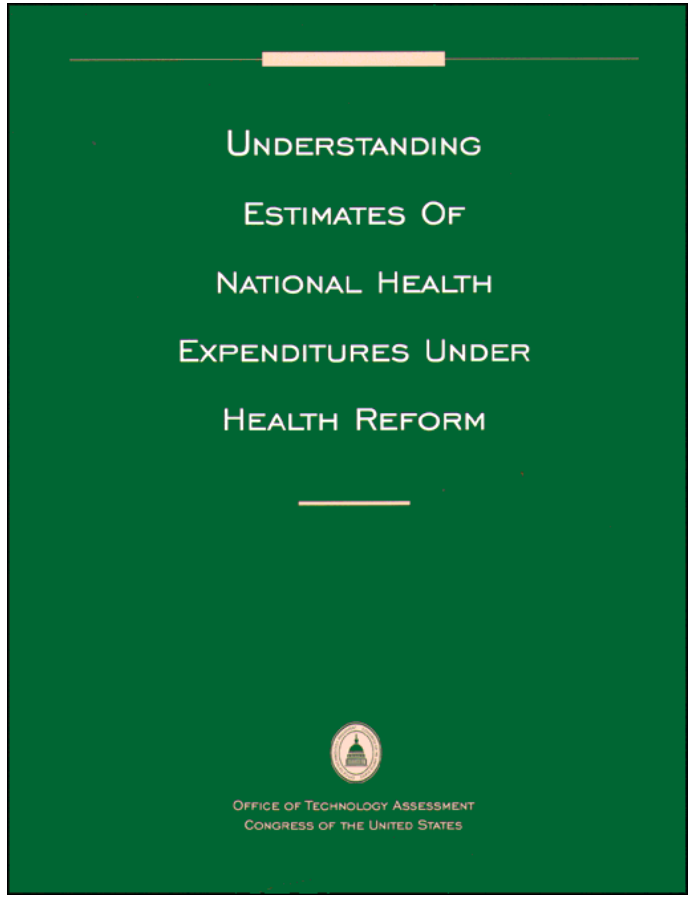
Understanding Estimates of National Health Expenditures Under Health Reform

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Foreword

Health care reform is at the top of the nation's domestic policy agenda, and numerous reform bills have been introduced in Congress. Each reform proposal takes a somewhat different approach to containing costs and providing insurance coverage to more people.

A key concern in the debate on health reform is how individual reform proposals might affect future national health spending. Congress and others have looked to a variety of individuals and organizations (for example, the Congressional Budget Office, the Administration, and private consulting firms) for estimates of how different reforms could affect future national health expenditures. The key assumptions and methods that underlie the estimates published by these groups are not always obvious to people who may wish to understand or question them, including the analysts' clients,

This OTA report looks behind the published estimates to examine analysts' approaches to estimating future national health expenditures. In particular, the report appraises the analysts' estimates of the potential effects of four provisions that may be key to modeling alternative reforms (government cost controls, managed competition and increased HMO enrollment, coverage for uninsured people, and administrative streamlining). The report compares assumptions in these areas to evidence from available research. The report also draws policy implications for congressional consideration.

The request for this report came from the members of the Technology Assessment Board (see inside front cover) and Senator Ted Stevens.

Numerous individuals, including an advisory panel chaired by Joseph Newhouse, assisted OTA in the development of this report. OTA gratefully acknowledges the contribution of each of these individuals. As with all OTA reports, the final responsibility for the content of the report 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 do& 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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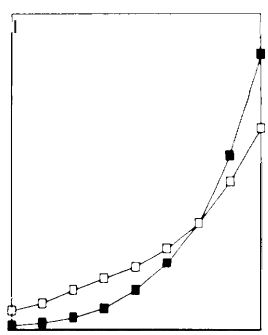
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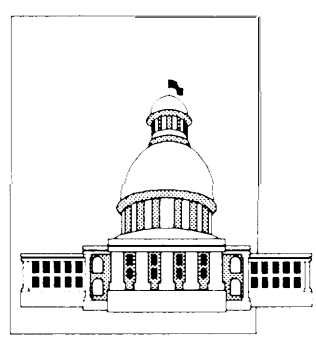
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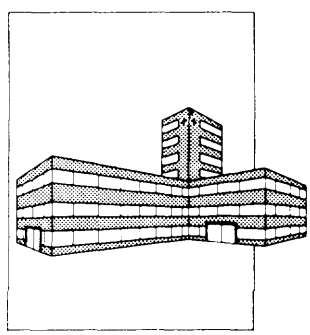
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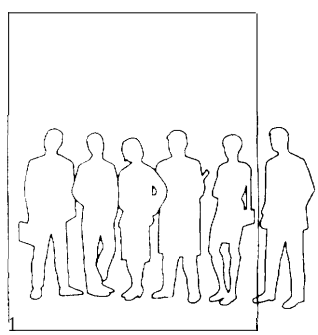
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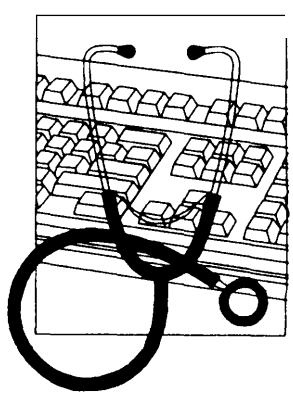
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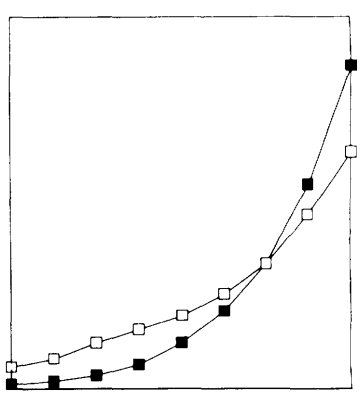
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Summary and Policy Implications 1

Health care reform is at the top of the nation domestic policy agenda. With national health expenditures continuing to grow faster than inflation and with an estimated 37 to 38 million Americans without health insurance, Members of Congress and others have proposed a wide variety of approaches to reform the delivery and financing of health care. A key concern in the ensuing debate is how various proposals would affect national health expenditures. [1,2]

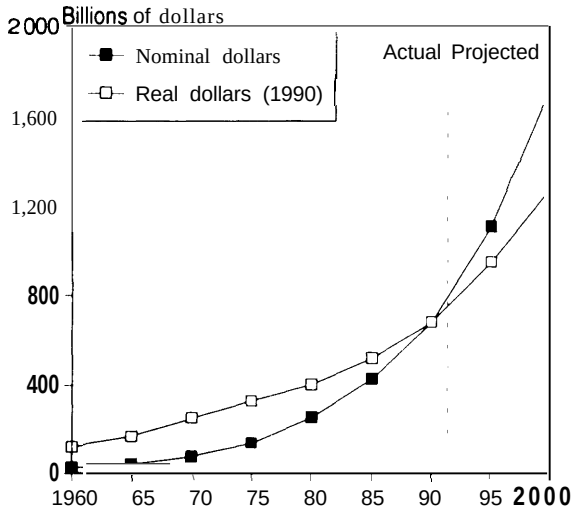
As shown in figures 1-1 and 1-2, in the absence of reform, national health expenditures, now estimated at over $900 billion (approximately 14 percent of gross domestic product (GDP)), have been projected to continue to climb to $1.7 trillion (approximately 18 percent of GDP) by the year 2000. To estimate what impact the different proposals would have on national health expenditures, Congress and others have looked to quantitative analyses. Such analyses have been performed by the federal government (e. g., the Congressional Budget Office, the General Accounting Office, and the Clinton Administration), by private consulting firms. and by individual academics. Table 1-1 depicts changes in national health expenditures projected under health re -



[1] The Department of t Healthand Human Serv Ices defines nationalhealth expenditures as the nation's total private and public spending, for a defined but broad set of health ser- ~ ices and supplies, and the med ical research and construction of medical facilities associated w ith prov iding those health services and supplies.

[2] Public policy makers are also concerned about the impact of alternative reforms on the federal budget and the budget deficit. OTA w III examine analysts' approaches to estimating federal budget impacts in a forthcoming background paper (I 92).

FIGURE 1–1: National Health Expenditures, Nominal and Real Dollars, 1960–2000



SOURCE: Office of Technology Assessment, 1994, based on data from Letsch, Lazenby, Levit et al. (86), and Burner, Waldo, and McKusick (17). Full citations are at the end of the report.

form in the currently available analyses known to the Office of Technology Assessment (OTA).[3]

A 1993 OTA study entitled *An Inconsistent Picture* reviewed the quantitative estimates of several impacts of various health reform proposals. The study found considerable variation in estimates of changes in national health expenditures for proposals that appeared to encompass similar policies (190). The study identified several potential reasons for the differences, including the fact that analyses appeared to be built on different key assumptions.[4]

The present study was requested by the Technology Assessment Board and Senator Ted Stevens as a followup to OTA's 1993 study. The report addresses the following questions:

- How do different analysts come to their estimates of national health expenditures under reforms? What assumptions and methods do they use to produce estimates?
- Does the available empirical evidence support analysts' assumptions? Is there evidence that can resolve differences between assumptions made by different analysts?
- How much uncertainty surrounds analysts' estimates of the effects of particular policy changes and of future national health expenditures?[5]
- What are the strengths and weaknesses of the models and estimates of national health expenditures?
- How much information about assumptions and methods should analysts provide to readers with varying interests and levels of expertise?

This report is intended to provide Congress and policy makers with guidance on the various predictions of national health expenditures under alternative health reform proposals. It is important to note that this report has a 1imited focus. The report was not intended to address the full array of concerns that policy makers may have about specific policies to reform the health care system. Critical issues such as the potential impacts of various proposed policy changes on individuals' health status, or on the economic efficiency of the health system, are not addressed in this report.[6]

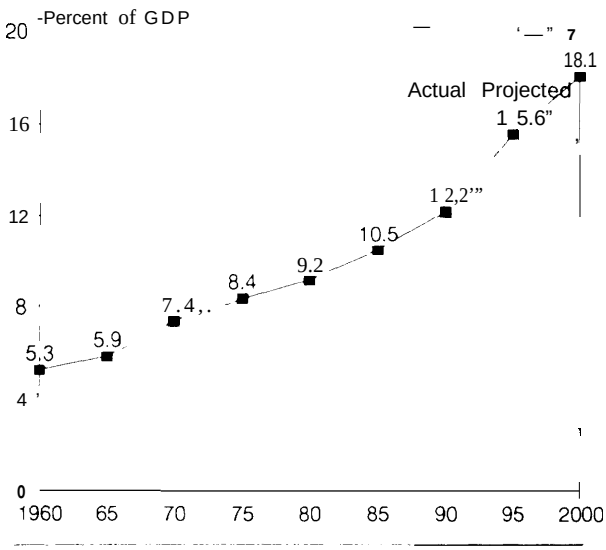
[3] Some estimates of national health expenditures became available too late for consideration in this report (e.g., KPMG Peat Mat-wick (79); KPMG Peat MarWick (80); U.S. Congress, CBO (174)).

[4] *Analyses* are defined in this report as the processes used to analyze the impact of health reform proposals on national heath expenditures (see box I -1). *Analysts* are those individuals or entities that perform analyses in order to come up with an estimate of national health expenditures under reform. *Assumptions*, broadly defined, are suppositions that something is true. *Estimates* are approximate calculations, or numerical values obtained from a statistical sample or economic model (in this report, the term *estimate* is used most often to refer to the outcome of simulations of national health expenditures).

[5] In this report, as in a recent reproof the National Research Council, the term *uncertainty* is used as "an umbrella term for the quantification of the differences between a model estimates and the truth" (20). No particular statistical definition of uncertainty should be inferred.

[6] Analysts have not incorporated assumptions about economic efficiency and health status effects in their quantitative estimates. However, analysts may attempt to bring these impacts to readers' attention in a qualitative sense (e.g., Lewin-VHI (89); CBO (172)).

FIGURE 1–2: National Health Expenditures as a Percent of GDP, 1960–2000



SOURCE: Office of Technology Assessment, 1994, based on data from Letsch, Lazenby, Levit et al. (86) and Burner, Waldo, and McKusick (17). Full citations are at the end of the report.

Similarly, estimates of distributive impacts of the reforms, and the impact on federal, state and local government's budgets are not addressed. Finally, the report does not come to conclusions about the advantages and disadvantages of specific proposed policy changes or make recommendations.

As summarized in table 1-2, OTA examined 16 analyses of reform proposals by eight groups of analysts. This report does not examine and evaluate analyses of proposals in their entirety. Rather, the report examines how particular key policies were estimated in available analyses. OTA's key findings are summarized below, first concerning general approaches to estimation and the overall levels of uncertainty in the available estimates, and then for the analyses of specific proposed policy changes. Following the summary of key findings, the chapter discusses the implications of these findings for policy makers.

SUMMARY OF KEY FINDINGS

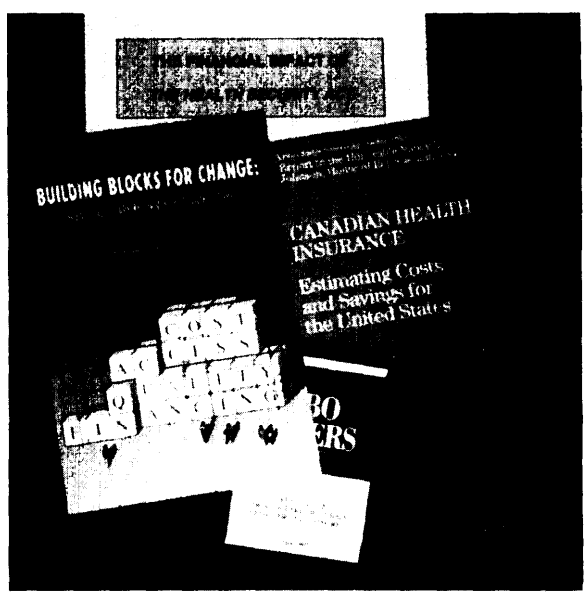
The findings of this report can be summarized both generally and specifically. The next section presents answers to the five questions addressed by this report in general terms; the section following presents OTA'S specific findings on the estimates of the proposed policy changes selected for more intensive analysis in this report.

General Findings

How do different analysts come to *their estimates of national health expenditures under reforms? What assumtions do they make in order to produce estimates?*

A striking feature of the structure of the U.S. health care system is its complexity. Since it would be impossible to describe all features of the health care system in detail, analysts abstract from the vast complexities of the real-world and develop rather simple models that attempt to capture the "essentials" of the processes that determine health care expenditures (box 1-1).

Health reform proposals typically contain numerous general and specific policies, intended to change the health system, that analysts might take into account in estimating the overall effect of a particular proposal on national health expenditures.



OTA STAFF

To estlmate what impact different proposals would have on national health expenditure.s Congress and others have looked to quantitatve analyses

TABLE 1–1: Various Analyses' Projected Changes in National Health Expenditures Under Health Reform Proposals Relative to Continuation of the Status Quo[a]

Proposal[b]	Analysis[c]	Projected change in national health expenditures under reform ($ billions)[d]													
		1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
American Health Security Act of 1993 (H.R. 1200)[e]	CBO				E			52	57	32	0	-33	-71	114	
American Health Security Act of 1993 (S. 491)[e]	CBO				E			60	59	35	4	-29	-67	0	
Comprehensive Health Reform Act of 1992 (H.R. 5919)[f]	CBO				E		1			1-	2				
Health Care Cost Containment and Reform Act of 1992 (H.R. 5502)[f]	CBO				E	7	13	12	23	-44	-67			1	
Health Security Act (H.R. 3600/S. 1757)[e]	CBO				E		13	22	40	1	-30	-48	-75	-110	-150
	Clinton Administration				E	1.1	11.9	13	15.9	-24.8	-55.9				
	Lewin-VHI				E		21	27.8	-0.6	-33.2	-57.2				
Managed Competition Act of 1992 (H.R. 5936)[f]	CBO				E	49	45	40	34	27	9				
	ESRI-optimistic[g]				2				-51					246	
	ESRI-pessimistic[g]				2				5					-99	
Managed competition plan, Starr version	Long and Rodgers			8											
Single-payer plan, CBO version with patient cost-sharing	CBO	-42													
Single-payer plan, CBO version without patient cost-sharing	CBO	37													
Single-payer plan, GAO version	GAO	-3													

TABLE 1–1: Various Analyses' Projected Changes in National Health Expenditures Under Health Reform Proposals Relative to Continuation of the Status Quo[a] (cont'd.)

Proposal[b]	Analysis[c]	Projected change in national health expenditures under reform ($ billions)[d]												
		1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Single–payer plan, Grumbach et al. version	Grumbach et al	-18													
Single-payer plan, Lewin–VHI version	Lewin-VHI[e]	314													
Single–payer plan Woolhandler and Himmelstein version	Woolhandler and Himmelstein														
Universal Health Care Act of 1991 (H.R. 1300)[f]	CBO				E	20	5	-27	-63	-104	-150				

KEY E - year the proposal was assumed to be enacted If not specified, it is the same year as the year of the first estimate

[a] National health expenditures comprise the nations total spending both private and public, for a defined but broad set of health services and supplies, and the research activities and construction of medical facilities associated with the provision of those health services and supplies (83) Changes in national health expenditures are often referred to as *savings* or *cost increases* It is Important to understand what these terms mean Savings or cost Increases are measures of changes in national health expenditures *relative to projections of a continuation of the status quo (i e , baseline spending)* Projections of continuations of the status quo are themselves dependent on a host of assumptions and inputs about the past the presenf and the *future absent major policy Changes m the health sector.* Such projections may be reasonable in the sense that they are based on the Informed judgment observations and data available to analysts As most analysts will acknowledge both the baseline projections and the reform projections Include a host of Inherent uncertainties (89 164 172)

[b] This column Includes both specific legislative proposals ar?d more general conceptual proposals

[c] Full citations for the analyses are listed in appendix B

[d] Current dollars unless otherwise noted

[e] Bill numbers are for 103d Congress

[f] Bill numbers are for 102d Congress

[g] ESRI conducted two analyses of this proposal The optimistic analysis was designed to ger'crate a relatively large estimate of savings while the pessimist c analysis was designed to generate a smaller estimate of savings

SOURCE Office of Technology Assessment 1994

The first simplification analysts make is to determine which aspects of health reform proposals may have some effect on national health expenditures. OTA inferred from the available documentation that estimates of the effects of four policies are among the most important factors considered in the analyses of national health expenditures under reform:

1. applying government cost controls,
2. encouraging managed competition and increased health maintenance organization (HMO) enrollment,
3. providing insurance coverage, and
4. administrative changes.

To estimate how each of these four policies will affect national health expenditures, analyses use other simplifying assumptions. Typically, estimates of each of the four policies are based on two or three key assumptions that allow analysts to make quantitative predictions about how the policies will influence national health expenditures under reform. in comparison to the status quo.

These assumptions include suppositions about how individuals will respond to specific incentives provided by the reform proposals. For example, how much individuals" use of health care will increase when they are insured; how much their use of health care will decrease when they have to pay more for services out-of-pocket; and whether they will join HMOS if HMO prices decrease relative to traditional fee-for-service plans. They also include assumptions about the effects of using different organizational structures to supply or finance health care services, and assumptions about how effective selected government cost controls will be given providers* responses to regulations of health care prices or expenditures.

Each chapter in this report describes the different assumptions and methods that various analysts used to estimate the impact of these four key policies on national health expenditures. Some of the critical assumptions are summarized in box 1-2.

Does the available evidence support analysts' assumptions? Is there evidence that can help resolve differences between assumptions made by different analysts?

The ultimate test of whether a given approach to simulating the impact of health reform is accurate is whether the prediction actually occurred. For a number of reasons, including the fact that the health reform proposals being modeled have never been implemented in their entirety, this type of evaluation is impossible. Another approach to understanding and evaluating particular models is to examine their assumptions.

OTA compared analysts' assumptions with evidence from available empirical research (box 1-1). The intent of this comparison was to find whether the empirical evidence supports the specific assumptions and whether evidence could be used to settle contradictions between different assumptions made by different analysts.

It is difficult to make a general statement about whether the research literature supports analysts' assumptions. [7] Research exists on many of the assumptions examined, although the quality and quantity of research varies across different assumptions and issues. In some cases, there is direct evidence on behavioral responses to specific policy changes or on the effect of different organizational structures. In other cases, research evidence indicates how individuals will respond generally or how organizational structures may influence health care costs, but there is contradictory evidence as to the size of the effect. Finally, for some areas there has been no research and no indication of how to model the impact of a particular policy. In general, the research evidence leaves many questions unanswered.

Even when research evidence does exist, it is not always clear how it should be interpreted. There is always the question of whether the results found will apply to the reforms being considered. For example, some people have argued that the

[7] Each chapter in the report describes the strengths and limitations of the research literature. and how it compares to particular assumptions.

TABLE 1–2: Analyses of the Impact of Health Reform Proposals on National Health Expenditures Reviewed in This Report

Proposal	Analyses[a]			
	Applying government cost controls (chapter 2)	Encouraging managed competition (chapter 3)	Providing universal coverage to uninsured people (chapter 4)	Reducing administrative costs (chapter 5)
American Health Security Act of 1993 (H. R 1200/S. 491)[b]	CBO		CBO	CBO
Comprehensive Health Reform Act of 1992 (H R.5919)[c]				CBO
Health Care Cost Containment and Reform Act of 1992 (H.R.5502)[c]	CBO		CBO	CBO
Health Security Act (H R 3600/S. 1757)b	CBO Clinton Administration Lewin-VHI	CBO Clinton Administration Lewin-VHI	CBO Clinton Administration Lewin-VHI	CBO Clinton Administration Lewin-VHI
Health Security Act (H.R. 3600/S. 1757)b, Lewin-VHI scenario without government cost controls		Lewin-VHI		
Managed Competition Act of 1992 (H.R.5936)[c]		CBO ESRI	CBO	CBO
Managed competition plan, Starr version			Sheils et al.	
National health plan, full savings scenario				ESRI
National health plan, administrative savings scenario				ESRI
Single-payer plan, CBO version with patient cost-sharing			CBO	
Single-payer plan, CBO version without patient cost-sharing			CBO	CBO
Single-payer plan, GAO version				GAO
Single-payer plan, Grumbach et al. version				Grumbach et al.
Single-payer plan, Lewin-VHI version				Lewin-VHI[d]
Single-payer plan, Woolhandler and Himmelstein version				Wool handler and Himmelstein
Universal Health Care Act of 1991 (HR. 1300)[c]	CBO		CBO	CBO

KEY CBO = U S Congress, Congressional Budget Off Ice, GAO = U S General Accounting Off Ice, ESRI = Economic and Social Research Institute

[a]Full citations for the analyses are in appendix B

[b]Bill numbers are for 103d Congress

[c]Bill numbers are for 102d Congress

[d]Analysis was conducted by Lewin-ICF The company was acquired and expanded in 1992 For purposes of this report all Lewin analyses are identified as Lewin-VHI

SOURCE Off Ice of Technology Assessment, 1994

BOX 1–1: Analysts' Process of Coming to Estimates and OTA's Use of Empirical Research Literature

Analyses

The analyses of national health expenditures that OTA reviewed generally take a similar two-step approach. First, factors and policies that would change the level of national health care expenditures are identified. As shown below, these factors are used to determine the level of health expenditures under reform in the first full year of implementation.

Baseline national health expenditures (i.e., national health expenditures assuming no major policy changes)	$_____
Plus additions (e.g., expenditures expected for new programs, expanded benefits)	+ _____
Less subtractions (e.g., savings expected from enrollment in managed care plans or reduced administrative costs)	- _____
Product: estimated future national health expenditures under reform	$_____

Table 1-3 provides an example of how one analytic group estimated the *change* in national health expenditures under the Health Security Act.

