFDC)* participants, unemployed parent families, certain pregnant women and young children, foster care children, and some aged, blind, and disabled individuals.

Matched control group: See *control group.*

Medicaid: A federally aided, State-administered program that provides medical assistance for low-income people meeting specific income and family structure requirements.

Medical technology: The drugs, devices, and medical and surgical procedures used in medical care, and the organizational and support systems within which such care is provided.

Medically needy Medicaid recipients: People who receive Medicaid under State "medically needy" programs. States have the option to offer Medicaid to medically needy people who would be categorically eligible for Medicaid but whose income and resources lie above the standards for AFDC. Each State sets its own medically needy resource and income standards up to 133 percent of State AFDC income standards.

Medicare: A nationwide, federally administered health insurance program authorized in 1965 to cover the cost of hospitalization, medical care, and some related services for eligible persons over age 65, persons receiving Social Security Disability Insurance payments for at least 2 years, and persons with end-stage renal disease. Medicare consists of two separate but coordinated programs----hospital insurance (Part A) and supplementary medical insurance (Part B). Health insurance protection is available to insured persons without regard to income.

Migrant health center (MHC): A center that receives Federal funds to provide primary health care to migrant and seasonal farmworkers and their families under section 329 of the Public Health Services Act. See *federally qualified health center.*

Morbidity: Sickness or disease; any unhealthful condition.

Mortality rate: The death rate, often made explicit for a particular characteristic; e.g., age, sex, or specific cause of death. A mortality rate contains three essential elements: 1) the number of people in a population group exposed to the risk of death (the denominator); 2) a time factor; and 3) the number of deaths occurring in the exposed population during a certain time period (the numerator).

Myasthenia gravis: An autoimmune disorder in which the body reacts against a normal substance that communicates between nerve and muscle cells, resulting in muscle weakness and fatigue.

Negotiated rate: A payment rate whose final amount is the result of a negotiation between the payer and the health care provider (with negotiations taking place before the service is provided).

Neonatal: Pertaining to the first 4 weeks after birth.

Net benefit: In this report, a number associated with a given CT pair that reflects both clinicians' estimates of treatment effects and consumers' perception of the desirability of experiencing those effects. The Oregon Health Services Commission used net benefit information in its ranking process for the prioritized list.

New eligible: In this report, refers to individuals who do not qualify for Medicaid under current rules but would be eligible under the proposal set out in the Oregon waiver application.

Noncapitated services: Services not covered under a per capita payment system. Generally, providers are reimbursed on a fee-for-service basis for covered noncapitated services. See *fee-for-service payment* and *capitated payment.*

Noncategorical eligibles: Individuals that qualify for Medicaid, but do not fit into one of the "categorically needy" groups. (See *categorically eligible Medicaid beneficiary.) They* include children aged 9 to 21 of 2-parent families whose income meet income eligibility standards, and 'medically needy' individuals who ''spend down. '

Non-Hodgkin's lymphoma: A cancerous disorder of the lymphoid tissue; also known as lymphocytic lymphoma. Treatment varies according to the grade of the condition but usually includes bone marrow transplantation and/or chemotherapy.

occupancy rate: The average percentage of a hospital's beds occupied at any one time, determined by

dividing available bed days by patient days.

Operating margin: A measure of the financial health and profitability of a hospital, defined as: (total operating revenue minus operating expenses) divided by total operating revenue. A positive operating margin implies a surplus; a negative operating margin implies a loss.

Optional benefits (Medicaid): Benefits that States are allowed, but not required, to provide to Medicaid recipients. States may receive Federal finding for up to *32* optional services under the Medicaid program, Among the most common are prescription drugs and dental services. Compare with mandatory *benefits (Medicaid).*

optional eligibility group (Medicaid): States may receive Federal funding to provide Medicaid benefits to several optional eligibility groups, including pregnant women and infants under age 1 with incomes between 100 and 133 percent of the Federal poverty level, AFDC children between 18 and 21 years old, and children ages 9 to 21 of two-parent families whose incomes meet Medicaid income eligibility standards, but who are categorically ineligible. Outcome measure: Any measure of an intermediate or final outcome experienced by a patient with a given condition. Mortality (deaths within a given time period) is a common outcome measure. Various measures of morbidity (e.g., the ability to walk without assistance) can also be outcome measures.

outpatient care: Care provided in a health care facility that does not include an overnight stay.

Palliative treatment: Treatment designed to provide relief from a disease or condition (e.g., to provide comfort or reduce pain), but not to cure the disease or condition.