Second, analysts consider factors that might influence national health expenditures in subsequent years.[1]

To estimate national health expenditures in future years under the reform proposals, analysts may again consider whether the proposal will result in new expenditures, and then add these to baseline national health expenditures. Similarly, they may consider whether the proposal will result in new savings and then subtract these from baseline national health expenditures. Alternatively, analysts may assume that after the first year of implementation, expenditures will grow at a given rate (e.g., some proportion of expenditures will grow at the rate set under a new regime of government cost controls). Analysts make different assumptions about the timing in which additional expenditures will be incurred or savings achieved. For example, some analysts make the simplifying assumption that the effect of all policies will be immediate, while others phase in the effect of particular policies, such as expanding coverage to uninsured people.

Factors that frequently have been assumed to affect national health expenditures are administrative costs, the costs of insuring uninsured people, health maintenance organization enrollment, managed competition, and government cost controls.

Economic models are by their nature simplified analytical frameworks for depicting particular economic phenomena (68). Models duplicate some—but not all—characteristics of the phenomena being modeled (68). Even so, the approach described above can be a difficult, time-consuming task that takes into account numerous aspects of health care delivery and financing. *Models* or *simulations* of the effects of complex health reform proposals on national health expenditures are typically based on a combination of new data analysis, reviews of published literature, consultations with experts, and analysts' accumulated general knowledge of the health care system. Analysts rarely document in detail the sources of their assumptions about how facets of the health care system will respond to new national policies.

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[1] In calculating the impact of reform proposals on national health expenditures, analyses typically only consider factors that would have a relatively short-term effect on national health expenditures (i.e., in the 5 or so years subsequent to the proposal's full implementation). Potential second- or third-order effects that might have an impact in decades (e.g., increases (or decreases) in expenditures due to improved health and longer life spans of Americans; increases (or decreases) in the development of expensive technologies) are typically not considered.

BOX 1–1: Analysts' Process of Coming to Estimates and OTA's Use of Empirical Research Literature (cont'd.)

Empirical research literature

OTA compared the assumptions made in analyses of the impact of health reform proposals *on national* health expenditures with the findings of studies from the empirical research literature. The empirical research literature is defined primarily as published studies on topics relevant to policy areas. For example, for the chapter on government cost controls, OTA searched for and examined studies on the government cost control mechanisms that appeared in proposals and that were the focus of analyses. These included studies of the impact on spending of price controls such as fee schedules and all-payer hospital rate-setting systems, foreign government-imposed or negotiated spending limits for nations as a whole, and foreign government-imposed or negotiated expenditure limits in various health sectors (e.g., hospitals, physician spending). OTA began with literature reviews of these topics and examined more critically the methods and findings of key studies.[2] OTA relied primarily on published research studies because they are more likely to have been conducted according to professional standards and to have been subjected to scientific peer review. In contrast, unreviewed written and oral reports of results of policy changes (e.g., changes in premium prices, simple reports of changes in national health expenditures of foreign countries) would require new and possibly extensive analysis of plausible alternative explanations for observed effects. Although OTA considered reports from the field of potential effects that have not yet been studied scientifically, an extensive analysis of all such data was beyond the scope of this report. The policy implications section of this chapter suggests that further attention might be paid to a research agenda that could inform policymakers and analysts on a more timely basis.

As noted in the main text, not all policy areas were replete with informative published literature (e.g., premium caps, managed competition, costs of covering uninsured people, administrative costs). Others (e.g., certain government cost controls) had extensive bodies of literature, although the quality and relevance to contemporary proposals varied considerably. Each chapter in this report provides a review of available literature and supplies references to the literature reviewed by OTA. Full bibliographic citations to the literature cited are found at the end of this report.

[2] In addition, as part of OTA's standard assessment process, authors of key reviews and studies and other knowledgeable experts were asked to review OTA's interpretation of their findings for accuracy. Responsibility for OTA's interpretations remain with OTA staff, however.

SOURCE: Office of Technology Assessment, 1994.

evidence on other countries' experience with government cost controls is not indicative of what would occur in the United States. Moreover, the research evidence rarely provides clear-cut answers. Measures of program success, standards of comparison, the sophistication of the analysis, and the time period of the study will all influence the conclusions drawn.

When research does not exist it is not clear whether analysts should base their estimates on judgment as to the possible effect of a proposed policy change, or assume no effect.

Despite these difficulties, overall, OTA found that very few of the analyses it reviewed used assumptions that were completely contrary to the results of available empirical research, especially in terms of the direction of an effect. In addition, when the analyses OTA reviewed supplied rationales for analytical choices, most of the rationales met standards of reasonableness, based on the evidence. However, in many cases, the evidence could also support alternative assumptions about the size of the effect (e.g.. how many people will join HMOS).

BOX 1-2: Selected Critical Assumptions in Estimates of Policy Changes

As noted in the text, one or two key assumptions typically underlie analysts' estimates of the effects of proposed policy changes. The following lists briefly the types of areas in which analysts make key assumptions. The list is organized by proposed policy change.

Each chapter in this report contains a summary of analysts' specific assumptions (e.g., how much are HMOs estimated to save relative to fee-for-service plans? How effective are specific government cost controls?). These details illustrate the sometimes wide divergence in assumptions used by different analysts in analyses of identical or similar proposals.

Effects of Applying Government Cost Controls (chapter 2)

- Share of national health expenditures falling under the growth rate expenditure limits
- Effectiveness of growth rate expenditure limits
  Assumptions guiding effectiveness ratings may include assumptions about payment mechanisms, administrative systems, and the presence and adequacy of penalties for cost overruns.

Effects of Managed Competition and HMO Enrollment (chapter 3)

- Savings from HMOs relative to traditional fee-for-service plans
- Number of people who would enroll in HMOs
- Change in the growth rate of national health expenditures due to health plan competition

Effects of Providing Coverage to Uninsured People (chapter 4)

- Baseline spending on uninsured people
- Patient cost-sharing requirements[1]
- Likely utilization patterns by previously uninsured people once insured
- Extrapolation of current trends only versus adjustment for benefit provisions of the reform legislation
- Amount of expenditures due to cost-shifting that are recovered

Effects of Administrative Changes (chapter 5)

- Provider and insurer administrative overhead under the current system
- Provider and insurer administrative overhead under a system similar to the one proposed
- Effects of pooling to purchase insurance (e.g., health alliances, health plan purchasing cooperatives)

[1] Patient cost-sharing is sometimes specified in proposed legislation, but sometimes an assumption is made about what patient cost-sharing is likely to be.

SOURCE: Office of Technology Assessment, 1994

How much uncertainty surrounds analysts' estimates of the effects of particular policy changes and of estimates of future national health expenditures?

Many analysts have emphasized that their estimates of future national health expenditures are highly uncertain, and thus are unlikely to represent an accurate prediction of what the United States can expect to spend on health care under various reform proposals (e.g., CBO (172), Lewin-VHI (89)). However, analysts rarely quantify the degree of uncertainty of their estimates. Moreover, OTA did not have access to the models or complete analytic frameworks used to estimate national health expenditures, and was only able to perform limited sensitivity analyses.

While OTA cannot draw bands of uncertainty around estimates of national health expenditures under reform proposals, OTA did find that assumptions used in particular analyses could be

BOX 1-3: Implications of Uncertainty in the Estimates of National Health Expenditures Under Health Reform

What difference does uncertainty in the four policy areas OTA reviewed make to projections of national health expenditures? Analysts are increasingly acknowledging that their analyses contain high levels of uncertainty (e.g., Lewin-VHI (89); U.S. Congress, CBO (172)). However, while they warn about uncertainty, analysts typically do not provide information about the level of uncertainty in their overall estimates, nor about the uncertainty of particular assumptions (e.g., the effectiveness of particular government cost control mechanisms or the ability of health maintenance organizations to control costs). Typically, analysts do not report how their projections of national health expenditures could change as a result of changing particular assumptions by, for example, publishing "sensitivity analyses."

Because OTA found a wide range of plausible assumptions, OTA analyzed how changing certain assumptions could affect projections of national health expenditures under reform. The following examples show that substituting certain plausible alternative assumptions may have important effects.

- Changing a single assumption in the Congressional Budget Office's (CBO's) analysis reverses the interpretation of which bill—the American Health Security Act (H.R. 1200) or the Health Security Act (H.R. 3600/S. 1757)—would leave national health expenditures higher in 1998. The prevailing interpretation of CBO's analysis is that the American Health Security Act would increase national health expenditures *more* than would the Health Security Act in the initial years following enactment. In its analysis of the American Health Security Act, CBO's "best guess" assumption was that the spending limits of the act would be only "75-percent effective" (CBO (170)). Using this assumption, CBO estimated that 1998 national health expenditures under the American Health Security Act would be $1,429 billion, or $18 billion more than the figure projected for the Health Security Act. Under an alternative assumption that the spending limits would be "100-percent effective," CBO estimated that 1998 national health expenditures under the American Health Security Act would be $1,372 billion, or $39 billion *less* than the figure for the Health Security Act (CBO (172)). The difference between an assumption of 75 or 100 percent effectiveness is $57 billion, or approximately 4 percent of national health expenditures in 1998, according to CBO's baseline.
- Varying assumptions about administrative costs in the General Accounting Office's (GAO's) analysis of a generic Canadian-style single-payer system would change GAO's conclusion that a Canadian-style system would have *decreased* national health expenditures in 1991 (relative to baseline) (178), to the conclusion that it would have *increased* national health expenditures in that year (relative to baseline).
- Lewin-VHI performed two sets of estimates of the Health Security Act (H.R. 3600/S. 1757), one with the premium limits and one without (table 1-3). In the estimate that did not take into consideration the premium caps, Lewin-VHI assumed that expenditures for individuals enrolled in health maintenance organizations would be approximately 3 percent less than expenditures for individuals enrolled in fee-for-service plans. Changing Lewin-VHI's assumptions to assumptions made by CBO about managed care savings (i.e., that group- and staff-model HMOs save 15 percent over traditional fee-for-service plans and individual practice associations offer no savings) would change Lewin-VHI's estimates of savings from managed care under the Health Security Act (without government cost controls) from $14.9 billion to $48.8 billion in 1998. This is a difference of $33.6 billion or approximately 2 percent of national health expenditures.

SOURCE: Office of Technology Assessment, 1994.

replaced with equally plausible assumptions, thus changing the estimates (box 1-3). In one case, OTA noted that plausible changes in assumptions about the effectiveness of government cost controls could change how two proposals with government cost controls were ranked in terms of their effects on national health expenditures. The different assumptions lead to estimates of national

health expenditures that differed by $57 billion, equal to approximately 4 percent of baseline national health expenditures. In another case, OTA found that altering an assumption could produce opposite conclusions about whether a proposal would increase or decrease national health expenditures.

These analyses suggest that it maybe important to examine the assumptions and uncertainty that underlie analyses, particularly if they are extensively used in the development or evaluation of policies. Quantifying the levels of uncertainty may provide more of a basis for understanding the strengths and limitations of models and empirical estimates of national health expenditures, and their potential role in policy analysis (20).

It is also important to note that quantifying the degree of uncertainty raises other questions. How much uncertainty is too much? How much uncertainty is substantial and how much is relatively minor? Is a range of uncertainty of $50 billion large? Isa range of 4 percent of national health expenditures large? The answers to these questions will depend on the context in which they are considered and the ways that the estimates are used.

What are the strengths and weaknesses of the models and estimates of national health expenditures ?

The process of estimating the quantitative impact of health reform proposals can be an important and informative part of policy analysis, particularly if it is described in a manner accessible to nontechnical audiences. Some research and data do exist that maybe useful for understanding the impact of different policies, even if the research provides imprecise answers. Documentation of attempts to use research, data, and judgment to model reform proposals may highlight for policy makers what analysts believe are the key determinants of national health expenditures, what effects seem relatively well known, and where knowledge is weakest. A complete description of analysts' rationales for particular estimates (e.g., their basis in theory, research, or experience) may be as informative, or more informative, as the estimates themselves.

A weakness of models and the way in which their results are sometimes reported may be that they can shift the focus from important policy questions to a discussion of the "numbers." Whether a model is "good" or "bad" maybe less important than the underlying issue of what policies can limit the growth in national health expenditures and meet other important policy objectives.

Another potential drawback of estimates that are provided in the absence of meaningful qualifications as to their degree of uncertainty is that they may lead policymakers and others to a false sense of optimism regarding analysts' ability to accurately predict the impact of health reform. If policymakers rely extensively on quantitative estimates without knowing the levels of uncertainty surrounding the estimates or their basis, they could draw misleading conclusions.

How much information about assumptions and methods should analysts provide to readers with varying interests and levels of expertise?

By examining the assumptions and methods analysts use to estimate effects of selected key policies, and attempting to determine the implications of uncertainty about the effects of the policies, OTA was able to come to some general conclusions about the overall process of estimating national health expenditures under reform. OTA found that analysts' published reports vary considerably in the level and types of information they provide, and that this variation can have implications for potential users of the reports.

For example, OTA found that analysts may not provide information about the steps of the analyses (i.e., the key algorithms) or about the sources of their assumptions for analyses of particular proposals (see table 1-3 for a partial exception). Some analysts provide a general description of their methods in separate reports. However, readers may find it difficult to locate and reconcile written information about analysts' general beliefs and information sources with analyses of particular proposals. Analysts vary in their willingness to provide additional information other than what they publish. To their credit, analysts try to use

TABLE 1–3: Lewin–VHI's Detailed Estimate of NHE in 1998 ($ 1998 billions)

		Changes in spending
Total health spending (Includes administration)[a]	$1.3950	
Changes in health services utilization		
Increase in uttilzation due to expanded coverage		$640
Utilzation Increase for previously uninsured[b]	41 6	
Expanded coverage for those already insured[c]	5 4	
Long-term care utilization	11 6	
Public health activities (including WIC)	5 4	
Impact of managed care[d]		(14.9)
Net **change in utilization**		49.1
Change in administrative cost		
Insurer administration (Includes administration for newly insured) [e]		(48)
Provider administrative savings[f]		(1 9)
Federal operations		
Program administration[g]	1 7	
Medical education[h]	1 3	
Veterans hospitals[g]	1 7	
State alliance		8 9
All lance administration	**5.0**	
Guarantee fund reserve accumulation	**3 9**	
Net **change in administrative** costs		**6.9**
Change in provider reimbursement		
Net change in provider reimbursement		32.5
Uncompensated care savings	232	
Increased reimbursement for Medicaid recipients	457	
Reduction in cost shift	(36 4)	
Net **change in spending with spending cap**		
Preempt reimbursement windfall		(32 5)
Impact of spending cap		(56.6)
Medicare spending limits	(13 1)	
All lance premium caps	(47 3)	
Medicaid (net of offsets)[j]	3 8	
Net **change in national health spending**		
Net change		(0.6)

(continued)

TABLE 1–3: Lewin–VHI's Detailed Estimate of NHE in 1998 ($ 1998 billions) (cont'd.)

KEY NHE = national health expenditures; WIC = Special Supplemental Food Program for Women, Infants and Children

[a] Includes spending for acute care, spending for long-term care, public health, research, and construction

b Assumes that utilization of health services by previously uninsured persons will rise to levels reported by insured Persons with similar age, sex, income, and health status characteristics

C Assumes that utilizatlon of newly covered health services for insured persons whose coverage is upgraded (prescription drugs, etc) will rise to the levels reported by persons who have such coverage

d Assumes that competing health planswill affect utilizahion in ways comparable to HMO plans Estimates are based on age- and sex-adjusted comparison of hospital utilization for HMO enrollees compared with those enrolled in fee-for-service plans The higher physician utilization is due largely to coverage for preventive care and substantially lower levels of patient cost-sharing

e These estimates are largely based upon administrative cost data provided by Hay/Huggins as presented in: U. S. Congress, Congressional Research Service, "Cost and Effects of Extending Health Insurance Coverage, " Library of Congress, October 1988 Reflects increased cost of covering uninsured persons

[i] Assumes that provider claims processing expenses and claims adjudication expenses are reduced in proportion to the reduction in insurer claims processing costs We assume that providers return half of these savings to consumers in the form of reduced charges.

9 Based on administration estimates.

[h] Includes total funding for academic health centers under the program less reductions in current Medicare funding for medical education (direct and indirect amounts)

[1] Under a universal coverage program, hospitals and physicians will receive payments for care formerly provided as uncompensated care Much of this increase in reimbursement will be passed-on to consumers in the form of lower charges through the negotiation process

I Includes Medicaid savings under budget cap offset by changes in adminlstrative costs, payment lags, and reserves

SOURCE Reprinted with permission from Lewin-VHI, December 1993 (89) Full citation is in appendix B

new information to guide their assumptions, but refinements relevant to particular analyses may not be reflected in previously published background papers. As a result, nonexpert readers may find it hard to understand analysts' decisionmaking processes, where the potential sources of uncertainty are, and how the uncertainties might affect overall estimates of national health expenditures.

Fuller descriptions of the methods used to estimate the impact of reform proposals maybe informative to policy makers. Analysts disagree, however, about policymakers' and other clients' needs and desires for this kind of information, and there are legitimate questions about how comprehensive and detailed analysts' reports should be. Given the complexity of the health system and the variation in interests, different readers will want answers to different questions. In addition, analysts often face time pressures that may limit their ability to provide full written documentation. These issues are touched upon further under "Policy Implications" later in this chapter.

I Findings for Specific Policy Areas

Each of the following summaries first reviews the concept and proposals in question, then summarizes analysts' assumptions about the effects of the concept, and finally compares analysts' assumptions with the available empirical evidence.

Effects of Applying Government Cost Controls (chapter 2)

Government cost controls are measures by which federal, state, or local governments impose or negotiate direct limits on: prices of health insurance; prices of particular health services (e.g., physicians' fees); overall expenditures related to a particular health care sector (e.g., hospitals); or overall outlays related to a particular source of funding (e.g., federal, state, or local government). The aim of government cost controls is to reduce the level or rate of growth either in overall national health expenditures, in expenditures of specific payers (e.g., government), or in expenditures for

specific sectors of the health care system (e.g., hospitals).

In addition to making provisions for specific government cost control mechanisms, some proposals would specify in statute specific limits on the growth of expenditures for specific funding sources.[8]

To model proposals with government cost controls, analysts first determine what proportion of national health expenditures would be subject to regulation. Next they project that amount at the growth rate limit specified in the proposed statute or at some higher rate, depending on analysts' assumptions about the actual effectiveness of the controls.

All of the analyses of proposals that include provisions for government cost controls that OTA reviewed (see table 1 -2) assumed that the controls would reduce the growth rate in health care expenditures, though not always to levels specified in legislation.

Empirical evidence from the United States and other countries suggests that government cost controls have decreased the rate of spending for the particular categories or components of health services to which they were applied. Often studies only examine a short time period, and government controls are constantly changing, making it difficult to pinpoint their effect. Moreover, people have questioned whether evidence from particular states or countries is indicative of what could happen under the proposed reforms. Finally, neither the models nor the empirical evidence directly address the political feasibility of various controls.

The empirical evidence suggests that the effectiveness of government cost controls will depend on the mechanisms used. However, the empirical evidence may not provide straightforward answers to the question of whether specific types of government cost controls can reduce rates of spending to those specified in some of the current proposals (a question that is at the heart of "effectiveness ratings" for expenditure limits).[9] There may be no way to use empirical evidence to determine exactly at what rate health care expenditures will grow under any complex set of government cost controls, even if a target rate is specified in legislation.

Effects of Encouraging Managed Competition and HMO Enrollment (chapter 3)

Managed competition has been defined as a "purchasing strategy to obtain maximum value for consumers and employers, using rules for competition derived from macroeconomic principles" (31). Advocates argue that managed competition can reduce health expenditures by restructuring the market for health care. Under managed competition "a sponsor" (either an employer, government entity, or purchasing cooperative), acting on behalf of a large group of subscribers, structures and adjusts the market to overcome attempts by insurers to avoid price competition" (31). Other elements of managed competition, such as limiting employer contributions to the cost of the lowest priced plan available and standardized benefits, aim to increase consumers' sensitivity to

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[8] For example, by 1999, the Health Care Cost Containment and Reform Act of 1993 (H.R. 200) would limit growth in almost all persona] health expenditures to no more than gross domestic product growth. Personal health expenditures are expenditures that include all services and products purchased that are associated with individual health care, such as hospital services, physician services, drugs, and nursing home care. Personal health expenditures account for about 88 percent of national health expenditures (86). This category of national health expenditures excludes expenditures for government public health activities, research and construction, and administrative costs, which together account for the remaining 12 percent of national health expenditures. By 1999, the Health Security Act (H.R.3600/S. 1757) would limit growth in regional health alliance premiums to consumer price index (CPI) growth. No proposal places a limit on all of national health expenditures. For example, according to Clinton Administration officials, the Health Security Act's limit on private premiums in the regional alliances would apply to about one-third of national health expenditures (155). GDP growth and CPI growth are indicators of general economic growth and inflation.

9 Effectiveness ratings are analysts' judgments of the extent to which a proposal 's package of government cost control mechanisms will be effective in meeting the proposal target rate of growth. Analysts differ in whether and how they apply effectiveness ratings.

the price of health insurance and to encourage more active shopping for health plans.[10] In response to the greater price competition, health plans are expected to reduce costs, typically by "managing" care (as in HMOs).[11] Although there is general agreement on the broad outlines of managed competition, various managed competition proposals would establish different regulations and entities aimed at restructuring the market for health insurance and health care.

A key premise of the relevant analyses reviewed in this report is that HMOS have lower premiums than fee-for-service plans and, as a result, managed competition will increase the pace of enrollment in HMOS and reduce national health expenditures. To calculate savings from managed competition, analysts multiply the number of people expected to switch to HMO plans from fee-for-service plans by their estimate of the difference in the covered expenditures between HMO and fee-for-service plans. Analysts make different assumptions about how much HMOS can reduce the level of expenditures compared with fee-for-service plans, and analysts' estimates of average savings range from 3 to 15 percent.

Analyses have come to differing conclusions about whether all of the savings will come from HMO enrollment (a "one-time" effect), or whether competition between plans will result in additional reductions in the growth rate in health care expenditures. One analysis OTA reviewed assumed no savings beyond a "one-time" effect due to HMO enrollment, the other assumed an additional 1 to 2 percent decrease in the rate of growth of health care expenditures.

Empirical evidence indicates that HMOS may reduce enrollees' covered health expenditures relative to traditional fee-for-service plans, but there are a number of obstacles to estimating the magnitude of savings. Similarly, although research suggests that consumers are responsive to the price of health insurance, HMO enrollment will depend on the behavior of employers, health plans, and, perhaps, purchasing cooperatives, as well as consumers. Thus, although there is empirical evidence on the critical components of the models of managed competition—HMO enrollment and HMO savings—the evidence suggests it is difficult to develop exact savings estimates.

Very few empirical studies have examined the long-term effect of HMOS or managed competition and whether they can reduce the growth rate of health expenditures. Early studies found little difference in the rate of growth of expenditures between HMOS and fee-for-service plans. There are a few examples of programs that incorporate many of the features of managed competition proposals but almost no published research on those experiences. Limited observations from state and federal employee insurance programs suffer from methodological problems and are subject to different interpretations of what actually caused or prevented the programs from having an impact on health expenditures. How analysts should interpret the existing research and whether they should score savings in the absence of definitive evidence is a contentious issue.

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[10] The term *health plan* has no standard definition, and different insurer organizations and health reform proposals define it differently. The term *health p/an* was coined, in part, because the term *health insurance p/an* does not indicate that many plans both provide insurance, that is they finance care through premiums collected from employers and individuals, and are involved in the delivery of care (e.g., through utilization management, by hiring providers, and/or by providing a setting). Thus, the term *health plan is* more general than the term *health insurance plan* and includes a wide spectrum of private health care financing and delivery arrangements, ranging from traditional fee-for-service plans to traditional health maintenance organizations.

[11] *Managed care* is a general term applied to a range of initiatives from organized health care delivery systems (e.g., staff-model HMOs) to features of health care plans (e.g., preadmission certification programs, utilization review programs) that attempt to control or coordinate enrollees' use of (and thus to control the cost of) services. In most analyses, estimates of HMO savings refer to HMOs that are staff-or group-model HMOs or IPAs.

Effects of Providing Coverage to Uninsured People (chapter 4)

An estimated 37 to 38 million people in the United States lack access to regular third-party sources of payment for health services (e.g., private insurance, Medicaid, Medicare), and virtually all health reform proposals seek to address this problem. This report focused on analyses of proposals that would provide universal coverage.

In analyses of the effects of extending insurance to uninsured people on national health expenditures, the estimated increase in expenditures associated with covering uninsured people is typically calculated as the amount projected to be spent on insured people less the amount projected to be spent on similar uninsured people (if they were to remain uninsured). Analyses may differ substantially in how they estimate both amounts and analysts' quantitative estimates of the cost of covering uninsured people under reform are often unspecified in analyses. These differences make it difficult to compare analysts' estimates with each other. Differences center around four factors: where and how in the analysis cost-shifting for currently uncompensated care is dealt with; the use of different baseline levels of spending by uninsured people; [12] whether or not patient cost-sharing is assumed; and whether or not the reform benefit package is assumed.

Empirical evidence, though imperfect, suggests that analyses are correct in assuming that expanding coverage to currently uninsured people would increase national health expenditures. The range in the magnitudes of the increase and the total cost from available research is relatively narrow, but may be difficult to interpret and may not be relevant to determining what additional expenditures would be incurred under health reform.

Effects of Administrative Changes Under Reform (chapter 5)

Analysts usually define administrative costs to include private insurance load (the difference between premiums and claims paid, including profit), provider (hospital and physician) overhead, and the costs of operating public programs. Specific definitions within these categories may differ, however. Provider overhead, for example, can be viewed narrowl y as just bil1ing expenses or viewed broadly as all expenses associated with activities not directly related to patient care.

Almost all proposals aim to reduce administrative costs. The two most prominent policies aimed at reducing administrative costs are single-payer tax-financed systems, and reforms to the private insurance market (e.g., pooled purchasing of insurance and limiting of underwriting).

To calculate administrative savings under a single-payer system, most analysts assume that current administrative costs (i.e., insurer and provider overhead) would fall to the levels of single-payer systems (i.e., Canada or Medicare). All the analyses OTA reviewed estimated that administrative costs would be reduced substantially under a single-payer insurance system; however, the range of estimates is broad. Analysts use varying approaches to estimate administrative costs under reforms to the private insurance market. Proposals that retain the current private insurance market but change the way insurance is provided (e.g., create insurance purchasing pools) are typically estimated to result in relatively small changes in administrative costs.

The empirical evidence suggests that the analyses are correct in predicting that administrative costs could be reduced under a single-payer system and that relatively small changes in administrative costs would result from reforms to the private insurance market. The Medicare program and the Canadian national health insurance program have much lower insurer overhead than private insurance companies in the United States, suggesting that a single-payer system might be less expensive than the current multipayer system in terms of insurer administrative costs. Health care providers might reduce their overhead ex-

[12] Baselines are projections of expenditures assuming no reform (e.g., assuming the continuation of current policies).

penses if they dealt only with a single payer. Quantifying specific savings is difficult, however, and researchers' estimates of administrative costs have varied. Moreover, it is unclear whether administrative functions under a single-payer system in the United States would differ from those in Canada or under Medicare.

Studies have documented a difference in the size of administrative costs between small and large firms suggesting the opportunity for savings under proposals that would reform the private insurance market. However, no studies have yet documented whether buying insurance through purchasing pools lowers administrative costs to small firms. Moreover, it may be that potential savings would be offset, at least in part, by the new administrative costs associated with running the purchasing pools. The size of the offset will depend on the functions performed by the purchasing pools.

POLICY IMPLICATIONS

Understanding and Communicating Uncertainty

Throughout the course of this assessment, OTA became increasingly aware of the importance of communicating information on the level of uncertainty in the analyses. Without information on the degree of uncertainty, policy makers may make decisions on the presumption that the estimates are reasonably accurate when, in fact, they maybe highly uncertain (20). For example, an analysis may indicate that one proposal would save $17 billion more than another when the estimates are really too imprecise to make this determination.

Given the hazards of ignoring uncertainty in the estimates, it seems crucial for analysts to develop better methods to express the accuracy of their estimates of the impact of health reform on national health expenditures. A variety of approaches is available to describe and explore the uncertainty in simulation estimates, and new methods continue to be developed (20). This section will briefly describe two approaches, sensitivity analysis and detailed documentation.

Sensitivity Analysis

Sensitivity analyses are carried out by estimating all or part of the analysis using alternative assumptions or specifications. By running various analyses using equally plausible assumptions, analysts can roughly quantify the range of uncertainty surrounding their predictions.

In this assessment, OTA identified some of the key assumptions used in analyses and attempted to indicate their likely range. Analysts can use this information as the foundation of sensitivity analyses. For example, analyses of managed competition could be estimated by using alternative assumptions about savings from HMOS. Similarly, analyses of single-payer systems could be run using different assumptions about provider overhead expenses. There are undoubtedly other key assumptions that could be used in sensitivity analyses.

Trying to quantify the degree of uncertainty in the estimates of the impact of health reform may not be easy, particularly in the case of relatively complex proposals and analytical models (20). Moreover, making several predictions based on different assumptions, rather than one "best guess" estimate, would require a substantial investment of time and resources. Finally, many of the analytic organizations that OTA spoke with suggested that busy policy makers want a single number rather than a range, even if the number is just a "best guess."

Given the obstacles and the perceived lack of interest, many analysts have suggested that the motivation for estimating the degree of uncertainty, or a range of the probable impact, would have to come from their clients, including Congress.

Documentation

The documentation accompanying many recent estimates of national health expenditures indicates that the estimates presented are "uncertain." Although this serves as a warning to potential users, it does not indicate how uncertain the estimates are.

The foundations of the estimates and their degree of uncertainty might be better appreciated if users have access to documentation that details how the estimates were derived and the judgments and empirical evidence on which they are based. For example, analysts could be encouraged to indicate how they determined the effectiveness of government cost controls, whether the determination was based on empirical research or judgment, and the reasons why the determination of effectiveness might be uncertain. Some analyses present some of this information, but the presentation is selective, uneven, and may be too abbreviated to be useful to nonexperts.

Since there are many ways to express methods and estimates, analysts would require guidance from their clients on the degree of detail and style of presentation that would be most useful. For example, Congress could require federal entities to publish relatively standardized documentation explaining their analytical approaches and to publish sensitivity analyses.

Congress has more leverage over the federal entities that produce projections (e.g., the Congressional Budget Office, the General Accounting Office, and executive branch agencies) than it does over private consulting firms, private individuals, and state and local governments. Although Congress may encourage federal agencies to do a better job of describing the uncertainty surrounding their estimates, estimates will still be produced by nonfederal agencies and used to argue the merits of particular reform proposals. By requiring certain standards in the public estimates, however, Congress could have a basis for questioning, challenging, or even dismissing estimates from private sources that are not well documented or supported.

Improving the Estimation Process

Although this document is not meant to discuss in detail steps that might improve analyses of health reform proposals, two obvious approaches are greater collaboration between analytic organizations and the larger research community, and enhanced research and data collection.

Collaboration Between Analytic Organizations and the Larger Research Community

Currently there is little opportunity for outside groups to verify or replicate estimates produced by other agencies. Creating such an opportunity may engender more checks and balances of the estimates. Moreover, encouraging greater communication between the relatively few organizations analyzing health reform costs and the larger research community may help to increase understanding of the strengths and weaknesses of the estimates. Of course, this approach may put the analytic organizations under more pressure from those with political interests. It may also be difficult given the time pressures that accompany most of the analyses.

Research and Data Collection

Trying to quantify the precise effect of complex reforms on the health care system—which represents one-seventh of the nation's economy—is a daunting task. In this report OTA reviews the empirical evidence available for making such predictions. Not surprisingly, the available empirical evidence leaves many questions unanswered. Thus, estimates of the impact of proposed health reforms on national health expenditures have been based, to a some extent, on subjective judgment. Additional research on policies to reduce health care expenditures and to expand insurance coverage would strengthen the foundation on which predictions could be based. Although the results of additional research may not be available in time for current efforts to reform the health care system, health financing and delivery are likely to remain policy issues for years to come.

ORGANIZATION OF THIS REPORT

This report reviews and critiques assumptions and inputs underlying various predictions about the direction and magnitude of the effects on national health expenditures of four general policies: applying government cost controls (chapter 2); encouraging managed competition (chapter 3); providing coverage to uninsured people (chapter

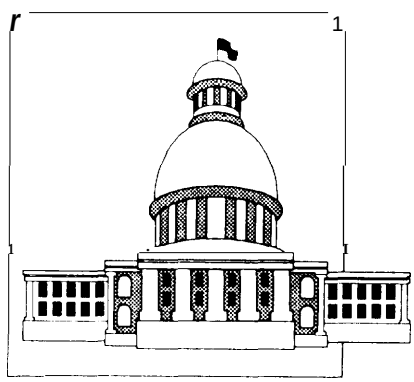
4); and administrative changes (chapter 5). All of the chapters are organized in parallel fashion. First, the chapters outline the policy reviewed. Second, they describe the various methods used to estimate the effect of the policy. Each chapter summarizes in table format the key assumptions analysts appear to use. Third, they review the empirical literature on the impact of the particular policy, evaluate whether the assumptions about the policies correspond with empirical evidence, and discuss the attendant uncertainty. The final section of each chapter summarizes the findings.

Applying Government cost Controls

2

Recent health reform proposals rely on a number of approaches to constrain health expenditures. One is to apply government cost controls. [1] Government cost controls are measures by which federal, state, or local governments play a director indirect role in financing and paying the facilities and providers through which health care services are delivered. Government cost controls include limits on average price of health insurance, (i.e., premiums), prices of particular categories of health services (e.g., physicians' fees), overall expenditures for a particular health care category or facility (e.g., hospitals), or overall outlays for a particular source of funding (e.g., national, state, or local government budgets).

This chapter begins with a brief description of the key government cost-containment strategies in selected health reform proposals (see box 2-1).[2] It examines analysts' assumptions about the effectiveness of government cost control strategies because alternative assumptions can result in wide variation in the estimates of "savings" that can be achieved by adopting a particular reform plan. The analyses of proposals reviewed in this chapter are summarized in table 2-1. Analysts' key assumptions are summarized in table 2-2. The chapter also reviews the empirical evidence on the effectiveness of key government cost-control



[1] Other approaches include increasing consumer cost-sharing, promoting managed competition, and instituting tax incentives, Managed competition is discussed in chapter 3.

[2] The chapter does not examine all of the health reform proposals introduced in Congress in the current or past legislative sessions, nor does it examine all projections of national health expenditures (N HE) for those proposals.

BOX 2-1: Key Government Cost-Control Strategies

Listed first are the kinds of *limits* found in current proposals that have such limits. Then, the box lists the *mechanisms* designed to achieve the goals.

Limits on spending overall or by specific payers, which in current proposals include the following:

- An overall national spending limit, affecting almost all aspects of spending (H.R. 200)
- National limit on Medicare spending (H.R. 200)
- National limit on non-Medicare spending (H.R. 200)
- State budgets developed by states and approved by the federal government with a set federal contribution as a percentage of the state budget (H.R. 1200/S. 491)

Price controls on private health insurance premiums, which include:

- Region-by-region initial year caps on regional alliance health insurance premiums (H.R. 3600/S. 1757)
- Regional alliance premium growth rate caps (i.e., caps on the growth rate for private health insurance premiums), region by region (H.R. 3600/S. 1757)
- Insurance premium schedules for public coverage (e.g., Medicaid) plans (H.R. 3600/S. 1757)

Other cost control mechanisms:

- Negotiated prospective spending limits for operating expenses for hospitals, nursing homes, and other institutional- or facility-based care (H, R. 1200/S, 491)
- Negotiated prospective expenditure limits (or risk-adjusted per-enrollee cavitation payments) for new Comprehensive Health Service Organizations (CHSOs) (H.R. 1200/S. 491)
- Prospective limits on overall spending by fee-for-service plans (optional) (H.R. 3600/S, 1757)
- Fee schedules for services provided by physicians, hospitals, and other professionals in fee-for-service plans and potentially for some prescription drugs (H.R. 3600/S. 1757)
- Maximum payment rates for each class of non-Medicare health services, generally set using Medicare payment methods (staff- and group-model HMOS would be exempt) (H.R. 200)
- Maximum payment rates for Medicare health services, reduced as needed to conform to the national Medicare budget (H.R. 200)
- State-established payment programs that would exempt providers in the state from the federally set maximum payment rates, if overall expenditures remained within the maximum payment rates (H.R. 200)
- Negotiated prospective fee schedules for physician and other professional services, able to be adjusted by states (H. R. 1200/S. 491)
- Negotiated prescription drug prices (H.R. 1200/S. 491)

SOURCE. Office of Technology Assessment, 1994

strategies.[3] The chapter addresses the following questions about the evidence and analysts' conclusions about government cost-control strategies:

- Can any savings be attributed to government cost-controls and, if so, is it possible to quantify the savings resulting from a particular set of government cost controls?

[3] The chapter does not review the evidence on the effectiveness of government attempts to control utilization directly (e.g., by utilization review programs) or indirectly (e.g., by limiting health care technology or capacity, such as in certificate-of-need programs). These types of controls play a relatively unimportant role in recent health reform legislation and are not modeled in NHE estimates.

- Is there empirical evidence to support assigning particular effectiveness ratings to a set of government cost-control strategies?

The final section provides conclusions and policy implications relevant to modeling government cost-control strategies.

KEY GOVERNMENT COST-CONTROL STRATEGIES

The proposals relevant to this chapter vary in the extent to which they use explicit limits and supporting mechanisms, in the proportion of national health expenditures (NHE) to which the mechanisms apply, and in other specifics (e.g., permissible growth rates for budgets or premiums). For example, premium limits under the Health Security Act (H.R. 3600/S. 1757) would apply to about a third of NHE according to the Clinton Administration (155). The amount of NHE that is subject to limits is an important factor in estimating the effect of government cost-controls on national health expenditures.

As background for understanding the kinds of assumptions that analysts make, this section provides an overview of selected key government cost-control mechanisms in the proposals that feature the controls:[4]

- the Health Security Act (H.R. 3600/S. 1757),
- the American Health Security Act of 1993 (H.R. 1200/S. 491), and
- the Health Care Cost Containment and Reform Act of 1993 (H.R. 200).

Health Security Act (H.R. 3600/S. 1757)

The Health Security Act proposes to constrain the growth of health expenditures for the standard benefit package through numerous mechanisms,[5] including premium growth limits (see table 2-3). Premium limits are considered to be "backstop" mechanisms for constraining the growth of expenditures.

Under the act, a National Health Board (NHB) would set the initial-year premium limits for regional health alliances (H.R. 3600/S. 1757, section 6002). The initial-year premium 1imits would form the basis for health plan premium bids. Weighted-average regional alliance premiums would then be allowed to grow no faster than the rate of the projected increase in the consumer price index (CPI) plus 1.5 percent for 1996, the CPI plus 1.0 percent for 1997, the CPI plus 0.5 percent for 1998, and the CPI plus O percent for 1999 and 2000. For the year 2001 and beyond, the average regional alliance premiums would be allowed to increase no faster than the rate of change in the CPI, plus the average change in real gross domestic product (GDP) per capita unless Congress approved another rate. These limits on premium growth would come into effect only when regional alliance premiums exceed the target rate.

The Health Security Act has several mechanisms to ensure that regional alliance premiums for the standard benefit package would be no greater, on average, than the levels determined by the National Health Board and the growth rates prescribed in the legislation. These include penalties on health plans that in effect would reduce excessive premiums to the limits on a dollar-for-dollar basis. In addition, fee schedules for fee-for-service plans and the fee-for-service component of other types of health plans, as well as options for States or regional alliances to impose prospective budgets on fee-for-service plans, are intended to help keep premiums within the legislated limits. The Health Security Act would also limit the rate of increase in corporate alliance premiums. Corporate alliances would be terminated if they experienced increases in premiums above the targeted amount.

[4] Bills are from 103d Congress.

[5] This act also has provisions intended to constrain expenditure growth by increasing competition among plans, as discussed in chapter 3.

TABLE 2–1: Analyses of the Impact of Health Reform Proposals on National Health Expenditures Reviewed in This Report

Proposal	Analyses[a] Applying government cost controls (chapter 2)	Encouraging managed competition (chapter 3)	Providing universal coverage to uninsured people (chapter 4)	Reducing administrative costs (chapter 5)
American Health Security Act of 1993 (H R. 1200/S, 491)[b]	*CBO*		CBO	CBO
Comprehensive Health Reform Act of 1992 (HR. 5919)[c]				CBO
Health Care Cost Containment and Reform Act of 1992 (HR. 5502)[c]	**CBO**		CBO	CBO
Health Security Act (H.R. 3600/S. 1757)b	**CBO** Clinton Administration **Lewin-VHI**	**CBO** Clinton Administration **Lewin-VHI**	CBO Clinton Administration Lewin-VHI	CBO Clinton Administration Lewin-VHI
Health Security Act (H. R. 3600/S. 1757),b Lewin-VHl scenario without government cost controls		**Lewin-VHI**		
Managed Competition Act of 1992 (H. R. 5936)[c]		**CBO** ESRI	CBO	CBO
Managed competition plan, Starr version			Sheils et al.	
National health plan, full savings scenario				ESRI
National health plan, administrative savings scenario				ESRI
Single-payer plan, CBO version with patient cost-sharing			CBO	
Single-payer plan, CBO version without patient cost-sharing			CBO	CBO
Single-payer plan, GAO version				GAO
Single-payer plan, Grumbach et al. version				Grumbach et al.
Single-payer plan, Lewin-VHl version				Lewin-VHI[d]
Single-payer plan, Woolhandler and Himmelstein version				Wool handler and Himmelstein
Universal Health Care Act of 1991 (H.R. 1300)[c]	**CBO**		CBO	CBO

KEY CBO = U.S. Congress, Congressional Budget Office, GAO = U S General Accounting Office, ESRI = Economic and Social Research institute

aFull Citations for the analyses are in appendix B

bBill numbers are for 103d Congress

CBiII numbers are for 102d Congress.

dAnalysis was conducted b, Lewin-lCF The company was acquired and expanded in 1992 For purposes of this report all Lewin analyses are identified as Lewln-VHl

SOURCE Office of Technology Assessment, 1994

TABLE 2–2: Key Assumptions and Criteria for Judging Effectiveness of Expenditure Limits for Selected Health Care Reform Proposals

Proposal	Analysis[a]	Design of expenditure limit	"Effectiveness rating" for expenditure limit	Criteria for effectiveness ratings: Criteria for rating limits as effective in meeting target	Criteria for effectiveness ratings: Criteria for rating limits as ineffective in meeting target
American Health Security Act of 1993 (H.R. 1200/ s. 491)	**CBO**	**National and state budgets**	75%	A single payment mechanism A uniform system of reporting by all health care providers. Prospective budgets for hospitals and nursing homes Prohibition of balance billing for covered services. Strong incentives for states to keep spending within their share of the national budget since they would have to fund any excess spending beyond the federal share of approved state budgets.	States would not be penalized for failing to stay within their approved budgets.
Health Care Cost Containment and Reform Act of 1992 (H.R. 5502)[b]	**CBO**	National health budget, divided into a Medicare category and a non-Medicare category of expenditures	Medicare category 75%	HCFA collects most of the data necessary to set rates and track spending relative to the budgeted amounts, so that expenditure limits enforced by rate-setting could be reasonably but not totally effective in controlling Medicare spending. HCFA has considerable experience in setting payment rates and estimating the responses of providers.	The absence of prospective budgets for hospitals, nursing homes, and other institutional providers of health care. No provision for continually adjusting payment rates for noninstitutional providers (e. g., physicians) to assure that the expenditure limits were not exceeded, nor a mechanism to recover any excess spending that might occur

(continued)

TABLE 2-2: Key Assumptions and Criteria for Judging Effectiveness of Expenditure Limits Cited in Health Care Reform Proposals (cont'd.)

Proposal	Analysis[a]	Design of expenditure limit	"Effectiveness rating" for expenditure limit	Criteria for rating limits as effective in meeting target	Criteria for rating limits as ineffective in meeting target
			Non-Medicare category 25%	Not discussed,	Participation in the national health claims network would be voluntary. The data needed to determine compliance with expenditure limits would be incomplete and would not be available in a timely fashion. The calculation of the states' option to operate their own systems would be very difficult to make and specific data on states would not exist in usable form for at least several years, The bill would exempt federally qualified HMOs from rate-setting, including some types of HMOs that have not been shown to be cost-effective.
Health Security Act (H.R. 3600/s. 1757)	CBO	Premium limits for regional alliance expenditures	100%	Little discussion,	
	Clinton Administration	*Premium* limits for regional alliance expenditures	100%	Not documented	

TABLE 2–2: Key Assumptions and Criteria for Judging Effectiveness of Expenditure Limits for Selected Health Care Reform Proposals (cont'd.)

Proposal	Analysis[a]	Design of expenditure limit	"Effectiveness rating" for expenditure limit	Criteria for effectiveness ratings: Criteria for rating limits as effective in meeting target	Criteria for effectiveness ratings: Criteria for rating limits as ineffective in meeting target
	Lewin-VHI	Premium limits for regional alliance expenditures	85%	The bill is specific and "specified adequately the means by which cost controls will be implemented. "[c]	Health alliance premiums would grow at higher rates than allowed under the act due to the advancing age of the baby boom population. Health alliances would experience losses in excess of the premium limits due to plan failures.
Universal Health Care Act of 1991 (H.R. 1300)	**CBO**	National budget	*75%*	A single payment mechanism. A uniform system of reporting by all health care providers. Prospective budgets for hospitals and nursing homes. Prohibition of balance billing for covered services.	Physicians and other institutional providers would continue to be paid on a fee-for-service basis, with no prompt feedback mechanisms to assure that increases in the volume of services would not offset restrictions on fees.

a Full citations for analyses are in appendix B

bCBO analyzed this bill but did not analyze H R 200, which is Identically named and was Introduced in the 103d Congress.