Partially capitated health plan: Under the Oregon Medicaid program, partially capitated health plans are prepaid on a per capita basis for certain types of health services (e.g., physician services, laboratory, and X-ray services), which they deliver to enrolled patients either directly or through subcontractors. In addition, partially capitated health plans often coordinate and/or preauthorize noncapitated services (e. g., inpatient care, chiropractic services) for their enrolled patients. See also *physician care organization.* Compare with fully ***capitated health plan.***

Participation (Medicaid): Acceptance of Medicaid patients by a health care practitioner.

Participation rate: The proportion of all active health care practitioners in a given area who accept Medicaid patients in their practice.

Patient dumping: Transferring a patient to another hospital for economic reasons alone (e.g., because the patient has no health insurance).

Per-case payment: A type of hospital payment system in which the hospital is paid a specific amount for each case treated, regardless of the number and types of services or number of days of care provided. Medicare's DRG payment system for inpatient services is a per-case payment system. See also *prospective payment.*

Percent-of-cost limit: A payment *method* wherein a payer reimburses a provider based on a percentage (e.g., 80 percent) of the provider's actual costs for providing a service. Oregon pays most hospitals for outpatient services on a percent-of-cost basis, where costs are determined based on the hospital's Medicare cost reports.

Physician care organization (PC O): A group of primary care physicians prepaid to provide a basic package of services that include: physician services, laboratory, radiology, and EPSDT services. PCOs are also required to act as "gatekeepers" to preapprove all nonemergency inpatient and outpatient hospital services.

Physician Payment Review Commission (PPRC): A commission, established by the Comprehensive Omnibus Budget Reconciliation Act of 1985 (Public Law 99-272), that makes recommendations to Congress on various issues relating to physician payment under Medicare and Medicaid.

Poor: A term defined in relation to the *Federal poverty level* (FPL), a cash income level which varies with family size and the age of family members. Poor families are families with incomes below 100 percent of the Federal poverty level. In 1992 the Federal poverty level for a family of three in the continental United States was $11,570.

Poverty level medical (PLM): A term used by the Oregon Medicaid program to describe pregnant women and children under 6 years old whose family income is less than 133 percent of the *Federal poverty level* (FPL) and all children up to age 19 born after September 30, 1983, whose income is less than 100 percent of the FPL. This group was mandated Medicaid coverage under the Omnibus Budget Reconciliation Act of 1990 (Public Law 101-239).

Preexisting condition: As defined by insurers, a health care condition existing before an insurance policy goes into effect and that would cause an ordinarily prudent person to seek diagnosis, care, or treatment.

Preferred provider organization (PPO): A health care delivery arrangement in which an agreement is made between providers and purchasers of medical care that patients who use the ''preferred providers' will obtain additional benefits, such as reduced cost sharing. In return for the potential increase in volume of patients, the preferred providers may

agree to discount their charges or to submit to enhanced utilization review.

Prenatal care: Medical services related to fetal, infant, and maternal health, delivered from time of conception to labor.

Prepaid health plan: An organized group (e.g., a *health maintainance organization* or group of physicians) that is prepaid on a periodic basis, an amount to cover some or all services provided to its enrollees (see *capitated payment).*

Preventive medical services: Clinical services provided to patients to reduce or prevent disease, injury, or disability.

Primary care: A basic level of health care, usually provided in an outpatient setting, that emphasizes a patient's general health needs (e.g., preventive services, treatment of minor illnesses and injuries, identification of problems that require referral to specialists).

Primary care specialty: One of the medical specialties of family practice, general practice, general pediatrics, general internal medicine, and obstetrics and gynecology.

Primary condition: See *primary diagnosis.*

Primary diagnosis: The chief diagnosis for which a patient is treated during a given episode of care (e.g., a hospitalization). Prospective payment: Payment for medical care on the basis of rates set in advance of the time period in which they apply. The service provider is at least partially at risk for losses and stands to gain from surpluses that accrue in the payment period. The unit of payment may vary from individual medical services to broader categories, such as hospital case, episode of illness, or person (cavitation). See also *cavitation financing method.* Compare ***retrospective cost-based reimbursement.***

Prospective Payment Assessment Commission (ProPAC): A commission, established by the same law that created the Medicare DRG-based prospective payment system for hospitals (Public Law 98-21), that advises Congress on various issues relating to how Medicare pays hospitals and other health care institutions.

p value: In epidemiologic studies, the probability of concluding that a statistical association exists between, for instance, a risk factor and a health endpoint, when, in fact, there is no real association. In other words, the likelihood that an observed association in a study is due to the play of chance. Also called "Type I error,' "alpha,' or the "level of significance. "

Reasonable charge: See *customary, prevailing, and reasonable (CPR) method* and *usual, customary and reasonable charges.*

Recipient (Medicaid): See *beneficiary.*

Referral services: Health care services obtained from a provider to whom the patient was referred by his or her physician. Includes physician specialist care and various ancillary services (e.g., physical therapy services).