CJ. F. Sheils, Jan. 21, 1994 (143) Full citation is at the end of the report

KEY CBO = U S Congress, Congressional Budget Off Ice, HCFA = Department of Health and Human Services, Health Care Financing Administration, HMO = health maintenance organization

SOURCE Off Ice of Technology Assessment, 1994

TABLE 2–3: Approaches to Government Cost Controls in the Health Security Act (H.R. 3600/S. 1757)

Government cost controls	Characteristics of controls	Details of controls
Expenditure limits	**Initial-year regional alliance premium limits**	A NHB would establish per capita regional health alliance premium limits for the standard benefit package for the initial year of the plan implementation. A fine would be imposed on each health plan whose accepted bid caused the regional health alliance to exceed its premium limit and on providers receiving payment from the health plan.
	Regional alliance premium growth limits	Growth in health alliance premiums would be limited through national and regional inflation factors. On average, allowable premium increases above **CPI** would be reduced over subsequent years such that by 1999, average premium growth would equal CPI growth. For the year 2000 and beyond, the average national premium would be allowed to increase at the rate of change in the **CPI** plus the average rate of change in real per capita **GDP** unless Congress approves another rate. If a health alliance's actual weighted-average accepted premium exceeds' its premium limit in a given year, the inflation factor would be reduced for the following 2 years to recover excess spending. Corporate alliances would have to adopt similar methodologies to determine their premiums.
Price controls	Schedules for fee-for-service services	Health alliances would negotiate with providers to establish a fee schedule for the fee-for-service component of all health plans and for fee-for-service health plans. States could adopt a statewide fee schedule or permit providers to negotiate collectively with a health alliance. Balance billing would be prohibited.
	Medicare program	Payment rates to providers for Medicare services would be lower than under current law. In addition, the new Medicare pharmaceutical benefit involves strict price controls, including the right of the Secretary of DHHS to negotiate special prices for new outpatient prescription drugs deemed to be overpriced or to exclude them from coverage. The Secretary would also appoint an advisory council on breakthrough drugs that would examine the reasonableness of the price of new drugs that represent a breakthrough or significant advance over existing therapies.
	Medicaid program	Federal payments to regional health alliances for Medicaid beneficiaries would be lower than under current law.
Optional payment methods	**State single-payer option**	States could choose to opt out of the health alliance system and establish a single-payer system of health care financing, under which states would pay all health care providers directly. The NHB would also establish premium limits for single-payer states. If per capita spending for the standard benefit package in those states exceeded the limits, those states would be required to reduce payments to providers correspondingly.
	Prospective budgets for fee-for-service health plans	States would have the authority to impose prospective budgets on fee-for-service health plans offered through regional health alliances.

[a]Fee-for-service component refers to the consumer's option to seek services from providers outside of hls or her health plan's network These providers would be paid according to the fee schedule established by the state or regional alliance

KEY: CPI = consumer price index; DHHS = Department of Health and Human Services, GDP = gross domestic product, NHB = National Health Board

SOURCE. Off Ice of Technology Assessment, 1994

American Health Security Act of 1993 (H.R. 1200/S, 491)

The American Health Security Act would establish a state-based single-payer system of national health insurance similar to the Canadian system (171). The national health insurance system would replace most current public and private health insurance,[6] and provide universal coverage to all citizens and legal residents. Besides its tax-based financing mechanism and universal coverage, the American Health Security Act includes a national/state budgeting system for the national health insurance program that could grow no faster than the percentage increase in GDP for the previous year, plus population growth.[7] The act also contains several category-specific cost-control strategies (e.g., on prescription drugs, hospitals, nursing homes) (see table 2-4).

Health Care Cost Containment and Reform Act of 1993 (H.R. 200)

The Health Care Cost Containment and Reform Act of 1993 (H.R. 200) would expand the Medicaid program, retain the existing Medicare program, and encourage managed competition in the private health insurance market, all operating under a national limit on expenditures (table 2-5). The national health budget would be divided into a Medicare category and a non-Medicare category of expenditures. The national health budget would not apply to all sources of national health expenditures. For example, expenditures for health services by the Department of Veterans' Affairs, the Department of Defense, and the Indian Health Service would be excluded from the national health budget.

H.R. 200 is similar to an identically named act introduced in the 102d Congress (H.R. 5502).[8] Both have two key government cost-containment features:

- A limit on health expenditures, covering most public and private health spending, would be applied to services covered by Medicare and to services not attributable to Medicare. Expenditures for each category would be required to grow no faster than the rate of growth GDP by 1999.
- Payment rates for each category of personal health services would be set at levels calculated to keep health expenditures within the national health budget. Rates would be set separately for Medicare and for non-Medicare health spending (168).

In addition, the 1992 act provided for Medicaid payment rates to be raised gradually to 90 percent of Medicare rates (168). Other key government cost-containment features of the Health Care Cost Containment and Reform Act of 1993 are listed in table 2-5.

Summary

Proposals often include more than one government cost-control mechanism. Proposals may also set a growth target or limit in legislation, although none of the proposals applies such a target or limit to NHE in the aggregate. As described below, analysts often examine the array of cost-control mechanisms and other aspects of a particular proposal and come to a global judgment about the effectiveness of the cost-control provisions in meeting a particular limit on health care expenditures.

ANALYSES OF REFORM PROPOSALS

Several analyses—by the Clinton Administration, CBO, and Lewin-VHI—incorporate as-

[6] The Department of Veterans Affairs' system and the Indian Health Service (in the Department of Health and Human Services (DHHS)) would remain.

[7] CBO noted that the American Health Security Act defines the limit on the growth of health expenditures in two different ways. The alternative definition would limit the growth of health spending to the rate of increase in GDP for the previous year (171).

[8] CBO analyzed the bill H.R. 5502 from the 103d Congress, but did not analyze H.R. 200.

TABLE 2–4: Approaches to Government Cost Controls in the American Health Security Act of 1993 (H.R. 1200/S. 491)

Government cost controls	Characteristics of controls	Details of controls
Expenditure limits	**National and state budgets for the national health insurance program, limited to growth of GDP in previous year plus population** growth.	The national budget would be allocated to states, with the federal contribution to states set between 81 and 91 percent of approved state budget amounts, averaging 86 percent. States develop budgets broken down by function and categories of services. States are responsible for funding the other 14 percent of budgets, as well as any additional spending in excess of approved state budgets
Prospective budgets	Institutional and facility-based care (e.g., hospitals and nursing homes).	Negotiated prospective budgets to pay for operating expenses for institutional and facility-based care, including hospital services and nursing facility services. Budgets include payments for outpatient care and non-facility-based care furnished by the facility. Budgets can be amended before, during, or after the year if there is a substantial change in any of the factors relevant to budget approval.
	Comprehensive health service organization.	CHSOS would be paid either through a prospective budget or through a basic risk-adjusted cavitation payment for each of its enrollees.
Price controls	Independent health care practitioners (e.g., physicians).	Negotiated prospective fee schedules for physicians and other professional services, designed to provide Incentives for practitioners to choose primary care medicine over medical specialization, States are allowed to adjust fees depending on whether expenditures under the fee schedule will exceed the state budgeted amount with respect to such expenditures.
	Pharmaceuticals,	A Security Standards Board could determine or negotiate prescription drug prices with the pharmaceutical industry.
Optional payment methods	**Community-based primary health services.**	Payments would be based on a prospective budget, on a basic primary care cavitation amount for each enrollee, or on a fee schedule.
	Other facility-based services (e.g., hospice care, outpatient services, home-, school-, and community-based services).	Payments would be based on a prospective budget, cavitation for each enrollee, a fee schedule, or other payment method.

KEY: CHSO = Comprehensive Health Service Orgaanization, GDP = gross domestic product

SOURCE Office of Technology Assessment, 1994

TABLE 2–5: Approaches to Government Cost Controls in the Health Care Cost Containment and Reform Act of 1993 (H.R. 200)

Government cost controls	Characteristics of controls	Details of controls
Expenditure limits	**National health budget, by 1999 required to grow at the average annual percentage Increase in GDP during the five-year period ending with the second previous year.**	**The national health budget would be divided into a Medicare category and a non-Medicare category of expenditures, each required to grow at the average rate of** GDP by 1999, the Medicare and non-Medicare categories would be allocated to separate "classes" of health services (e g., inpatient hospital services, outpatient hospital services, physician services, and mental health services).
Price controls	Non-Medicare payment rates (for services not subject to state provider payment systems or provided by staff- or group- model HMOS).	Maximum payment rates would be set for each class of health service for non-Medicare services at levels estimated not to exceed the share of the non-Medicare budget for the relevant class. Rates would generally be set using Medicare methods (e g , DRGs for Inpatient hospital services, Providers would not be allowed to charge more than the maximum payment rates.
	Medicare payment rates	Rates under the Medicare program would be based on existing provisions of Medicare law and reduced as needed to assure that payments to providers conform to the Medicare budget
Optional payment methods	**Staff- and group-model HMOS**	Services provided by group- or staff-model HMOS would be exempt from the maximum payment rates. These HMO models could negotiate rates with hospitals and physicians directly.
	State provider payment systems	States could establish payment programs for hospital and/or physician services, or for all services. The maximum payment rates established by the Secretary of DHHS would not apply to providers m states with approved programs Expenditures for services covered under the state payment system should not be more than what expenditures would be if the maximum payment rates applied in the State

KEY DRG - diagnosls-related group, DHHS = Department of Health and Human Services, GDP = gross domestic product, HMO health maintenance organization

SOURCE Office of Technology Assessment, 1994

sumptions about key government cost-control mechanisms into their estimates of NHE for the proposals described above. Analysts have also estimated NHE for previous proposals with similar cost-control provisions (the Universal Health Care Act of 1991 and the Health Care Cost Containment and Reform Act of 1992, both introduced in the 102d Congress).

Analyses of the Health Security Act

To estimate the effect of the Health Security Act premium limits on changes in NHE, analysts generally consider:[9]

- The share of NHE that would be subject to the health alliance premium growth limits in 1995, the year before the premium growth limits would become effective. This assumption is based on estimated costs of the standard benefit package and the number of people estimated to be served by health alliances. Analysts must estimate initial-year premiums for those health services covered under the standard benefit package. The Health Security Act does not specify what the initial-year premiums must or should be, but it provides a formula for calculating premiums (section 6002).[10]
- The effectiveness of the various cost-containment provisions for limiting premium growth rates to those specified in the legislation. The assumed growth rates are applied to the portion of NHE subject to the premium growth limits.

Clinton Administration's Analysis of the Health Security Act

Premium levels

According to Administration officials, the average premium in the regional alliances for a single person would be $1,932 in 1994 (32,135). Average premiums in the regional alliances would be $3,865 for a couple, $3,894 for a one-adult family with children, and $4,361 for a two-adult family with children (1 35). Rivlin and colleagues note that premium estimates could change slightly as economic forecasts and National Health Accounts baselines are updated (135). The Administration estimates are lower than comparable premium estimates by CBO and Lewin-VHI. [11,12]

Premium growth rates

The Health Security Act specifies the maximum rate of growth in the cost of the per capita regional alliance premium targets. In 1994 and 1995, costs would grow at a rate fair] y consistent with private health insurance. Growth would be at the rate of change in the CPI plus 1.5 percent in 1996, CPI plus 1 percent in 1997, CPI plus 0.5 percent in 1998, and CPI in 1999 and 2000.

The Administration's analysis assumes that the premium growth limits would be 100 percent 'effective" (i.e., that increases in the portion of NHE covered under the premium growth limits would equal the rate of growth set out in the legislative language from 1996-2000) (see table 2-2).[13]

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9 Analysts also estimate how changes m the government payment formulae for Medicaid and Medicare would influence NHE. This part of the analysis is not reviewed in this chapter.

101nl[laI. year premium estimates, therefore, partially determine whether analysts estimate that health expenditures in the first few years of the plan will be higher or lower than projections of NHE under the current system (i.e., baseline spending). As noted above, the premium limits apply only to a portion of national health expenditures. In addition the premium limits do not apply to Medicare or Medicaid expenditures. They also would not apply to such categories of spending as research and construction, some government administrative expenses, or government public health activities. For example, Lewin-VHI estimated that expenditures under the regional health alliances would account for approximately 33 percent of NHE in 1998 (89).

11 This chapter does not explore the underlying assumptions and data used by the different analysts that have caused differences in initial-year premium estimates.

12 In a meeting with office of Technology Assessment (OTA) staff, Administration officials stated that the regional alliance premiums, assuming the limits, would account for approximately one third ($321 billion) of NHE in 1994(155).

13 The Administration has stated that all Administration analyses assume that the act's premium limits will be 100 percent effective (200).

Lewin-VHI's Analysis of the Health Security Act

Premium levels

Lewin-VHI's premium estimates for 1998 are about 15.4 percent higher, on average, than comparable Clinton Administration estimates (145). For individuals, Lewin-VHI estimated that a premium of $2,732 would be required to cover the costs of the standard benefit package in 1998. The comparable Administration average premium, according to Lewin-VHI, would be $2,336 (143).14

Premium growth rates

Although it is not entirely clear from the documentation, Lewin-VHI estimated that savings achieved through the alliance premium growth limits would not equal the full difference between projected health spending growth rates under the current system and the growth rates specified in the act (143). Lewin-VHI did not assume that premium growth limits would be fully effective because, according to Lewin-VHI, two "loopholes" in the proposal would allow alliance premiums to increase above the 1imits.

First, Lewin-VHI concluded that the act would permit alliances to adjust premium growth rate limits for "material changes in the demographic composition" of the covered population. [5]Lewin - VHI assumed that the advancing age of the baby boom population would cause alliance premiums to increase at higher rates than envisioned by the act (by about 0.6 percent per year) (143).

Second, Lewin-VHI assumed that the health alliances would experience losses in excess of the premium growth limits due to plan failures. Lewin-VHI approximated that the addition to premium levels in each year from this loss would equal the guarantee fund reserve premium assessments of 1 percent a year. These two adjustments to premiums resulted in Lewin-VHI's implicit assumption that the growth limits would be about 85 percent effective (143).

Lewin-VHI did not specifically discuss how prospective budgets or fee schedules for fee-for-service plans might affect the likelihood of meeting the regional alliance premium limits (see tables 2-2 and 2-3). In general, Lewin-VHI assumed that the law would be implemented and enforced as long as it was technically feasible to do so (144). Lewin-VHI has decided that it is not the role of analysts to make adjustments on the basis of political feasibility (i.e., pressure on Congress to change or overturn the premium limits); rather, analysts should try to evaluate the impact of the legislation as written (1 43).

CBO'S Analysis of the Health Security Act

CBO has produced several documents that, taken as a whole, illustrate its general approach for estimating NHE under health reform proposals with expenditure limits and supporting mechanisms. CBO'S approach involves assigning an effectiveness rating to the specific legislated expenditure limit in the bill using analysts' judgments and an array of criteria. It then projects health spending for the share of NHE subject to the limit at the growth rate implied by the limit in combination with its effectiveness rating. However, there is no one place in which CBO describes an overall set of criteria that it uses for assigning an effectiveness rating to a particular set of cost containment mechanisms (box 2-2).

Premium levels

CBO estimated that the national average premium for the standard benefit package for a single person would be $2,100 in 1994 (172). Its premium estimate is 15 percent higher than the Administration's for 1994, and virtually identical to Lewin-VHI'S estimate for 1998 (1 72).

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[14]Lewin. VHI calculated the Administration's 1998 premium by adjusting the Administration's 1994 average premium estimate forward to 1998 (143).

[15]According to John Sheils, the legislation is not clear whether this allowance, as we]] as others, must be a neutral adjustment among all health alliances. Discussions between Lewin-VHI and the Clinton Administration about the legislative language did not resolve the issue (143).

BOX 2–2: CBO's Method and Criteria for Rating the Effectiveness of Expenditure Limits

The CBO's use of effectiveness ratings is regarded as a conceptual advance in estimating procedures. However, some policymakers have expressed concern that CBO's (and others') methods and criteria for rating the effectiveness of their proposals may be difficult to decipher. As a result, CBO (and others) may appear to use differing methods and criteria to rate the effectiveness of apparently similar policies intended to change national health expenditures (NHE) under reform. This box reports the general method and criteria that CBO has reported using to "score" different proposals with expenditure limits that apply to a large portion of NHE.

CBO's General Method

In testimony in 1993 and elsewhere, CBO has described its general method for assigning an effectiveness rating to expenditure limits contained in legislative proposals (130,205):

- **First, CBO examines the proposal** with respect to: 1) the stringency of the expenditure limit, 2) the specified enforcement mechanisms, and 3) the administrative structure of the controls (see discussion of criteria below).
- **Second, based on its best judgment, CBO assigns an "effectiveness rating" to the expenditure limit based on the set of cost control mechanisms contained in the proposal and related administrative and other criteria** (see below).

In essence, CBO makes an assumption about the likelihood that the package of cost-containment levers in the proposal will succeed in reducing the share of health expenditures subject to the expenditure limit to the level and/or growth rate specified in the legislation. According to CBO, "[b]ecause the choice of an effectiveness rating is difficult and imprecise," CBO limits effectiveness ratings to 100 percent (fully effective), 75 percent, 50 percent, 25 percent, and 0 percent (completely ineffective).

- **Third, CBO estimates savings from the expenditure limits.** Savings are equal to:
  a. the difference between:
     1. CBO's projected growth rate for the relevant expenditures under health reform *without* the limit and
     2. CBO's assumed growth rate for the relevant portion of NHE under health reform *with* the legislated expenditure limit applied; which is
  b. multiplied by the effectiveness rating.

  CBO then projects the portion of NHE subject to the expenditure limit forward by its assumed growth rate.
- **Fourth, CBO estimates the growth rate for the portions of NHE not subject to the expenditure limit,** applies that growth rate to the relevant portion(s) of NHE, and aggregates the separate categories of NHE to arrive at its total estimate of NHE under a given health reform proposal.[1]

CBO's Criteria for Assigning Effectiveness Ratings to Expenditure Limits

As noted above, in order to arrive at a particular effectiveness rating for the portion of NHE subject to the expenditure limit in a proposal, CBO applies certain criteria. The ways in which CBO applies specific criteria are not always apparent from CBO's published estimates of specific proposals. According to CBO, the relative importance or weights for each supporting criterion are not fixed, and "the process is judgmental" (133). Further, CBO has acknowledged that the effectiveness ratings stemming from the criteria it uses are "crude." CBO takes these criteria into consideration in an attempt to "rationalize the process" but notes that any weights it assigns to the criteria are based on CBO's analysts' judgments. CBO stresses further that the effectiveness ratings obtained in part through the use of these criteria are "imprecise and subjective" (133). Finally, CBO considers all provisions of a reform proposal in their entirety (131).

The following section presents briefly some of the criteria CBO has provided as general criteria or has used in different analyses to rate the effectiveness of expenditure limits.

BOX 2-2: CBO's Method and Criteria for Rating the Effectiveness of Expenditure Limits (cont'd.)

General criteria or beliefs. In response to a previous draft of this OTA report, CBO said that "The general criteria CBO considers are listed on pp. 11-12 of the July 1993 paper [168], and the specific criteria considered important are discussed for each bill with an expenditure limit as part of CBO's cost estimate" (133).[2] However, CBO's July 1993 paper does not list "general criteria" per se. Rather, the paper notes what CBO "believes" are factors that will increase "the likelihood of success" of limits on expenditures, as follows:

> Based on its assessment of the evidence of the effectiveness of limits on expenditures as they have been applied in the United States and in other countries, CBO believes that the likelihood of success increases with uniform payment levels and centralized claims processing, restrictions on the ability to purchase health care outside the regulated system, and global budgeting for hospitals and other institutions. In addition, a continuously adjusting mechanism for paying physicians, as has been used in Germany and in some Canadian provinces, and budgeting or rate setting that applies to all providers and services would be most effective in enforcing the limits. A good data system with uniform reporting by all providers to allow quick feedback would also be an important component of an effective strategy for limiting health expenditures (168).

In July 1993 document, CBO also notes that "To be effective, . . . legislation would have to include specific details on the mechanisms for setting, monitoring, and enforcing the limits. . . In the absence of specific information that would be used to enforce expenditure limits, it would not be possible to estimate the impact of the limits included in legislative proposals." (168).

Specific criteria. In analyses of specific proposals and elsewhere in CBO's published works, CBO has referred to the following specific criteria that would enhance the effectiveness of statutory expenditure limits. CBO often refers to specific criteria quite briefly, referring people with additional questions about the derivation and meaning of the criteria to previous CBO publications. OTA searched for, and found, other apparent explanations of some of CBO's criteria in various of CBO documents. These apparent explanations are included in footnotes accompanying the various criteria.

- Scope of current NHE covered by expenditure limits (128,162)[3]
- The difference between the prescribed expenditure limit and projected spending assuming current law (162)[4]
- An all-payer system or uniform payment levels (130)[5]
- A single-payer system (130)[6]
- Experience by the rate-setting authority in setting payment rates and estimating provider responses (168)[7]
- Stringency of penalties (162)[8]
- Penalties regarding quantity (volume), as well as price (162)[9]
- Mechanisms or penalties to recover excess spending that might occur under an expenditure cap or target (130,162,171)[10]
- Concurrent introduction of other cost control measures (162)[11]
- Global budgeting for hospitals and other institutions (130,160)[12]
- Required, rather than voluntary, changes in provider behavior (129)[13]
- Involvement of providers in the process of setting and monitoring expenditure caps (162)[14]
- Prohibition of balance billing (171)[15]
- A complete, timely, usable, and uniform data and utilization monitoring system (130,162,168)[16]
- Required, rather than voluntary, participation in a national health claims network (168)[17]
- Exemption of HMOs from rate-setting[18]

(continued)

BOX 2-2: CBO's Method and Criteria for Rating the Effectiveness of Expenditure Limits (cont'd.)

[1]It is not always clear, however, how CBO estimates growth rates for portions of NHE not subject to an expenditure limit. CBO may project expenditures for health services not subject to the limit based on projected growth rates of those categories of spending under current law, or its projections may depend on reforms to those categories of spending contained in the health reform proposal.

[2]CBO's July 1993 paper was a compilation and comparison of estimates of four bills introduced in the 102d Congress.

[3]"Limits applied to one segment of the market, one geographic area, or one type of health service could reduce spending for the affected group or service. But they would have less effect on national health expenditures because of substitutions among services and other compensating adjustments within the system" (162). "Policies that extend to all consumers, payers, and providers generally produce a greater impact on national health spending" (128).

[4]"[A] method [for establishing expenditure limits] that set an expenditure cap that was only slightly less than projected spending would probably not provide sufficient incentives to change the behavior of providers" (162).

[5]"[G]overnment regulation could set maximum prices for physician services that all payers would have to follow. . . Under such an all-payer system, providers could increase volume to offset some, but probably not all, of their lost revenue. Administrative costs would decline somewhat . . . In addition, the authority that determines prices would also control their rate of increase. If the legislation included rules that would limit the growth in prices to less than the projected rate, then price controls in all all-payer system could generate lower national health expenditures than would otherwise occur" (130).

[6]"Price controls carried out through a single-payer system could also reduce reimbursements and sharply cut administrative costs for insurers and providers" (130).

[7]"Expenditure limits enforced by rate setting could be reasonably but not totally effective in controlling Medicare spending [under H.R. 5502]. The Health Care Financing Administration collects most of the data necessary to set rates and track spending relative to the budgeted amounts. It also has considerable experience in setting payment rates and estimating the responses of providers" (168).

[8]"The impact of expenditure limits on national health spending would also be determined by . . . the stringency of the penalties that would be imposed if spending exceeded the limits that had been established" (162).

[9]"[P]enalties for exceeding the allowed expenditure levels would need to address both the price and the quantity of services provided" (162).

[10]"To achieve the level of health spending specified by an expenditure cap or target would require that, if the goal were exceeded in one period, offsetting adjustments would be made in subsequent periods" (162). "A continuously adjusting payback mechanism for physicians, as has been used in Germany and in some Canadian provinces, . . . would be effective in enforcing the [expenditure] limits" (130). Under H.R. 1200, "[n]o penalties would apply, however, if a state failed to live within the budget, and some states may therefore opt to spend more on health care services than the budget provides. As a result, the expenditure limit is unlikely to be fully effective in controlling the growth of national health expenditures" (171).