Relative value scale (RVS): A list of all physician services containing a cardinal ranking of those services with respect to some conception of value, such that the difference between the numerical rankings for any two services is a measure of the difference in value between those services.

Retrospective cost-based reimbursement: A payment method for health care services in which hospitals (or other providers) are paid their incurred costs of treating patients after the treatment has occurred. Compare *prospective payment.*

Risk-based provider: A provider of health care (e.g., a *health maintenance organization)* that accepts prepayment on a per-patient basis for some or all health care services needed by that patient and thus assumes some degree of financial risk for service costs exceeding the prepaid amount. See also *capita ted payment.*

Rural health clinic (RHC): A clinic certified according to the provisions of Public Law 95-210. These clinics qualify for facility-specific cost-based reimbursement under Medicare and Medicaid.

Schmidt's syndrome: A rare hormonal deficiency syndrome that primarily affects females. It is characterized by insufficiency in the adrenal gland, gonads, and/or thyroid. Treatment includes hormone replacement therapy.

Secondary care: Services provided by the medical specialists who generally do not have the first contact with patients (e.g., cardiologist, urologist, dermatologist). In the United States, however, there has been a trend toward self-referral by patients for these services, rather than referral by primary care providers.

Self-limited: Refers to medical conditions that tend to be limited in duration or course even if untreated.

Statistical significance: See ***p** value.*

Supplemental Security Income (SSI): A Federal income support program for low-income disabled, aged, and blind persons which was established by Title XVI of the Social Security Act. Eligibility for the program is based on income and resources.

Tertiary care: Services provided by highly specialized providers (e.g., neurologist, neurosurgeon, thoracic surgeon). Such services frequently require highly sophisticated equipment and support facilities. Tertiary care lies at the end of the continuum of type of care (i.e., primary, secondary, tertiary), of which many services overlap, and is difficult to define precisely,

Third-party payment: Payment by a private insurer or government program to a medical provider on behalf of a patient for care given to that patient.

Tort liability: A legal basis for compensation when property has been damaged or a person has been injured.

Trigeminal nerve disorder: The trigeminal nerve supplies sensation to the skin of the face. Patients with disorders of the trigeminal nerve experience pain in the lip, gums, cheek, and chin areas.

Uncompensated care: Health care services for which the provider receives no compensation. When reporting uncompensated care costs, providers generally include charity care, bad debt (i.e., unpaid bills), and disparities between providers' billed charges and actual reimbursement for health care services. (Compare with ***charity care.)***

**Unrestricted fee-for-service system: A** health care delivery system where patients are free to seek health care services from any willing provider without prior authorization. Services are paid on a fee-for-service basis, (See ***fee-for-service;*** contrast with *case-managed fee-for-service system. )*

Uptake rate: In **this report, a measure** of how quickly new eligibles under Oregon's proposal would enroll in the Medicaid program.

Usual, customary, and reasonable charges: In private health insurance, a basis for determining payment for individual physician services. 'Usual' refers to the individual physician's fee profile, equivalent to Medicare's "customary' charge screen. "Customary," in this context, refers to a percentile of the pattern of charges made by physicians in a given locality (comparable to Medicare's "prevailing" charges). "Reasonable" is the lesser of the usual or customary screens. See *customary, prevailing, and reasonable charges.*

Variable costs: The portion of total cost that increases with greater output+. g., the costs associated with increasing numbers of persons seen in a health clinic.

Viral warts: Skin eruptions resulting from infection of the human papillomavirus (HPV). They can occur on the face, neck, chest, hands, arms, and legs, Of particular interest are anogenital warts (or venereal warts), a very common sexually transmitted disease correlated with cervical and anal cancer. Treatment includes topical application of caustic agents, cryosurgery, and laser surgery.

Waiver: States may apply to the Health Care Financing Administration of the Department of Health and Human Services for Federal waivers that would grant the State permission to waive certain provisions of the Medicaid statue, thereby allowing implementation of the proposed demonstration project. See also *demonstration.*

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