[11]"The potential effectiveness of expenditure limits would depend on the choice of cost control mechanisms that would be introduced into the health care system. Those mechanisms could include price controls, utilization review and management, increased cost-sharing for consumers, changes in the tax treatment of employment-based health insurance, greater efficiency in the administration of public and private health insurance, and assessment of the value and appropriateness of new technologies before their adoption" (162).

[12]"CBO believes the likelihood of success [of expenditure limits] increases with . . . global budgeting for hospitals and other institutions" (130). "Global budgeting for hospitals' operating costs and expenditure caps for overall spending or specific types of spending will limit the level and rate of growth of health care spending, if they are strictly applied. If a specified amount of money is allocated, and no other source of funding is available, then the health care system is constrained to cost only that amount" (160).

[13]"Proposals that encourage, rather than require, changes in the behavior of providers, insurers, or consumers, and that do not include strong incentives or penalties, have little effect [on cost containment]" (129).

[14]"Other countries that have used expenditure limits as part of a national health policy have involved providers in the process of setting and monitoring expenditure caps. . . . That approach [used in Germany] might be more effective in achieving behavioral changes that would control costs than a policy that involved providers only minimally" (162)

[15]"H.R. 1200 contains many of the elements that, CBO has concluded, would make its expenditure limit reasonably likely to succeed. . . . [B]y prohibiting participating providers for billing [patients] for covered services, it makes it unlikely that people would purchase health care outside the regulated system" (171).

BOX 2-2: CBO's Method and Criteria for Rating the Effectiveness of Expenditure Limits (cont'd.)

[16]"A good data system with uniform reporting by all providers to allow quick feedback would also be an important component of an effective strategy for limiting expenditures" (130). "In both an all-payer and a single-payer system, legislation that included provisions for uniform monitoring of providers' patterns of care would have an even greater impact than price controls alone" (130). "[T]he availability of timely data to monitor performance under the expenditure controls" could increase the effectiveness of expenditure limits (162). [T]he data needed to determine compliance with the expenditure limits would be incomplete and would not be available in a timely fashion. . . . States would be permitted to operate their own systems as long as the growth in health care spending did not exceed what it would have been under the maximum rates. This calculation would be very difficult to make, and specific data on states would not exist in usable form for at least several years" (168).

[17]"The limits on non-Medicare spending [under H.R. 5502] are likely to be subject to much greater leakage and to be far less effective [than the Medicare spending limits]. Participation in the national health claims network would be voluntary...." (168).

[18]"The limits on non-Medicare spending [in H.R. 5502] are likely to be subject to much greater leakage and to be far less effective [than the Medicare spending limits] . . . . The bill exempts federally qualified HMOs from rate setting. Federally qualified HMOs are more broadly defined than group- or staff-model HMOs and include organizational forms that have not been shown to be cost-effective" (168).

SOURCE: Office of Technology Assessment, 1994.

Premium growth rates

For the purposes of making its estimates, CBO assumed that "the proposed methods for constraining the rate of growth of premiums for the standard benefit package would be complete] y effective" (1 72). With little accompanying discussion about its rationale, CBO assumed that the portion of NHE subject to the premium growth limits would increase at the legislated growth rates over the period 1996-2004, and that the mechanisms for limiting growth of premiums would be implemented as intended. [16]

CBO acknowledged that the premium growth limit "could have unintended consequences for the health care system that would affect its overall acceptability, and, hence, the sustainability of the limits," and that "[t]he fact that limits on the rate of growth of premiums might begin to bite at different times and in different ways in each of the various alliances raises the issue of the political sustainability of those limits" (172).

In addition, CBO discussed at length the difficulty agencies would have in developing the experience and the administrative and data systems needed to undertake their assigned tasks in the time frame envisioned by the Health Securit y Act. For example, CBO stated that "[t]he Administration's proposal would depend critically on timely information, much of which has never been collected. Notwithstanding the ongoing and rapid development of information technology in the health care industry, it is uncertain whether the data essential for decisionmaking would be available in a timely fashion. If they were not or if important information was of poor quality, the functioning of the system could be compromised." (172)

CBO nevertheless assumed in its NHE calculations "that the limits on the rate of growth of premiums would be sustained even though they are likely to create immense pressure and considerable tension" (172).

Because CBO has used similar criteria to assign less than 100 percent effectiveness ratings to expenditure limits in other health reform proposals, its 100 percent effectiveness rating for the pre-

16 OTA assumes that CBO used the default inflation factor defined in the legislation to estimate premium growth beyond the year 2000. CBO included an additional increase of 5 percent m 2001 to cover the expansion of dental and mental health benefits scheduled in that year (172).

mium growth limits may be perceived as an inconsistent application of its criteria (see table 2-2). However, the consistency with which CBO rates different legislative proposals is difficult to judge because its method for assigning effectiveness ratings is somewhat unclear.

Analyses of the American Health Security Act of 1993 and the Universal Health Care Act of 1991

CBO'S *Analysis of the American Health Security Act of 1993*

CBO provided estimates of NHE under both House and Senate versions of the American Health Security Act (H.R. 1200/S. 491) (170,171).[17,18] To estimate the impact of the national budget limit on NHE, CBO:

- Estimated the amount of NHE that would be subject to the national/state budget limit in 1996, the year before the new program would take effect.
- Added the estimated amount of additional health services that would be demanded under the new program in the absence of the national/state budget limit on a large portion of NHE, and subtracted estimated administrative savings.
- Estimated NHE for 1997 through 2003 by projecting out the expenditures subject to the national/state budget limits based on the growth limits specified in the bill and CBO'S assumptions about their likely effectiveness (17 1) (see box 2-2). [19]

CBO assumed that the limit on the growth of the national/state health budget would be only 75 percent effective (i.e., the act's cost-containment mechanisms would produce 75 percent of the maximum savings possible from the prescribed expenditure limit) .20 In arriving at that figure, CBO concluded that the American Health Security Act contains many of the elements that "would make its global expenditure limit reasonably likely to succeed" (171) (see table 2-2). However, CBO concluded that the expenditure limit would not be 100 percent effective because a state would not be penalized if it failed to live within its budget. States might therefore choose to spend more on covered health care services than provided under the national health budget (171).

CBO did not document whether or how it took into account all of the government cost-control mechanisms contained in the American Health Security Act. For example, CBO did not explain how payment rates for health care practitioners (e.g., physicians and dentists) based on negotiated

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17 The bill's sponsors provided an estimate Of NHE under the plan ($1 .47 trillion by the year 2000, representing an estimated savings Of $203 billion, compared with projected spending under the current system). Moreover, they estimate that the plan would save money compared with the current system in each year over the period 1995-2000 (193). However, the sponsors did not provide documentation that would permit observers to deduce how assumptions about government cost controls were derived.

18 CBO estimated that the Senate version Of the American Health Security Act (S.491), with a 75-percent effectiveness rating for the national budget limit, would increase spending by an additional $4 billion by the year 2000 (see table 1-l in chapter 1), for a total NHE estimate of $1.62 trillion.

19 CBO estimated that enactment Of H.R.1200 (the House version of the legislation) would raise NHE over the period 1996 through 1999 above projected baseline spending, but the proposal would reduce spending by about 6 percent below the projected baseline by 2003. CBO estimated that the bill would initially raise NHE primarily as a result of the cost of providing additional services due to expanded insurance coverage. Over the longer run, however, the limit on the growth of the national health budget—assumed by CBO to be 75 percent effective—would reduce the rate of growth of spending on covered services below the projected NHE baseline growth rate (17 I). The same CBO methodology and estimates apply to the Senate version of the American Health Security Act, except that CBO estimated that enactment of the Senate version would reduce NHE by about 5 percent by 2003, as a result of lower cost-sharing requirements for patients in S. 491 and differences in dental benefits between the two bills (1 70).

20 The estimated maximum potential savings from the expenditure limits equals the full difference between CBO's projected NHE growth rate under the act in the absence of the national/state limits and the estimated growth rate in NHE after applying the expenditure limits in the legislation (i.e., GDP growth in the previous year plus population growth).

fee schedules might have influenced its effectiveness rating (see table 2-3). In addition, CBO did not incorporate the potential response of providers to mechanisms such as fee schedules for physicians and prospective budgets for hospitals in its cost estimates of unconstrained demand for these services (203).[21]

CBO explicitly stated that it assumed that the open-ended nature of state budget shares would likely cause 25 percent of the potential savings from a fully effective limit to go unrealized. However, it seems equally plausible to assume that excess state spending would cause 50 percent of potential savings to go unrealized if states face strong political pressure to fund more services. Alternatively, since states must fund any excess spending from their own revenues they would have a strong incentive to stay within their share of the national health budget, Therefore, it also seems plausible to assume that the national budget limits might be 100 percent effective. CBO acknowledges these plausible alternatives at the same time that it gives its best guess of "75 percent effective ."

According to CBO, "because the United States has no experience with a program like the one envisioned in [the American Health Security Act], the assumption about the effectiveness of the spending limit in the bill is highly uncertain" (17 1). CBO therefore provided five alternate estimates of NHE for the legislation based on its five possible effectiveness ratings for expenditure limits.

CBO'S range of NHE estimates demonstrates that its alternative assumptions about effectiveness substantially affect its projections of savings. If the limits on NHE are assumed to be fully (100 percent) effective, CBO estimated sayings over projected baseline spending of $257 billion in 2003-$143 billion more **than** if the expenditures limits are **assumed to be** only 75 percent effective.[22,23] If the expenditure limits turned out to be only 50 percent effective, the American Health Security Act would not lead to any savings in the year 2003, but rather would increase NHE by *$42* billion, according to CBO.

CBO'S Analysis of the Universal Health Care Act of 1991

CBO used the same approach and very similar assumptions to project NHE under the Universal Health Care Act of 1991, introduced in the l02d Congress as H.R. 1300, that it used to analyze the American Health Security Act. Both acts propose a single-payer system. The two proposals also contain almost identical growth limits on a large portion of NHE and cost-control mechanisms for specific categories of health spending.

One important difference between the American Health Security Act and the Universal Health Care Act appears to be the states' role in administering and funding the system. Both bills would establish annual national and state budgets for covered health services and various other components of NHE.[24] The Universal Health Care Act appears to leave funding at the national level, although states could administer their own programs. Under the American Health Security Act, the federal government would transfer the majority of funding for state budgets to states, which would be responsible for funding the other portion

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[21] CBO did incorporate such behavioral responses in its estimates of potential single-payer and all-payer systems contained in its document CBO *Single-Payer and All-Payer Health Insurance Systems Using Medicare's Payment Rates* April 1993. However, the systems modeled were based on Medicare payment rates and did not include expenditure limits that applied to a large portion of NHE. In addition, CBO only estimated the immediate effects under those systems and did not estimate growth rates in NHE over a longer period.

[22] CBO estimates cited here are based on the bill's higher expenditure growth limit of GDP growth plus population growth.

[23] CBO's estimate of House version of the American Security Act (H.R.1200).

[24] For example, the national budget would include funding for capital-related items for hospital and nursing facilities and for dir@ medical education expenses.

of their budgets and for making all provider payments.

CBO assigned a 75 percent effectiveness rating to the national budget growth limits in both the Universal Health Care Act and the American Health Security Act, and it lists many of the same criteria in support of both effectiveness ratings but different rationales for the 1ess-than-100-percent rating (see table 2-2). Without the possibility of states spending beyond the federally set budget under the Universal Health Care Act, one might have expected CBO to have concluded that the national health budget limits would be 100 percent effective. However, CBO asserted that the national budget limit was unlikely to be completely effective because "[physicians and other non-institutional providers would continue to be paid on a fee-for-service basis, and the bill fails to provide any prompt feedback mechanism to assure that increases in the volume of services would not offset fee restrictions on their price" (168).

It is not clear from CBO'S documents whether the above criterion also influenced its 75 percent effectiveness rating for the national budget limits in the American Health Security Act. It is also not clear whether it should have been a factor. The Universal Health Care Act specified that payments for physicians and the services of other professionals would be based on a fee schedule using a national relative value scale consistent with the national health budget (Universal Health Care Act of 1991, section 2123 (a) and (b)). Similarly, the American Health Security Act states that health care practitioners would be paid through negotiated prospective fee schedules, designed to provide incentives for practitioners to choose primary care medicine over medical specialization, and that states could adjust the payment schedule amounts to meet their budgets (American Health Security Act of 1993, section612 (a) and (b)).[25] The wording in the two acts seems too ambiguous to determine whether the payment method for physicians (and other independent practitioners) was intended to be the same under both acts. Specifically, it is not clear whether the American Health Security Act includes provisions for a prompt feedback mechanism to assure that increases in the volume of services would not offset fee restrictions for physicians, or whether the Universal Health Care Act precludes such a mechanism-—the rationale CBO gave for not assigning a 100 percent effectiveness rating to the Universal Health Care Act.

The above comparison of CBO'S effectiveness rating criteria for the two acts demonstrates some important points about CBO'S method for assigning effectiveness ratings to health reform proposals that contain limits on a large portion of NHE:

- It may not be clear to people outside of CBO what factors cause a proposal expenditure limits to be rated more or less effective by CBO.
- Because of some ambiguities in legislation, CBO (and other analysts) must make assumptions about how to interpret the legislation and make subsequent assumptions about how to incorporate such interpretations into effectiveness ratings.
- Two different criteria for "ineffectiveness" were given the same weight, perhaps because of the restricted range of intermediate ratings CBO uses. However, it is not obvious that the two factors would be equal in causing higher spending growth than stipulated in the two acts. This problem is not necessarily a defect in CBO'S approach. It arises from the complexity of estimating the impact of major reforms on the current U.S. health system, and the difficulty of assigning a precise effectiveness rating to expenditure limits.

25 This wording applies to the House version of the bill, H.R. 1200. The Senate version, S. 491, is more clear about the inclusion Of volume feedback provisions.

CBO'S Analysis of the Health Care Cost Containment and Reform Act of 1992

To date, no organization has provided estimates of NHE under the Health Care Cost Containment and Reform Act of 1993 (H.R. 200). CBO did, however, estimate NHE under the Health Care Cost Containment and Reform Act of 1992 (H.R. 5502 in the 102d Congress), which was very similar. However, CBO emphasized that its estimate of H.R. 5502 does not apply to H.R. 200 (168). Although CBO had not yet completed an assessment of H.R. 200, it expected "that its expenditure limits will be more effective than those in H.R. 5502" (130).

To estimate the impact of the national expenditure limit on NHE under either of the two acts, analysts typically would:

- Estimate the amount of baseline NHE that would be subject to the national budget limits and the share of those expenditures determined to be Medicare and non-Medicare expenditures.
- Estimate changes in NHE from projected baseline spending due to changes in health insurance coverage, administrative costs, and other provisions of the legislation.
- Make assumption about the growth rate to be applied to Medicare and non-Medicare expenditures based in part on the legislated national budget limits, and in part on assumptions about the ability of the cost-containment mechanisms in the legislation to support the stipulated growth rates for each of the above spending categories. The assumed growth rates for each spending category are then used to project future health expenditures for those spending categories.

CBO'S analysis of NHE under H.R. 5502 concluded that the limit on Medicare-related spending would be 75 percent effective, but that the limit on non-Medicare spending would be only 25 percent effective **(168).** According to CBO, "[e]xpenditure limits enforced by rate setting could be reasonably but not totally effective in controlling Medicare spending" (168).

CBO'S stated reasons for assigning a relatively higher effectiveness rating to the Medicare limit focus on Medicare's data-collection capabilities and rate-setting experience (see table 2-2). CBO also asserted that "the history of cost-control efforts both in this country and abroad strongly suggests that setting payment rates is not sufficient for achieving full control over health expenditures" (168). Table 2-2 also lists CBO'S criteria for not assigning a 100 percent rating to the Medicare expenditure limits.

CBO assumed, for several reasons, that "[t]he limits on non-Medicare spending are likely to be subject to much greater leakage and to be far less effective" than the Medicare spending limit. Most of the reasons have to do with administrative and data-collection difficulties that would be encountered in enforcing the limits on non-Medicare expenditures (see table 2-2).

CBO'S approach to formulating assumptions about separate growth rates for Medicare and non-Medicare expenditures illustrates its broad selection of criteria for developing effectiveness ratings for expenditure limits. The factors CBO considered most important include not only the payment methods or cost-containment mechanisms, but also the data-collection and administrative support systems available for setting, monitoring, and enforcing the limits. These considerations seem intuitively reasonable, but difficult to apply in a precise quantitative fashion.

Summary

Several health reform proposals include limits on how much at least a portion of NHE would be allowed to grow. To estimate how these proposals would affect NHE, analysts make assumptions about the likelihood that the legislated limits actually would be achieved, based on the strength of the proposed cost-containment mechanisms.

Generalizing about analysts' assumptions underlying effectiveness ratings is difficult because proposals may have different types and levels of limits and different mechanisms to support proposed limits on expenditures. However, some

mechanisms are similar across proposals, and OTA's comparison of analyses suggests that there are some inconsistencies in effectiveness ratings across analysts for the same proposal, as well as inconsistencies in effectiveness ratings by the same analysts for similar proposals and mechanisms. Some inconsistencies are to be expected since analysts acknowledge that their effectiveness ratings are based on their best judgment at the time they perform an analysis. However, the paucity of documentation of criteria in specific analyses makes it difficult to judge the actual extent of the inconsistencies, the reasonableness of some judgments, and the meaning of many of the ratings. Different analysts have judged different proposals' sets of government cost controls to be 25, 75, 85, and 100 percent effective in meeting various proposed statutory limits on spending (table 2-2).

REVIEW OF THE EVIDENCE

Reductions in health spending growth can be achieved only by decreasing growth in the volume of services, reducing growth in the price or average payment per unit of service, or both (8). Instead of allowing markets to determine the allocation of funds to health services, governments can regulate the amount of funds flowing to the health care system (e.g., expenditure limits such as federal or state health budgets for single-payer systems), to health plans (i.e. premium limits), or to different categories of health care services (i.e., physician or hospital payment controls such as prospective fixed budgets or fee schedules).

This section reviews empirical evidence from experiences of the United States and other countries with government controls for limiting growth in health spending. The empirical literature is reviewed to answer whether:

- a particular growth rate for health expenditures can be reliably assigned to a set of cost-containment mechanisms; and
- the evidence supports assumptions that particular government cost-containment mechanisms would reduce growth in health spending compared with the current system.

Research literature on expenditure limits, premium limits, and provider (hospital and physician) payment controls is reviewed. In general, the review in this chapter relies on a combination of previous reviews of literature on these topics, and selected key studies.

In combination, boxes 2-3 and 2-4 provide a framework for evaluating the evidence on government cost controls. The boxes also explain that studies of the effects of government cost controls may be difficult to interpret. The studies are not conducted using experimental designs and vary in methodological rigor.

As described in box 2-4 there are many ways to measure the effects of particular interventions. In reviewing the evidence, this chapter focuses on the broadest possible measures of expenditures. For example, if a study reports results in terms of total hospital expenditures and expenditures per patient day, the former result will be emphasized. Moreover, the review emphasizes the effects of interventions on expenditures by users and payers, rather than costs that providers incur in providing the service. Finally, the review highlights how interventions affected the growth rate of health expenditures by examining growth rates before and after the intervention. In some cases, the review presents results of comparisons of the growth rates of expenditures in areas that had the intervention to other areas that did not.

Evidence on Expenditure Limits Applied to Large Sources of Funding

Legislated expenditure limits that apply to designated sources of health funding (e.g., the federal government, state governments, private insurance) specify a desired goal for the future rate of increase for that portion of NHE.

The United States has had little experience with setting health expenditure limits that apply to designated sources of funding for large shares of NHE and designing mechanisms to meet those limits. For example, the U.S. Medicare and Medicaid programs are "entitlement" programs; they do not receive a specific appropriation for a fiscal year, and until recently neither program had explicit

BOX 2-3: Standards of Evidence

Interpretations of studies on the effectiveness of policy instruments, such as government cost controls, are often complicated by a problem of causality. Many studies on international and U.S. government cost controls provide observational evidence on the effectiveness of government controls, correlating general patterns or trends in aggregate health expenditure data with particular cost-containment features of the country's health care system. However, observational studies often do not take into account important aspects about each country's or region's economic, social, legal, demographic, and political systems that might significantly affect the level or growth of health spending. Each country also has a set of unique features that interact with each other and that may contribute to spending patterns observed for a particular category of health care spending.

For example, a study may find that the introduction of a new payment method for hospital services is associated with a reduction in the growth of hospital expenditures. However, expenditures on hospital services are affected by many factors, such as economy-wide or hospital price inflation, the demand for medical care, and the introduction of new medical technologies. Observational studies generally are not able to sort out the separate effects of these different factors and therefore may provide limited evidence about the impact of specific cost-containment mechanisms or a combination of mechanisms on expenditure patterns. Observational studies without sufficient controls for plausible alternative causes of increases and decreases in expenditures are commonly more useful for generating hypotheses about possible spending effects of different mechanisms than for providing strong evidence about actual spending effects.

A more rigorous method of assessing various government interventions is to analyze the effects of shifting to a particular government intervention (e.g., from per diem reimbursement for hospital services to prospective budgeting) while controlling for, through statistical techniques, other factors that simultaneously may have affected spending trends or patterns. Such studies (i.e., multivariate econometric analyses) generally provide stronger evidence about the actual impact of government cost controls than do uncontrolled observational studies. The multivariate econometric studies are not, however, tantamount to the randomized, controlled clinical trials often used to test the effectiveness of medical interventions.[1] Econometric analyses do not control for the influence of different factors on the variable of interest during the intervention, but must try to account for the effects of important determinants using archival data. The validity and comparability of multivariate economic analyses may depend in large part on the control factors and statistical methods they use (71).

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[1] Randomized, controlled trials "control for" different factors of interest by randomly assigning study targets (e.g., individual patients) to either one or more "experimental" interventions (which are the interventions of interest, such as drug dosages) or one or more "control conditions" (e.g., no treatment or standard treatment). Random assignment prevents selection effects and may be better able to control for unobserved differences between the "experimental" and "control" group than can econometric analysis. In addition, in a randomized controlled trial, care is taken not to contaminate the experimental or control conditions during the study (cross-over effects).

SOURCE: Office of Technology Assessment, 1994

BOX 2–4: Measures of the "Effectiveness" of Government Cost Controls

In some studies and in most popular accounts, government cost controls are often described as "successes" or "failures" without much attention to how these terms are defined. Yet any evaluation of government cost controls depends greatly on how success and failure are defined. The following lists several metrics for evaluating the effectiveness of government cost controls:[1]

- Regulatory interventions can be evaluated in terms of their success in *slowing the growth rate in spending* after the implementation of the government interventions (a longitudinal study) or in terms of their success in *producing lower levels of expenditures compared with other regions or institutions* without the government cost control (a cross-sectional study). For example, the success of prospective hospital budgets might be evaluated by measuring the change in spending growth rates from the previous trend in a single country before and after the policy change, or by examining the difference in expenditure levels between a country that uses prospective budgets to fund hospital services and a country that funds hospital services through other payment methods.
- According to the General Accounting Office (GAO) (176), determining the effectiveness of a government intervention requires *a comparison of actual spending growth under the cost control with spending growth that would have occurred without the intervention.* However, in some cases, it may be difficult to estimate what spending growth would have been without the government intervention.
- Definitions of success or failure are also sometimes based on *the magnitude of the change in spending* after a shift to a new government cost control or on *the magnitude of the difference in spending* between two regions or institutions that use different cost control strategies. Sometimes it is left to the author's or reviewer's discretion to decide whether the magnitude of the change represents a success or failure of the government intervention. Other times, the shift to greater government intervention is determined to be effective if it had a *statistically significant impact on health spending levels or trends*.
- The effectiveness of a government cost control can also be assessed in terms of its success or failure in *achieving a target level or growth rate of expenditures* set by a particular entity, typically a government. An objective determination of whether or not a mechanism is successful by this standard depends on knowledge of the target.
- The effectiveness of a cost-containment strategy can also be assessed in terms of its *impact on different components of health spending* (e.g., the prices of services or the volume of services). For example, even though the use of prospective per-diem rates to pay for hospital services would be expected to affect charges for a day of inpatient care, if hospitals increase the number of inpatient days, total hospital costs or charges would not be fully controlled. In this example, the per-diem rate-setting strategy would be considered successful if hospital charges per day fell after implementation of the new method of funding hospital inpatient services, but might be evaluated as unsuccessful if effectiveness of the payment method were measured in terms of its effect on total hospital expenditures. Similarly, government cost-containment strategies aimed at reducing expenditures for a specific category of services (e.g., hospital or physician services) or for specific payers (e.g., Medicare or Medicaid) may be successful for constraining *category- or payer-specific expenditures* but would not be evaluated as effective for controlling *broader measures of health expenditures, such as NHE,* if cost-shifting to other categories of services or payers occurs.

BOX 2–4: Measures of the "Effectiveness" of Government Cost Controls (cont'd.)

- Another fairly common metric of the success or failure of a specific government intervention, especially for government cost controls aimed at specific categories of services or specific payers, is a *comparison of the trend in expenditures for those categories of services, or by those payers, as a share of NHE or gross domestic product (GDP).* For example, if outlays for hospital services decline as a share of NHE after implementation of a new government cost-containment strategy, the strategy might be evaluated as successful. However, there are problems with using ratios to assess the effectiveness of government cost controls because changes in the denominator of the ratio also affect trends in the ratio. For example, the reason that hospital expenditures might have declined as a share of NHE may be more attributable to large increases in spending on other categories of health services than to a decline in the growth rate for hospital expenditures.
- The same type of difficulty exists for assessing the effectiveness of government cost controls in terms of *NHE-to-GDP ratios,* another common metric for assessing whether a country's health care system has been more or less successful in controlling national health spending. First, it is not always clear that the country wanted to constrain the rate of growth in expenditures to the rate of growth in GDP. Second, one country may have a lower growth rate in its NHE-to-GDP ratio than another because the first country's growth in GDP was higher than the second country's over the period studied. However, both countries may have had similar NHE growth rates over the period.

[1] Government cost controls can also be evaluated on the basis of criteria other than their ability to constrain outlays for health services. The success of a government intervention can also be measured in terms of its effect on the quality of services, access to services, queuing for health services, the efficient production or allocation of health services, the solvency of health care providers or health plans, or other effects. Since this report concentrates on how analysts have estimated health expenditures or outlays under different health reform proposals, this chapter confines its measure of government cost-control effectiveness to effects on health expenditures.

SOURCE: Office of Technology Assessment, 1994

limits on any program expenditures .26 In contrast, other countries are perceived as having explicit limits on government or combination public-private sector spending and international experience might provide some evidence of whether an explicitly legislated expenditure growth limit, set by a political entity, can be achieved. However, there are several reasons why international experience cannot directly answer the question of whether expenditure limits for a large portion of NHE will be met.

Although some countries link the rate of growth of NHE to macroeconomic variables (e.g., the general inflation rate, growth in GDP, or growth in wages and salaries), they have not done so through explicit legislated 1 in-tits.

Germany is often used as an example of a country that has legislated expenditure 1imits for a large portion of its NHE. However, until 1993, Germany established annual *targets or goals* for expenditures for most categories of health services covered under its federal insurance system. Un-

26 It wasn't until passage of the Omnibus Reconciliation Act of 1989 (OBRA 89) that the federal government included a mechanism to adjust Medicare physician payment fee updates based on how annual increases in actual expenditures compared to previously determined performance standard rates of increase (122). The implementation of this expenditure limit is relatively recent (see below), and it applies only to physician payment m the Medicare program.

like limits, as defined in this report, the targets were nonbinding on the negotiations between sickness funds (Germany's quasi-public "insurance" companies) and health care providers.[27] Because Germany's overall expenditure targets only represented a desired goal, its experience provides little evidence of whether proposals with stronger government cost controls are more or less likely to achieve legislated spending limits.

Another reason international comparisons do not provide much evidence on expenditure limits is that proposals to reform the U.S. health care system that include government cost controls and limits do not exactly mirror the system of any particular country. For example, although many of the cost-containment elements in the American Health Security Act (H.R. 1200/S. 491) are similar to those in the Canadian system, the average share of federal funding for state health expenditures in the act is markedly higher than the average share of federal funding for provincial health spending in Canada.[28] The larger federal share in the American Health Security Act might constrain state health expenditures more effectively than has been the case in the Canadian provinces (even though both the act and Canada tie the federal share to the growth in GDP).

Thus, the experience of other countries does not provide a clear-cut answer to the question of how quickly or slowly health expenditures would grow given a legislated growth rate for some share of NHE. Most countries do not have explic it legislated limits similar to those specified in the proposals. Moreover, differences between cost-containment mechanisms in health care systems of other countries and those proposed in health reform proposals might limit the lessons that could be learned from other country experiences with legislated limits.

Some information on the United States experience with expenditure limits affecting large health systems and multiple payers may become available if the state expenditure limit provisions of the State of Minnesota's 1993 MinnesotaCare health reform legislation are implemented. MinnesotaCare 1993 created limits on total health care spending for the state.[29]

Evidence on Premium Limits

As discussed above, the Health Security Act would limit the growth of health alliance weighted-average premiums for the standard benefit package of health services defined in the

27 Between 1977 and 1993, Germany operated under broad federal guidelines set by a national committee designed to reduce spending growth for different categories of health services (e.g., hospital and physician services). The purpose was to stabilize payroll tax rates, which finance the majority of health expenditures (45,180), During the annual bargaining sessions, the regional German sickness funds and providers (e.g., individual hospitals or regional associations of physicians) might agree on a greater or smaller increase than contained in the guidelines for that category (43). The expenditure targets, as well as the category-specific cost controls (see below), in the German health system may have contributed substantially to Germany's ability to hold health expenditure growth rates fairly close to the rate of GDP growth (180). However, average payroll tax rates have not remained constant, increasing from approximately 8.2 percent in 1970 to 13.4 percent in 1993 (139). Because Germany has not achieved its recent spending targets, the government initiated a 3-year emergency measure in 1993 to stabilize and equalize sickness fund payroll contribution rates. The temporary emergency measure imposes mandatory global limits on spending for physician, hospital, and dental services, and for prescription drugs. The limits are to closely track revenue growth of the sickness funds (180). Data are not yet available to evaluate the effectiveness of Germany's more binding expenditure limits.

28 The federal/provincial financing scheme in Canada ties increases in federal financial support for provincial health plans to increases in GDP (45). This scheme is similar to the federal/state financing scheme proposed in the American Health Security Act, in which the federal government's financial support to the states also would grow at the rate of GDP. However, the Canadian federal government financed only about 22 percent of provincial health care budgets through transfer payments in 1991 (60), while under the act the federal government would finance 86 percent of approved state health care budgets on average.

29 State officials estimated that the limit and other features of the MinnesotaCare reforms would yield a total of $7 billion in savings by 1997 (19).

act. Strictly enforced premium limits such as those in the Health Security Act are designed to effectively limit regional and corporate alliance expenditures, while giving health plans flexibility to determine how best to achieve the spending goals.

No direct empirical evidence is available from the United States or other countries to assess whether limits on premiums can constrain increases in health expenditures, or whether premium limits can be sustained over the long term. No country has tried to control the amount of money spent on health care by directly controlling the growth of premiums (66).

Some have suggested that health insurance premium regulation by state insurance commissions could provide some evidence about sustainability of the premium limits. In particular, state experience with premium regulation might illustrate how the political system works when insurance companies or health plans either become insolvent or threaten to go out of business when regulated rates are considered too strict to cover costs. Such experiences might also provide evidence about the effects on health insurance coverage and access to health services when plans withdraw from the market, issues that could be important for judging the political feasibility of premium limits.[30] However, empirical evidence about states' ability to enforce premium limits would not definitively answer the question of whether the Health Security Act premium limits are technically or politically feasible. States do not have the same enforcement powers or mechanisms as those provided under the Health Security Act.

In the future, empirical evidence on the effectiveness of premium limits may be provided as a result of Washington State's recent health reform legislation. In April 1993, Washington passed legislation that is similar in some respects to the Health Security Act in that it includes near-universal coverage, managed competition, and premium limits (23). The premium limit is a phased reduction in the maximum premium a certified health plan may charge for a community-rated uniform benefit package. The premium growth rate will be restrained while the plan is being phased in until increases in premiums equal growth in state per capita personal income, and premiums will be restrained in the future by the rate of growth of personal income (23). While neither the design of Washington's premium limits nor the incentives for health plans to meet the limits are entirely the same as under the Health Security Act, the two may be similar enough to provide some useful empirical evidence about the economic consequences of a system that attempts to restrain health expenditures by limiting premiums.

No empirical evidence is available, either from the United States or other countries, to directly assess the effectiveness of controlling the flow of funds for health services specifically through premium limits.

Evidence on Provider Payment Controls

The above two sections have concluded that there has been little direct experience with expenditure limits applied to comparable systems of government cost controls to assess analysts' assumptions about the effectiveness of expenditure limits. Similarly, there has been little direct experience with premium limits to assess the various assumptions about their potential effectiveness for controlling spending on health care services. However, this does not mean that there is no evidence about the effectiveness of government cost controls for constraining health care spending. Many countries, including the United States, have used government regulations to limit outlays for certain categories of health services. The extent to which the available evidence is applicable to contemporary national reform proposals is often unclear, however. Furthermore, the fact that many states and governments of other countries continue to refine their approaches to regulatory cost controls suggests that no system is perfect. The

[30] To OTA's knowledge, analysts do not now quantitatively rate proposals in terms of their political feasibility.

next section examines the effectiveness of some government controls on payments for hospital and physician services. Outlays for these two categories of services together account for approximately 50 to 60 percent of NHE in most developed countries (120).

Hospital Payment Controls

The amount of money available to fund hospital services can be controlled in a number of ways, either less comprehensively through price controls alone or more comprehensively through controls over the total amount of revenues hospitals receive for their services.[31] Different variations of price and revenue controls have been used in this country and abroad. For example, programs in the United States and other countries have prospectively established prices for inpatient hospital admissions (e.g., prices based on diagnosis-related groups), for a day of inpatient care (e.g., per diem rates), and for individual hospital services. Under these forms of price controls, an individual hospital's total revenues are not limited. That is because the number and coding of admissions, the number of inpatient days, and the number of hospital services provided are still variable under each of these controls respectively.

To limit total revenues, price controls have been combined with budgets that prospectively fix the total amount of revenues an individual hospital receives. For example, in Germany, a prospective lump sum daily rate is calculated after determining a prospective yearly budget for individual hospitals. To arrive at the daily rate, the budget is divided by the projected number of inpatient days. This per diem rate then functions as the payment unit of most third-party payers (85).

New budgets are often based largely on approved budgets from the previous year, with allowable adjustments depending on a variety of factors. These can include new programs or services, anticipated wage settlements, projections of economy-wide inflation, changes in bed capacity, and changes in the size and composition of the population.

This section reviews empirical evidence about the effects of various forms of hospital payment controls on expenditures and costs.[32] Evidence from the United States is reviewed first, followed by evidence from other countries. U.S.-based evidence includes that from the Economic Stabilization Program of the early 1970s, the Medicare Prospective Payment System introduced gradually between 1984 and 1987, various state mandatory hospital rate-setting programs introduced at different times, and Rochester's Hospital Experimental Payments Program of 1980 to 1987. Foreign evidence includes studies of various types of hospital payment controls in Canada, France, Germany, and the Netherlands.

Empirical evidence from the United States

Economic Stabilization Program (ESP). IMP was a broad-based system of wage and price controls designed to deal with inflation perceived to stem from increases in wages and other input costs (44). ESP was introduced in several phases. In phase I (August 1971), President Nixon imposed a 90-day freeze on all wages and prices, including prices in the hospital industry (25,44). Phase II controls, introduced late in 1971, consisted of specific inflation targets for each major sector of the economy. However, regulations specific to hospitals were not issued until December 1972 (25). ESP

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31 *Price controls* are defined as government involvement in determining the level or growth m input prim (resource costs) or output prices (charges) for medical services, including fee schedules and fee updates for physician services and per diem, per case, or per service rate-setting for hospital services.

32 In th, context of health care, *expenditures* are typically defined as monies spent on the acquisition of health care coverage and/or services. in contrast, *costs* are defined as expenses incurred in the provision of services or goods. Hospital expenditures w (mid refer to those funds spent by some individual or entity to acquire hospital services.

controls were lifted in April 1974 (44). The December 1972 regulations imposed a ceiling of 6 percent on price increases for institutional health care providers, including hospitals, and required all price increases to be "cost-justified" (25).

Although the literature indicates that ESP was able to moderate hospital cost inflation, reviewers note that the fact that hospital cost inflation had already started to decline when ESP was introduced complicates the evaluation of the program effect (44).

Uncontrolled studies of the effects of ESP found that the rate of growth of *hospital room and board costs* declined by 50 percent during ESP (25,44, 152).33 Similarly, rates of increase in *costs per adjusted patient day* and *costs per adjusted admission* declined by 25 percent (25,44,152). However, multivariate econometric analyses found annual reductions in the rate of increase in *total hospital costs and expenditures* per admission to be much smaller, ranging between O and 3 percent, according to a 1981 review by Steinwald and Sloan (1 52).

Once the controls under ESP were lifted, hospital cost inflation returned to its former level, suggesting that ESP had some effect. The CPI *for hospital service charges* rose from 4.6 percent when ESP controls were in effect to 14.6 percent immediately after controls were lifted (44). Similarly, after ESP was discontinued, *Medicare hospital expenditures* increased at an even faster rate then they had prior to the imposition of controls (25).

Medicare Prospective Payment System. In 1983, Congress enacted the Medicare Prospective Payment System (PPS) to control inpatient hospital expenditures for Medicare beneficiaries and to reduce rates of increase in overall hospital cost inflation (4,22,25,44).[34] The fundamental characteristic of PPS is a fixed payment per case admission, determined in advance by the federal government. The payment covers all inpatient hospital services furnished during a Medicare beneficiary's stay in a hospital (4).[35]

Under PPS, hospitals are rewarded through surpluses when their costs of providing care for a particular diagnosis-related group (DRG) falls below the Medicare payment level. Hospitals with higher costs than the adjusted national average must bear the penalty of a loss. This section focuses on the evidence regarding the effects of PPS on Medicare expenditures, total NHE, and cost-shifting to other third-party payers. Because of concerns about spillover of expenditures to other health care settings, Medicare outpatient and total expenditures as well as inpatient hospital expenditures are also examined.

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33 The reviews of ESP by Davis and colleagues, Gold and colleagues, and Steinwald and Sloan were based primarily on four or five empirical studies.

34 S_{eVera}] other federal programs to reduce Medicare hospital cost inflation were tried before the PPS program was adopted (112).

35 The fixed payment per case is based on the patient's diagnosis; patients are classified into a diagnosis-related group (DRG). DRG prices reflect in part the average cost experience of all hospitals in the United States for the particular DRG, rather than the hospital "s own cost of treating a patient classified into that DRG (4). The actual DRG payment to an individual hospital is adjusted for several characteristics particular to the hospital and for differences in local wages (112).

A number of problems exist for evaluating the effectiveness of the PPS program, including data limitations and the prevailing use of a simplistic research design (pre/post studies) (22,188).36

This OTA review relies heavily on previous reviews and analyses by Coulam and Gaumer, Gold and colleagues, and the Prospective Payment Assessment Commission (ProPAC) (22,44,127). ProPAC reports regularly on the impact of PPS as part of its congressionally mandated mission (e.g., ProPAC (127)).

Coulam and Gaumer's 1991 review of studies of the first 3 or 4 years of PPS concluded that the main purpose of PPS—to control the growth of total and inpatient Medicare benefit costs (expenditures) without increasing costs to beneficiaries-appeared to have been accomplished (22). Coulam and Gaumer noted a clear reduction in historic rates of growth in *total Medicare spending* (hospital and nonhospital, federal and beneficiary[37]), from an adjusted average annual growth rate of 6.9 percent between 1980 and 1984, to only 4.0 percent annually from 1984 through 1987.[38,39] Coulam and Gaumer attributed these early reductions in total Medicare expenditures to historically low growth rates in spending for *Medicare inpatient hospital benefits,* citing as an example a 4.6 percent inflation-adjusted increase in inpatient hospital benefit payments in fiscal year 1986(51).

More recently, ProPAC observed that *total Medicare expenditures per enrollee* declined after PPS was implemented in 1984, from a growth rate of 6.9 percent between 1980 and 1983, to average annual rates of growth of 3.0 percent between 1983 and 1987 and 4.0 percent between 1987 and 1992 (127) (figure 2-1).[40] The Commission suggests that the decline was attributable primarily to inflation-adjusted per-enrollee spending on *inpatient care,* as shown in figure 2-2.[41] The Commission's figures also show, however, that the decline in the growth rate observed in the phase-in period of PPS (1983 to 1987) was not entirely maintained between full implementation and 1992 (1987 to 1992), although it was lower than in the pre-PPS period (figure *2-1).* Growth in Medicare expendi-

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~ As of the date of Coulam and Churner's review (199 I), the bulk of the published literature on PPS effects was based mainly on the first 3 or 4 years of PPS experience, generally allowing only for evaluations of the initial effects of the program (22). The pre/post design of most of the available empirical studies does not control for other factors that may have influenced trends in hospital spending. The widespread adoption of medical technologies that can be used on an outpatient basis, widespread implementation of managed-care programs in the private sector, and liberalization of home care, nursing home care, and hospital benefits for Medicare in the early 1980s all could independently have caused Medicare or total inpatient hospital expenditures or costs to decline (22). An additional problem with analyzing the cost-containment effects of PPS is that DRG rates were set too high in the first year of the program. Because of the generosity of payment rates in the first year of PPS, hospitals may have had fewer pressures to reduce costs in the early years. After the first year of PPS, very restrictive updates to DRG rates were made to reduce initial hospital windfalls (22). Finally, the PPS system was phased in over several years to allow hospitals time to adjust their behavior. The actual phase-in to full national DRG rates was not completed until November 1987 (11 2). Given the gradual phase-in and initially high DRG rates, it is striking that hospital costs declined during the early years of PPS.

37 In the national health accounts, premiums paid by Medicare beneficiaries for supplementary medical insurance (Medicare Part B) are counted as Medicare program expenditures, not as individual out-of-pocket expenditures.

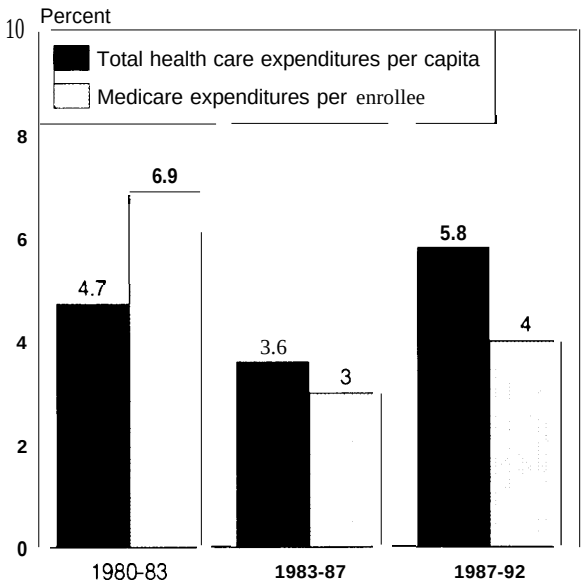
38 Coulam and Gaumer cited studies by Long and Welch (93) and Guterman and colleagues (51) in support of this conclusion. The studies adjusted for inflation, changes in Medicare enrollment, and changes in the mix of Medicare beneficiaries (22).

39 This comparison should be somewhat tempered by the fact that PPS began to be phased in during 1984; however, inclusion Of the growth rate for 1984 would tend to dampen the growth rate for the 1980-84 period.

40 The Commission adjusted its figures for growth in the number of Medicare enrollees.

41 Coulam and Gaumer's report of estimates Of total Medicare growth rates in the 1980-87 period are not totally comparable to those Of the Commission because. Coulam and Gaumer present estimates for the periods 1980 to 1984 and 1984 to 1987. Nevertheless, the direction of results is similar in the two reports.

FIGURE 2-1: Average Annual Change in Total Health Care Expenditures Per Capita and in Medicare Expenditures Per Enrollee, 1980–92



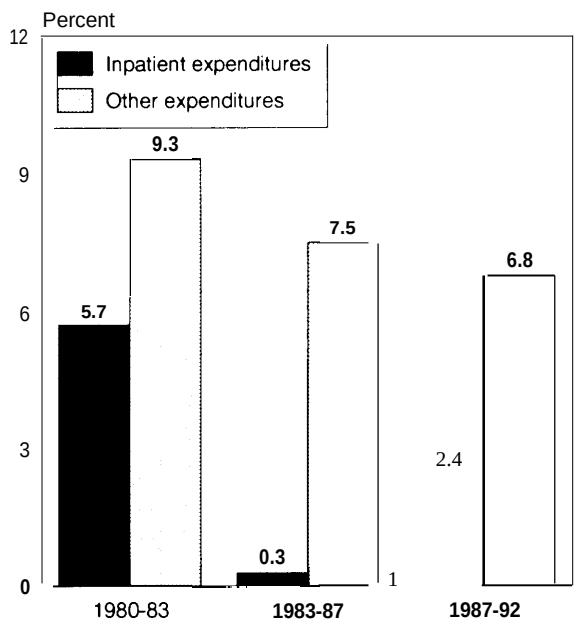
SOURCE: Prospective Payment Assessment Commission (127), based on data from Department of Health and Human Services, Health Care Financing Administration, Office of the Actuary. The full citation is at the end of the report.

tures remains somewhat greater than general inflation, but lower than overall growth in NHE.[42]

According to one study reviewed by Coulam and Gaumer, a 10 percent increase in outpatient visits in the very early years of PPS was attributable to PPS (54). In contrast, ProPAC could not conclude that PPS was the cause of observed growth in *Medicare noninpatient spending* following PPS, although the data were suggestive (4). Rapid technological changes favoring outpatient treatment, as well as policy changes favoring other nonhospital treatments (e.g., nursing homes, home health) (22) may also be contributing to the growth in Medicare expenditures for nonhospital services (4).

PPS could affect *total and hospital-related health expenditures* in several ways. Because Medicare hospital spending accounts for 11 percent of personal health expenditures (86), making Medicare the largest single source of inpatient hospital payments, PPS'S success in this sector could have had a dampening effect on total personal health expenditures and NHE. However, PPS could also stimulate hospitals to increase their prices to other payers to compensate for

FIGURE 2-2: Inflation-Adjusted Average Annual Change in Medicare Inpatient and Other Medicare Expenditures Per Enrollee, 1980–92



SOURCE: Prospective Payment Assessment Commission (127), based on data from Department of Health and Human Services, Health Care Financing Admmistration Offlce of the Actuary. The full citation is at the end of the report.

[42] General inflation was approximately 3.0 percent in 1992 using the CPI (195). Using the GDP implicit price deflator (percent change from the preceding year), inflation was approximately 2.7 percent in 1992 (201).

losses of Medicare revenues (i.e., cost-shifting), resulting in no overall change in growth in NHE.[43] Coulam and Gaumer's 1991 review and ProPAC's June 1993 report provide some data relevant to evaluating PPS'S impact in these terms.

According to Coulam and Gaumer, there had been little containment of *overall growth in U.S. health care expenditures* in the very early years of PPS (the period they examined), but also little evidence of hospitals' *cost-shifting* between payers (22).[45]

ProPAC found some decline in the *growth rate of national (Medicare and non-Medicare) health care expenditures* (adjusted for population size) during the implementation of PPS in 1984 through 1987 (relative to 1980 to 1983) (figure **2-1).** However, the Commission also found that the growth rate of national health care expenditures increased relative to the 1980-83 period from 1987 through 1992 (figure 2-1) (127).

In contrast to Coulam and Gaumer, ProPAC found evidence of *cost-shifting* between payers. Through 1991, hospitals had been able to generate gains from private insurers (as a group) that nearly mirrored hospitals' total losses from Medicare, Medicaid, and uncompensated care (127). According to the Commission, in 1991 the Medicare program covered 88 percent of the cost of treating its patient load (inpatient and outpatient), down from 94 percent just 3 years earlier; in contrast, hospitals obtained payments from privately insured patients covering almost 130 percent of their costs.

In summary, reviewers of the literature on PPS'S impact on expenditures (Coulam and Gaumer, ProPAC, and Gold and colleagues) all came to conclusions similar to ProPAC's of June 1993. That is, to date, PPS had been effective in reducing growth in Medicare expenditures (especially inpatient expenditures). However, "to beeffective in controlling *overall* health care expenditures, the set of cost containment strategies used must be comprehensive in terms of the types of services or providers covered, the payers included, and the control of both price and volume" (127).

State mandatory hospital rate-setting programs. Since the early 1970s, several States have adopted diverse forms of hospital mandatory, regulatory rate-setting programs, in some cases covering only some third-party payers and in others covering all payers (Maryland, New Jersey, Massachusetts, and New York) (25).[46] A very large volume of literature has attempted to evaluate the effects of these hospital rate-setting programs. Although a great majority of the studies have suggested that the programs can be effective in taming the growth of state hospital spending (44), it may be difficult to draw unambiguous conclusions for the purposes of assessing the impact of a particular reform proposal.

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43 Coulam and Gaumer stress that measuring cost-shifting is difficult. According to Coulam and Gaumer, "Price differences by payer are not, ipso facto, evidence of cost shifting [but are] consistent with profit-maximizing price discrimination by hospitals that have some degree of monopoly power" (22). "Moreover," according to Coulam and Gaumer, "profit-maximizing hospitals will not cost shift when a payer with monopsony power demands lower prices, because prices to other payers will already have been set at their profit-maximizing level. " However, these authors note that "hospitals might not maximize profits; in that event, cost-shifting can occur." Further, there would have to be a systematic relationship between the stated cause and effect (e.g., between decreases in Medicare payment and increases in prices paid by third parties) (22).

44 Coulam and Gaumer did not cite specific evidence on this point. However, NHE had grown at least faster than inflation for decades before the Coulam and Gaumer review in 1991.

45 According to Coulam and Gaumer, Morrisey and Sloan found evidence of cost-shifting for urban hospitals but found that rural hospitals lowered their prices to other payers following PPS (1I 4). Three other studies failed to find evidence of cost-shifting, according to Coulam and Gaumer (53,II6,215).

46 Generally, the concept of state-level regulation of hospital rates involves an external authority (usually the state or a state agency but occasionally a private entity such as Blue Cross) that monitors each hospital's rates (25).

Many of the studies failed to account for the complexity and diversity of the state programs and may have overstated or understated the effect of rate regulation. Combining all rate-setting programs into a single category does not account for the many different characteristics of the various state programs. Different factors may help explain differences in effects on hospital expenditures across states. These different characteristics may include whether the unit of payment under rate regulation is per service, per diem, per case, or with a fixed budget or volume adjustment; and whether the payment rates are determined by a state-level formula or by reviewing hospital or departmental level costs and budgets; and political factors.

Some early studies (1 3, 1l0a, 196) of state hospital rate-setting programs simply compared hospital expenditures across states. All of these earlier studies found that the growth of hospital spending per day, per admission and, to a lesser degree, per capita, was less in States with mandatory hospital rate-setting programs than in states without such regulation. However, these early observational studies were questioned because they failed to isolate the effects of rate regulation from other factors that might have affected hospital expenditures (30).

Later studies attempted to statistically control for different aspects of states' hospital regulatory schemes as well as coexisting regulatory efforts. For example, in a 1983 multivariate analysis that statistically controlled for both the specific regulatory nature of the state hospital rate-setting programs as well as other coexisting regulatory programs, Sloan found lower hospital costs per admission and costs per patient day in states with mature mandatory hospital rate-setting programs, than in states without rate-setting programs (150). He also found no change in profit margins, suggesting that expenditures were also lower.

It is plausible that a self-selection process is at work under which states with high hospital cost inflation are more likely to adopt regulatory programs than those with low hospital cost growth. Two studies have attempted to statistically account for this effect (29,82). One study found a modest but measurable effect of rate regulation on hospital cost inflation after controlling for historically high cost inflation (29), and another study found that mature hospital rate-setting programs were associated with lower per capita hospital expenditures (82).

Other studies have examined the effect of state hospital rate-setting programs by examining the rate of growth of hospital costs per discharge before and after the program was implemented. Thorpe and Phelps studied the impact of hospital rate-setting in New York State in 1983 (1 56). They found that the all-payer rate-setting program reduced real inpatient cost per discharge (i.e., from 7 percent in the period 1980 and 1982, to 4 percent in the period 1982 and 1985).

Gold and colleagues concluded that "mandatory State rate setting for all or most payers of care has been successful in restraining hospital spending" (44). However, Gold and colleagues also cautioned that:

> The outstanding issue is whether this approach is feasible on other States and whether it would create the same effect. Rate setting States are atypical, and only a few States have seriously tried to implement broad-based mandatory approaches (44).

Only Maryland maintains all-payer hospital rate-setting today (although other states maintain less comprehensive forms of rate-setting).

Some have questioned whether hospital rate regulation slows the growth of a state's *total spending* for both hospital services and other categories of health services. For example, Mitchell argued that the effectiveness of hospital rate-setting programs should be measured by their effects on per capita total health expenditures, not just hospital expenditures (11 1). However, the available evidence is not able to provide a clear verdict on the issue. A Lanning, Morrisey, and Ohsfeldt study that found lower per-capita hospital expenditures in states with mandatory hospital rate-setting programs also found lower per capita non hospital expenditures (82), but few other studies provide a direct measurement of the effect of hospital rate-setting programs on total nonhospi-

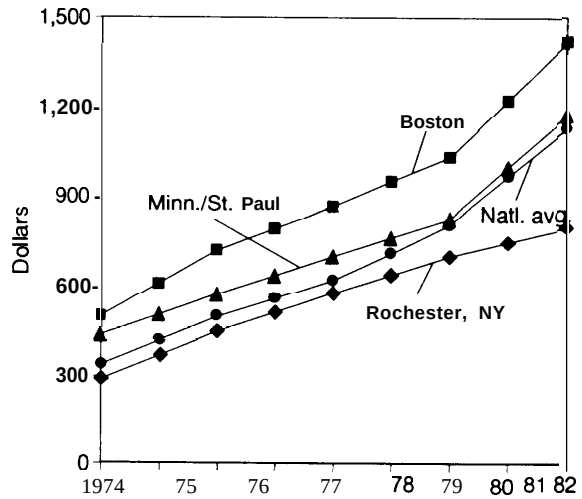
tal expenditures. Several studies examining the impact of state hospital rate-setting programs on physician expenditures have presented a mixed picture as to whether the level and growth of physician expenditures is affected by hospital rate-setting programs (6,1 11,1 15).

In order to use the findings of these studies to estimate the effects of similar cost control provisions in reform proposals, it would be important to understand the features that contribute to successes and failures in states that have used hospital rate-setting (44,82, 150).

Rochester's Hospital Experimental Payments (HEP) Program. The United States has had only limited experience in using budgets to pay for hospital services. The main U.S. experience comes from the voluntary Health Care Financing Administration (HCFA) demonstration project called the Hospital Experimental Payments (HEP) program in Rochester, New York. Between 1980 and 1987, government representatives, insurers, and providers in the Rochester area worked together to manage community-wide hospital revenues and to improve the solvency of area hospitals through the HEP program (179). In addition to cost control, another goal of the program was assuring the financial viability of area hospitals, some of which were in jeopardy in the late 1970s (14).

The main features of the HEP program were a community-wide prospective revenue cap on inpatient and outpatient hospital services. Blue Cross Blue Shield of New York State, and HCFA provided hospitals with an annual budget. All hospitals agreed voluntarily to operate under the community-wide revenue cap. Hospital revenues were limited to costs in a base year (the year 1978) and updated by an annual inflation factor. Cost increases above the cap were not funded but individual hospitals could retain surpluses. Capital investment (including medical technology) decisions were made by the hospitals as a group and financed from a common capital fund (14,179). HEP was administered by the Rochester Area Hospitals Corporation, a nonprofit corporation comprising area hospitals and the University of Rochester School of Medicine and Dentistry (179),

FIGURE 2–3: Hospital Expenditures per U.S. Medicare Recipient by Place of Residence (Age, Sex, and Wage Adjusted), 1974–82



SOURCE Reprinted with permission from Block, Regenstreif, and Griner, 1987 (14) Full citations is at the end of the report

Both Block and colleagues and the General Accounting Office (GAO) found lower growth rates in expenditures or costs. However, confidence in some of their findings is limited by aspects of their study designs (e.g., use of unadjusted data in some comparisons).

Block and colleagues compared Rochester Medicare hospital expenditures post-HEP (1980 to 1982), controlling for age, sex, and wages, with Medicare hospital expenditures in Boston, Minnesota/St. Paul and nationally, and found that the other locales' Medicare hospital payments increased more sharply than Rochester's Medicare hospital payments (figure 2-3). Similarly, a GAO report of Medicare hospital expenditures for a longer period of time (1980 to 1987) found that Medicare payments to Rochester hospitals rose at an annual rate of 7 percent, compared with 12.6 percent for the nation as a whole (179).

Similarly, GAO's comparison of Rochester's, New York State's, and the nation's total (Medicare and non-Medicare) hospital costs for 1980 to 1987, after adjusting for inflation and population growth, found that real hospital costs per capita

for Rochester hospitals grew at an annual rate of 2.1 percent, compared with 4 percent in New York State[47] and 4 percent nationally (179).

As with ESP, the effectiveness of HEP is further suggested by the increase in hospital costs per capita observed after HEP was terminated. Between 1987—when budgeting under HEP ended—and 1990, Rochester hospitals experienced real annual growth of 7.3 percent in costs per capita, compared with 6.1 percent in New York State and 4.9 percent in the nation (179).[48]

Accordingly, Rochester's experiment with voluntary community-wide hospital budgeting under HEP appears to have been successful for constraining hospital costs. However, GAO conjectured that HEP's savings to the *entire* Rochester health system may be limited since the program did not address the growing segment of health care costs incurred outside of hospitals. OTA is aware of no studies of HEP's effects on total health spending in Rochester.

GAO noted that key participants in Rochester's health care system emphasized that no single factor was responsible for the community's performance and Rochester's experience may not be transferable to other states or to the Nation, for several reasons (14,179). Rochester has a long history of community-based health care planning and cooperation. Unlike other states, for example, New York has continued to require hospitals to obtain approval for many capital investments through a certificate-of-need process. Finally, Rochester has continued to establish most insurance premiums based on community-rating principles, a situation made possible because Blue Cross Blue Shield and one large health maintenance organization (HMO) have dominated the health insurance market in Rochester.

Summary. In summary, some limited U.S. experience in setting hospital payment rates has demonstrated that government (or combination government and private sector) cost controls can reduce the rate of growth in hospital expenditures while they are in effect. Average annual growth rates for *hospital expenditures* of 4.6 percent (44), 4 percent (22, 127)), 3 percent (127), and 7 percent (179) have been reported for various programs and different payers at various times; all have been lower than national averages at the time of the comparisons. None of the programs has been easy to implement, however, and only PPS for Medicare and the State of Maryland's all-payer program survive in their entirety.

Empirical evidence from international experience

International experience may provide evidence as to the effects of different types of regulated hospital payment. During the 1980s, several countries shifted from a retrospective budgeting process, or from price controls, to various forms of prospective budgets.[49] The shift occurred in part because countries experienced continued growth in hospital expenditures, suggesting that previous controls were not considered strong enough and that countries that use government cost controls continue to modify and revise those controls.

While the shift from retrospective payment or looser controls such as price controls to prospective budgeting for hospitals may provide insight into this approach to controlling hospital expenditures, the empirical evidence on the impact of prospective budgets is limited. In a review of the available literature on prospective budgeting in the Organisation for Economic Co-operation and Development (OECD) countries, Wolfe and Mo-

47 New York State operated under an all-payer hospital rate-setting system for part of this period.

48 According to GAO, hospital budgeting under HEP ended for several reasons. HCFA had implemented its PPS system. Although Rochester could have requested permission to continue the experiment, area hospitals recognized that they could make more money under PPS than under HEP budgeting. Moreover, one area hospital had already withdrawn from HEP in 1987.

49 Prospective budgets are overall limits on the funds to pay for a specific category of health care services, fixed in advance of the payment period, regardless of where the funds originate.

ran concluded in 1993 that "during the course of this work, it quickly became clear that the literature is largely descriptive, and presents little evidence of rigorous empirical assessment of the effects of the [prospective] budgeting schemes employed in comparison to other alternatives" (21 1).[50] According to Wolfe and Moran, one of the main reasons is that "[prospective] budgeting schemes are typically employed as elements of a country's overall approach to financing health benefits and controlling expenditures and are not generally structured as experiments that would permit . . . evaluation" (211).

OTA's review of the empirical literature on the effectiveness of prospective hospital budgeting in other countries focuses on several of the OECD countries for which some empirical evidence is available: Canada, France, Germany, and the Netherlands.

Hospital payment in Canada. Canada's method of paying hospitals has undergone a number of changes over the years. Beginning in 1961, funding of hospitals was characterized either by "line-by-line" budgeting or per diem reimbursement (10). Under the former, individual institutions negotiated specific budgetary line items with provincial Ministries of Health, with the overall budgetary allocations being the aggregation of the line items. Per diem reimbursement involved retrospective adjustments to hospital operating budgets according to patient loads, which left Ministries of Health with a large open-ended line in their budgets.

The old line-by-line budgeting approach has largely disappeared (10). The move away from this approach to prospective, aggregate budgeting began in the late 1960s. Under this system funding for the next year was based on a series of mechanical adjustments to previous expenditures. Special provisions were made for new programs, unanticipated and justifiable volume increases, or other unforeseen circumstances. However, during the 1970s, cost overruns were often picked up by the Ministries of Health. Only in the more fiscally constrained late 1980s and the 1990s have the Ministries of Health become more forceful in developing institutional expectations that budgets are not a starting point, but a binding constraint.

There has been surprisingly little analysis of the effect of prospective budgeting in Canada. According to Barer, the growth rate of hospital expenditures mirrors the shift to prospective budgets and stronger enforcement of those budgets. Hospital expenditures increased by 10 percent per annum during the 1960s, declining sharply to just under 6 percent in the 1970s, and declining further to 4.6 percent in the 1980s (all figures in inflation-adjusted terms) (10). However, these figures may mask a substantial amount of variation among provinces.

In a 1983 study, Detsky and colleagues compared hospital expenditures in Ontario under a system of prospective budgeting to hospital expenditures in the United States (26). The authors found that for the period 1968-80 the cumulative increase in inflation-adjusted total hospital expenditures in Ontario was 86 percent, compared with 130 percent in the United States.[51] The authors caution that their results are only suggestive and that "[a] full statistical analysis of differences between the United States and Ontario would require examination of other variables that affect costs" (such as demographic characteristics and the use of price and wage controls in the United States between 1971 and 1974 and in Canada between 1976 and 1978). Moreover, cross-country comparisons fail to control for other potentially important factors such as cultural differences and different forms of government.

Hospital payment in France. Beginning in 1984, the French government replaced its fixed per diem payment system for hospital services with expenditure targets for total public hospital

[50] Wolfe and Moran (210) list almost 80 publications they found that were relevant to their study.

[51] Detsky and colleagues defined *hospital expenditures* as total gross operating revenues.

spending (176). In the French system, budgets are negotiated separately for each public hospital. About t we-thirds of all hospital beds in France are in public hospitals (176).52

To enhance compliance with the category-wide spending targets, each public hospital negotiates its proposed budget with the predominant sickness fund in its region and with the national government (176). Sickness funds are organizations that administer national health insurance. The negotiated budget covers operating costs as well as debt service for construction and high-cost medical equipment (176). Hospitals are paid in monthly installments, divided among France's sickness funds according to their share of total patient days in each hospital (211).

Not all individual public hospital budgets increase at the category-wide target growth rate (176). Some are allowed to grow more and others less (176). However, the government is able to use its influence with negotiating parties to restrain the growth of aggregate hospital spending (176), Although some additional funds exist to supplement individual hospitals' budgets under exceptional situations, unlike Canada's hospitals, publicly owned hospitals in France cannot supplement their budgets through collect ion of fees from privately insured patients (211). Therefore, France's budgets for public hospitals represent a more binding constraint on the hospitals' total revenues.

GAO conducted a multivariate econometric analysis of the effects of changes in payment methods for hospitals in France, and also compared the effects of the French changes to the effects of Germany's hospital payment system (176).[53]

GAO's econometric analysis found that the change in payment systems reduced growth in hospital expenditures by a statistically significant amount, even after statistically controlling for the effect of GDP growth.[54] Moreover, GAO estimated that the spending targets and prospective budgets reduced France's 1987 level of inflation-adjusted inpatient hospital care spending (both public and private) by about 9 percent below what would have been spent had price controls alone (i.e., per diem reimbursement) remained in place over the period 1984 to 1987.

However, GAO's analysis of the French system was based on only a few years of data for the new payment system; therefore, its results should be interpreted with caution .55

Hospital payment in Germany. Beginning in 1986, Germany shifted from regulating hospital expenditures through price controls alone (i.e., prospective per diem payments) to per diem payments combined with "flexible" prospective budgets for individual hospitals and aggregate spending targets for hospital spending (85,1 76). Germany required all hospitals to adopt flexible prospective budgets, based on expected occupancy rates for the following year (45). Hospitals were compensated for days of care exceeding the annual projection, but at a reduced rate (211). Flexible budgets were coordinated with existing nonbinding targets for annual hospital spending determined by Germany's national health committee, Concerted Action in Health Care (1 76).

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52 Private hospitals in France are still paid per diem rates (2 I I).

53 In GAO's regression equations, a nominal total health variable expenditures was the dependent variable. Independent variables included the government cost control in effect, the country's national income and population, and a measure of resources in the particular health care sector (e.g., the number of practicing physicians for Germany physician payment equation and the number of inpatient medical care beds for France's and Germany's hospital payment equations) (176).

54 Growth in GDP had an independent, positive effect on growth in public hospital expenditures, as expected.

55 French hospital spending targets were in effect for only 3 full years at the time of GAO's anal ysis.

However, according to GAO, the new system did not include an enforcement mechanism (176). The overall hospital spending targets served only as informal guidelines during individual hospital budget negotiations between hospitals and regional sickness funds (176).[56]

GAO's econometric analysis of Germany's change in hospital payment systems found no statistical evidence that the combination of aggregate hospital spending targets and flexible budgets was more effective at limiting hospital spending increases than the previous price controls (per diem rates) used alone. However, since GAO's finding was based on very limited data, it should be viewed with caution.

Based on the different results for France and Germany, GAO concluded that stringent enforcement with formal mechanisms to ensure compliance could make budget controls more effective (176). It hypothesized that the French government's participation in each hospital's budget negotiations encourages observance of the targets. As stated earlier, the German targets were guidelines that lack an enforcement mechanism to reconcile actual spending with the targets (176).

Even if inpatient spending were constrained through prospective budgets and technology planning in Germany, the possibility of shifting services to other clinical settings where spending is unconstrained or only partially constrained may make hospital budgeting in Germany less effective for restraining national health expenditures. German physicians have been allowed to buy high-technology medical equipment for their private offices, allowing hospitals to shift some inpatient care to outpatient care in physicians' offices (2).[57] However, as discussed under physician payment controls, Germany appears to have had success in placing controls on spending for physicians' services.

Hospital payment in the Netherlands .58 The system of hospital payment in the Netherlands underwent various changes in the 1980s. The most radical change took place in 1983, when the traditional system of per-service reimbursement was replaced by a system of prospective budgeting that covered almost all of a given hospital expenditures.[59,60]

Under the new "historical" budgeting system introduced in 1983, when expenditures exceeded a hospital's budget limit, the hospital was held financially responsible for the deficit. On the other hand, if a hospital spent less than its budget, it could add the surplus to its reserves. Retrospective budget adjustments to solve financial problems of individual hospitals were no longer expected.[61] The primary goals of the new pay-

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56 Beginning in January 1993 the German government initiated a 3-year emergency measure that imposes mandatory limits on spending for physician, hospital, and dental services, and for prescription drugs. The new limits are more closely linked to revenue growth of the sickness funds (180).

57 Hospitals can contract to use expensive medical equipment in doctors' private offices (2).

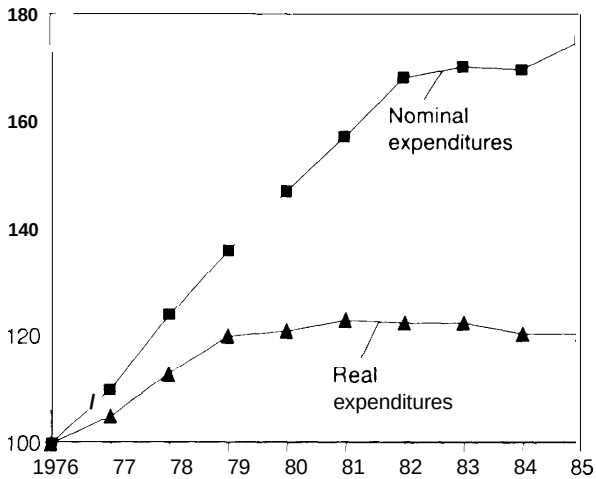
58 The description of the hospital payment system in the Netherlands is taken from two articles by Maarse and colleagues (96,97).

59 Interest and depredation remained fully reimbursed on a retrospective basis, and fee-for-service charges by medical specialists were not included in the hospital budget.

60 Prior to 1983, hospitals were reimbursed for each medical activity (output), with inpatient per diem charges as the most important source of revenue. Budgetary deficits of hospitals could be solved by retrospective temporary increases in inpatient per diem charges.

61 Prospective hospital budgets are negotiated with the Netherlands' sickness funds and private insurers (211).

FIGURE 2–4: Index of Hospital Expenditures in the Netherlands, 1976–85 (1976 = 100)



SOURCE: Reprinted with permission from Maarse, 1989 (96) Full citations at the end of the report

ment system were to curb the rapid growth of hospital expenditures, promote efficient production of hospital services, and increase the autonomy of hospital management.[62]

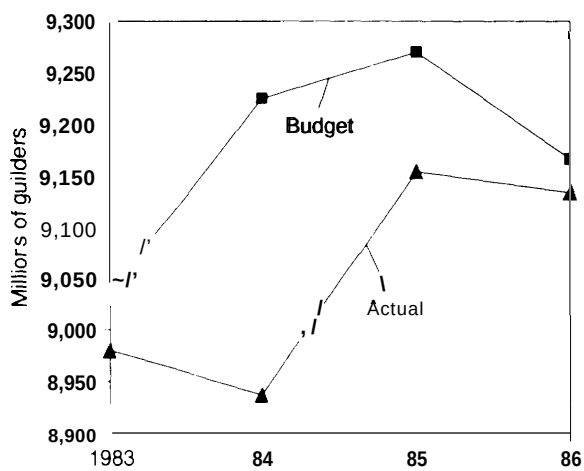
Based on observational studies of hospital expenditures in the Netherlands over the period 1976-89, Maarse and colleagues found that growth in inflation-adjusted hospital expenditures increased between 1976 and 1981, stabilized, and then became negative after 1983 (96,97) (see figure 2-4). From 1984 to 1986, actual hospital expenditures remained below the allowed budget limits (see figure 2-5). In real terms, growth was negative (-0.4 percent) during the period 1986-89 (not shown in figure).

The trend in hospital admissions over the period supports the finding that costs were contained by "historical" budgeting **(96).** The average length of stay was already declining before the adoption of budgeting and continued to decline after 1983 (96).[63]

As for ambulatory care, expenditures had already been rising and the shift to hospital budgeting does not appear to have accelerated that trend, despite the intentions of the government (figure **2-6) (96).**

Based on the trends in hospital spending before and after introduction of hospital budgeting and on the basis of actual expenditures compared with allowed budget limits-two measures of the effectiveness of government cost controls-the indications are that "historical" hospital budgeting in the Netherlands controlled hospital spending

FIGURE 2–5: Hospital Expenditures in the Netherlands, 1983–86

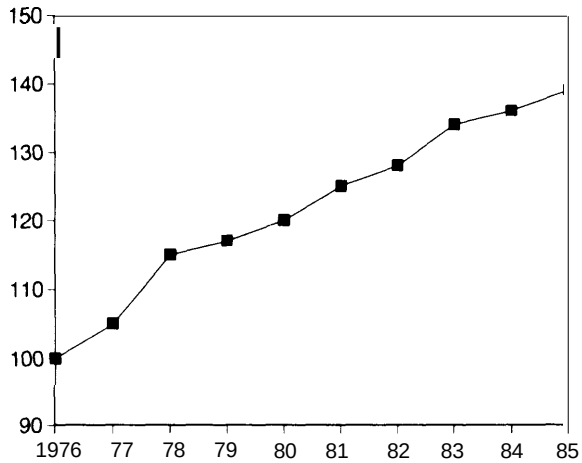


SOURCE: Reprinted with permission from Maarse, 1989 (96) Full citation is at the end of the report

62 Another major revision of the budgeting system took place in 1988 when the Netherlands shifted from a system of "historical" budgeting to one of "functional" budgeting. Historical budgeting had frozen certain inequities and inefficiencies in place (97). The purpose of functional budgeting was to have hospitals get the same budget when performing equal tasks. Functional budgeting is considerably more complicated than historical budgeting, using a formula that takes into account the size of the population in a hospital's catchment area, a hospital's capacity (including specialty units), a hospital's predictions of their productivity in the coming year, and additional agreements for strew high-cost treatments (e. g., cardiac surgery and renal dialysis). While historical budgeting operated as a negative incentive with respect to admissions, functional budgeting may stimulate hospitals to increase the number of admissions (97).

63 However trends in length of stay reversed somewhat after the Netherlands' transition from historical to functional budgeting (96,97).

FIGURE 2–6: Index of Ambulatory Care in the Netherlands, 1976–85 (1976 = 100)



SOURCE Reprinted with permission from Maarse, 1989 (96) Full citation is at the end of the report

more successfully than the previous system of open-ended funding. Maarse, however, pointed out that the observational studies by him and his colleagues lead only to a provisional conclusion because many factors that may have affected hospital spending were not controlled for through statistical techniques.

Summary. In summary, during the 1980s several countries moved from less comprehensive controls on hospital prices or budgets (i.e., line-by-line budgeting in Canada, per diem payment in France, Germany, and Netherlands) to more comprehensive and stricter systems of hospital budgeting. Limited research on these changes suggest that most countries appear to have been successful in reducing the rate of growth in hospital expenditures relative to previous trends. However, successful and unsuccessful countries continue to experiment with additional measures to either reduce expenditures further (e.g., Germany (180)) or to make their systems more equitable across hospitals (e.g., Netherlands (97)).

Evidence on Physician Payment Controls

A variety of payment methods have also been used in this country and abroad to regulate spending on physicians' services. The United States has had only limited experience with using fee schedules to control spending on physicians' services; other countries have used fee schedules combined with spending targets (goals) or spending caps (limits). The main problem with trying to constrain health expenditures with price-based strategies (such as fee schedules) is that they target only one aspect of health expenditures—prices. Increases in the quantity of services delivered can therefore dilute some of the cost-containment potential from price controls.

Volume may not be constrained under price controls for two reasons. First, when payment rates are reduced below current rates, or when the growth in payment rates is constrained below what it might have been without price restraints, providers may be able to increase the volume of services to offset potential income losses (1 37). However, even if provider volume offsets occur, it does not mean price controls are totally ineffective. Price controls would be completely ineffective only if volume offsets were sufficiently large to fully negate price reductions.[64]

The second reason volume might increase without direct controls such as utilization review is that patients needs and wishes for services may cause an independent increase in the use of health services. It is difficult to separate consumer demand from physician-induced demand in empirical studies. Overall, however, fee controls alone might temporarily reduce expenditures, but longer-term spending control may not be achieved if volume growth partially or completely counteracts the effects of price restraints.

64 It is also argued that providers can also make up for potential losses in revenues in other ways. For example, physicians may increase income by recoding patient short-term visits that receive a lower fee to intermediate visits that receive a higher fee.

Concerns about potential increases in volume have stimulated some countries to limit physician payment, for example, by combining price controls with more comprehensive expenditure tar- , gets or limits. Under physicians' expenditure targets, governments generally fund a portion of excess billings above the predetermined target. In contrast, under expenditure limits, providers cannot expect to receive any additional monies above the predetermined limit.

Future health outlays under expenditure limits or targets depend in part on allowed increases in revenue under the limit or target from year to year. If allowed increases accommodate increased costs from the previous period because of higher input prices, higher utilization, higher service intensity, or newly established services or technology, expenditure caps or targets may not constrain outlays for physicians' services any more effectively than fee controls alone.

Empirical evidence from the United States

Economic Stabilization Program (ESP). Under the Economic Stabilization Program (ESP) (between 1972 and 1974), noninstitutional health care providers were allowed aggregate weighted-average price increases of 2.5 percent, if justified by cost increases (44, 137). Voluntary compliance was assumed, with enforcement 1imited to cases in which patients complained of increases that exceeded the limits (44).

Research on ESP'S effect on physician spending appears to be more limited than that on hospital spending, perhaps because controls were less complex or demanding on physicians (44). A particular shortcoming of the available research is that it tends to focus on Medicare and Medicaid, perhaps because those databases were readily available. For example, using econometric analysis, researchers at the Urban Institute investigated the effects of ESP on Medicare and Medicaid physician payments in California. They found that controls limited Medicare fees to around the ESP target of 2.5 percent per year, but that the quantity and complexity of services supplied to California Medicare patients increased, causing physician incomes to rise more under the controls than when they were lifted (11, 44).[65] Once controls were lifted, Medicare unit prices increased and volume dropped (44).

The Urban Institute investigators found that ESP had little or no impact on California's Medicaid program expenditures, presumably because Medicaid fees were controlled effectively prior to the introduction of ESP (11).

Thus, the ESP price controls do not appear to have reduced either Medicare or Medicaid expenditures for physician services. The Urban Institute concluded that "simply limiting average fee growth by itself may not effectively limit undesirable growth in expenditures on physicians' services, at least over a short time period" (11).

Medicare fee schedule for physician services. In response to growth in Medicare physician payments, and to address perceived payment inequities between expensive, high-technology services and basic services, Congress included a reform of the methods by which Medicare pays for physician services in the Omnibus Budget Reconciliation Act of 1989 (44,11 2). The payment reforms were designed to be budget-neutral in the initial year of implementation of the program (i.e., Medicare physician expenditures under the new system would match what they would have been under the previous system) (44). The 1989 Medicare physic i an payment reforms consisted of three parts:

- *The Medicare Fee Schedule (MFS), effective January 1, 1992.* MFS is based on a relative value scale (RVS) that established national uniform relative values for different physician services based on physician work, practice expenses, and the cost of professional liability insurance (11 2,123). The overall payment level

[65] The authors raised the possibility that the results could partly reflect the substitution of Medicare patients for private patients while price controls were in effect (44).

under MFS is determined through a conversion factor that translates the relative value units for individual physician services established under RVS into actual dollar payments (123). The transition to MFS is scheduled to be fully phased in by 1996 (123).

- *Volume performance standards (VPS), established as a mechanism to update physician fees (123).* VPS sets an expenditure target for physician expenditures that are used 2 years later to update fees under the MFS to levels consistent with the target (44). Future payment rate updates are based in part on the comparison of actual expenditure increases with the target (123). If actual Medicare physician expenditures increase faster than the target, the rate at which the Medicare program raises physician fees is reduced. Alternatively, if spending grows at a rate below the target, fee increases are enhanced. Thus, VPS adjusts rates of increase in fees, rather than directly controlling expenditures (67). The program was implemented in 1990, and the first year that fee updates were subject to the limits was 1992. Theoretically the national Medicare physician expenditure targets provide weak incentives for individual physicians to modify their behavior because physicians are not likely to believe that their individual responses will have much effect on whether aggregate Medicare physician expenditures rise above or remain below the VPS (67).
- *Limits on the ability of physicians to bill patients above Medicare's fees (123).*

Research on the effects of the Medicare physician payment reforms is limited because the program has not yet been fully implemented (44). It is still too early to determine conclusively whether the reforms will constrain spending for physician services (44).

The most recent data from Physician Payment Review Commission (PPRC) show that in 1990 and 199 1—the 2 years after VPS was implemented but before the VPS fee updates and the MFS when into effect—actual growth in Medicare phy - sician expenditures was higher that the VPS targets (10.6 percent actual growth versus the VPS of 9.1 percent in 1990, and 8.6 percent actual growth versus the VPS of 7.3 percent in 1991) (124). In contrast, for 1992 and 1993—years in which VPS fee updates and the MFS affected Medicare physician fees—actual growth in Medicare physician expenditures fell substantially short of the VPS targets (3 percent actual growth versus a 10 percent VPS target in 1993) (124). According to PPRC, a substantial portion of the difference between the 1992 VPS target and actual expenditure growth in that year was due to a lower rate of increase in the volume of services than anticipated in setting the target, as well as a decline in the average Medicare fees over the period 1991-92 (65).

Medicare payments for physician services have also been growing more slowly in recent years under the VPS program than in previous years. Growth in Medicare expenditures for all physician services was 3.3 percent lower in 1991 (final data) and 5.9 percent lower in 1992 (preliminary data) compared with historical trend growth rates over the period 1986-89 (123).

PPRC cautions, however, that the recent trends in Medicare physician expenditures, as well as trends in volume growth rates that largely determine the patterns in physician expenditures, do not yet lead to any firm conclusions about the effectiveness of VPS for controlling Medicare outlays for physicians' services or volume growth. A host of possible explanations account for the recent lower volume growth rates. These explanations include a possible return to the long-run trend of declining rates of increase in volume temporarily interrupted by relatively large volume increases in response to payment rate reductions legislated in 1987, 1989, and 1990and anticipated fee adjustments under MFS; Medicare beneficiary access problems; general trends in medical practice to reduce the volume of services; and physician response to the VPS incentives (124). PPRC'S analyses did not allow them to directly confirm or reject any of these possibilities for explaining recent trends in physician expenditures

(124). PPRC concluded that the absence of an appropriate comparison group and the effects of other policy changes that have occurred since implementation of VPS make it impossible to draw any definitive conclusions about the effectiveness of VPS for controlling Medicare physicians' expenditures or volume growth (123).

Empirical evidence from international experiences

Physician payment in Canada. Since 1971, by which time all provinces had adopted the Federal Medical Care Act covering physicians' services, every province has reimbursed physicians according to province-wide uniform, binding fee schedules established by direct bargaining between professional physician associations and their respective provincial Ministries of Health (11). Canada's experience with fee schedules provides useful information on the effectiveness of both long-term and broadly based price controls.[66]

Based on an observational study of Canadian and U.S. physician fees and expenditures for the period 1971-85, Barer and colleagues found that since 1971 physicians' fees in all provinces have risen less rapidly than general inflation in Canada (i.e., the CPI), and in some provinces and/or periods have lagged well behind general inflation (1 1). This is in marked contrast not only to the U.S. pattern of consistent increases in inflation-adjusted physician fees, but to Canada's experience before 1971. Inflation-adjusted physician fees in Canada fell by 15.9 percent between 1971 and 1985, while rising 15.6 percent in the United States. Over the period 1960 to 1971, when Canadian physicians set their own fees, inflation-adjusted physician fees in Canada rose by 6.3 percent (11).

The Canadian experience with physician payment controls also illustrates some of the measurement issues described in box 2-4. One's conclusions about its effects in controlling physician expenditures can depend upon the measure used. For example, Barer and colleagues found increasing divergence between the United States and Canada in *aggregate physician expenditures* between 1971 and 1985 using *physician expenditures as a percentage of GDP as the measure (11).* In contrast, using a different measure *(inflation-adjusted physician expenditures per capita,* derived from the OECD datafiles), OTA found that the divergence between Canada and the United States remained quite stable between 1971 and 1985 (figure *2-7).*[67]

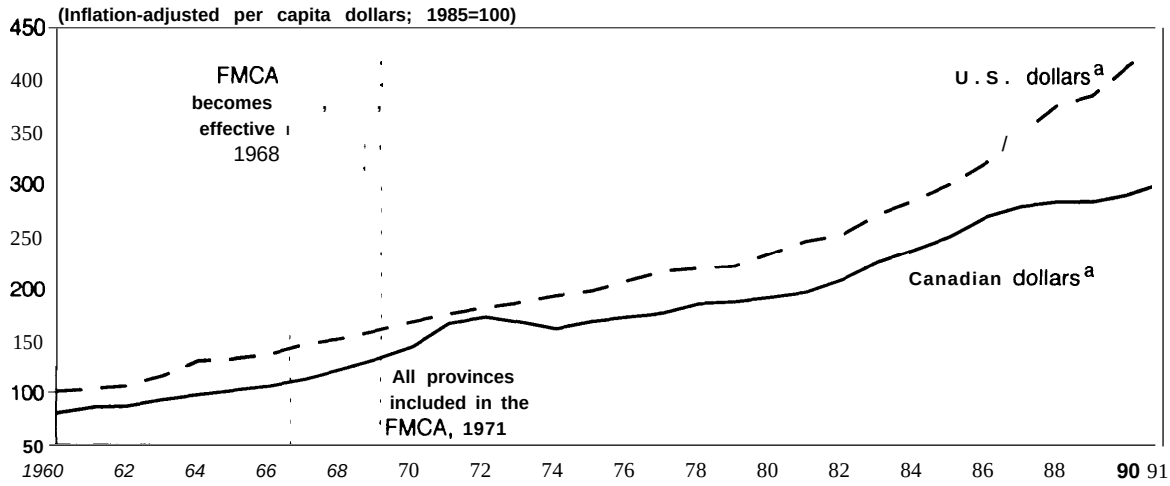
Nevertheless, both Barer's and OTA's analyses show that Canada's physician expenditures have consistently remained below those of the United States (figure 2-7). The OTA analysis of OECD data suggests that, recently, Canada appears to have been more successful than the United States in reducing the average growth rate in physician expenditures per capita (figure 2-7).

However, the firmness and comprehensiveness with which fee and volume controls have been applied have varied across provinces and over time within Canadian provinces and studies have

66 Some have argued that price controls in the United States have had limited success because they have been applied only over short periods, or have not applied to all payers.

67 The U.S.-Canada difference found by Barer and colleagues could have been the result of variations in the GDP (the denominator) or physician expenditures (the numerator). In addition, differences between Barer and colleagues' analysis and OTA's based on OECD data could be attributable in part to differences in physician expenditure data cited by Barer and colleagues and the data in the most current OECD datafiles (l **20).**

FIGURE 2–7: Physician Expenditures Per Capita for Canada and the United States, 1960–91



KEY FMCA = Federal Medical Care Act (Canada).

a If Canadian per capita physician expenditure data were converted to U S dollars, the Canadian figures would be lower. On average, one would divide the Canadian dollars by 1.23 in order to adjust for purchasing power parity, OTA did not make such a change, because such an adjustment would introduce a distortion into the Canadian trend The point of the figure is to show that the rate of Increase in total physician expenditures has been different in Canada and the United States, particularly since 1986

SOURCE Organisation for Economic Co-operation and Development, 1993 (120) Full citation is at the end of the report.

shown differences in the growth of physician expenditures across the provinces (1 1,69,90).[68] For example, Hughes and colleagues' examination of data for Quebec, Ontario, and British Columbia for 1975 and 1987 found that Quebec had the lowest percentage increase (24.4 percent) in inflation-adjusted physician expenditures per capita between 1975 and 1987. Hughes suggested that, despite a rapid rise in the Quebec physician-to-population ratio, physician expenditures in Quebec were able to be kept in check in the later years of his analysis as a result of two factors: 1) holding the fee schedule considerably behind inflation until 1983, and to inflation in the period 1983-87; and 2) a unique system of quarterly billing caps for general practitioners and income targets for specialists that began to take full effect in 1981 (69).

Hughes's comparison of total and per capita physician expenditures (both adjusted for inflation) in Quebec with those of British Columbia and Ontario[69] led him to conclude that fee schedules were only successful when the provincial governments "could exercise the political will to respond to accelerated utilization with aggressive fee reductions, utilization controls, or both" (69). According to Hughes, Quebec was most successful in exercising such political will.

Physician payment in Germany. Physician payment in Germany has been subject to different

68 Generally, the provincial governments use one of three ways to recoup expenditures above a stated expenditure target: reduce next Year's fee increase, temporarily reduce fees for a set period, or discount current fees to counteract the anticipated size of the volume increase for the year (I I ,69,90). Until last year only a few provinces used caps.

69 Hughes found that, in British Columbia, total and per capita physician expenditures rose rapidly until 1983, but were stabilized thereafter by not allowing fee increases to keep up with inflation. Between 1985 and 1987, for example, British Columbia used expenditure limits that triggered temporary fee reductions whenever the limits were exceeded. In contrast, in Ontario, the provincial government and the medical association (negotiating on behalf of physicians in the province) had not been able to come to agreement on utilization and expenditure controls between 1982 and 1987. Hughes found that Ontario showed the most dramatic increases in total and per capita physician expenditures as consequence of more generous increases in inflation-adjusted fees (69). Three measures of percentage change in physician expenditures between 1975 and 1987 showed Ontario to experience higher growth than the United States in the same period (69).

kinds of government intervention. In 1977-78, Germany switched from paying physicians for ambulatory services[70] on the basis of fee controls only, to a system of fee controls combined with aggregate regional physician expenditure targets. Then, in 1985-86, Germany switched from a system of aggregate spending targets to fee controls combined with regional physician expenditure caps (209).[71]

Sharp increases in the mandated health insurance payments through payroll deductions from workers' and retirees' pay or monthly pensions triggered an additional round of German health care reforms in 1993 (180).72 Under the 1993 reforms, which are scheduled to be in effect for a 3-year period, total spending by sickness funds for office-based physician services will not be permitted to grow faster than sickness fund revenues (180).73'74 These approaches are described in more detail below, as is the research on the effects of the 1977-78 and 1985-86 policy changes.

The 1977-78 policy was based on fee schedules combined with aggregate physician expenditure *targets* for each region in Germany. These targets were based on spending in the previous year, anticipated changes in service volume, and changes in the wage base of sickness funds (180). When physician billings exceeded the target, sickness fund expenditures in the following year was to be reduced.

In 1985-86 the method for paying ambulatory physicians in Germany was again altered. The method established can be understood by examining the main aspects of the process that determines the amount of health care dollars allocated each year for physician services (43,70,1 41 ,209). The national health committee (Concerted Action in Health Care) develops annual guidelines for how much physician expenditures should increase. Regional sickness fund associations then negotiate with regional physician associations to determine the expenditure *cap (i.e.,* aggregate budget) for physician services in that region, based on the recommendations of the national health committee. Then the sickness fund association and the physician association negotiate physician fees, based on t he projected volume of services for t he coming year, such that the aggregate budget will not be exceeded.[75]

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70 Ambulatory services are prov l& inphysicians' offices and do not include physicians' services provided in a hospital. In Germany, office-based physicians are ordinarily not allowed to provide inpatient hospital w-vices, and hospital-based physicians are generally not allowed to provide ambulatory care (141).

71 This system of physician payment is not new to Germany, where it was the prevailing system in Germany from 1932 to the mid-1960s. The 1986 expenditure caps were to be temporary, intended to keep spending under control during a period of other health reforms (43).

72 The budget fo of ffice-based physic ians beg inning in 1993 follows a pattern similar to that produced voluntarily through past negotiations; the details of the arrangements are reviewed in GAO's July 1993 report (180). The difference, however, is that the increase in physician expend] ures from year to year is now strictly limited by the German government, albeit on a temporary (3-year) ha\ Is,

73 Sickness fund revenues depend (m both the payroll tax rate and the wage level.

74 Imposition of the gov ~mnicnt-s,et caps was accompanied b, several structural health care reforms designed to further reduce excess utilization as well as rigidities in the current system (180). These would address demographic changes, trends in major diseases, and the introduction of new medical technologies (lW). Reforms specific to the physician sector include establishing procedures to identi fy and impose firm cial sanctions on physicians who exceed standards for drug prescribing, and procedures to align the supply of physicians and dentists with fixed physician-to-population ratios for each geographic area (180).

75 The regional sickness funds collect payroll taxes and tum the budgeted amount over to the regional physician association. The physician association distributes the budget to individual doctors on the basis of each doctor's billings, according to the fee schedule. Physicians are paid at the negotiated fee dun ng the first quarter. I f the group of physicians subject to the regional budget delivers more services, or more costly services (i. e., services with higher fees), causing total physician expenditures to exceed the first quarter's share of the annual budget. fees are reduced during the second quarter. Similar adjustments are made during the third and fourth quarters, so that the regional physician ass ic I ation's budget is met at the end of the year. I f the group of physicians delivers fewer services than expected, actual fees w III be higher than negotiated rates. In this way, the aggregate budget acts as a binding expenditure cap for physician services.

In summary, since the late 1970s, Germany has seen a progression from fee controls combined with regional expenditure targets, to fee controls combined with regional expenditure caps, to fee controls combined with national expenditure caps. The 1993 reforms were intended to be temporary, and the German advisory board is to suggest alternative reforms by the end of 1994 (180).

Several studies have assessed the reforms of 1977-78, and, more tentatively, the 1985-86 reforms, and reported somewhat conflicting results (43,72,176,180). For example, a 1991 study by GAO indicated that the tougher budget controls on physician spending introduced in 1977-78, plus one year's experience with the 1985-86 expenditure caps, together helped reduce inflation-adjusted spending on physician services by as much as 17 percent between 1977 and 1987, compared with what expenditures were projected to be under the previous price controls (176,1 80).

GAO also compared the effectiveness of the regional expenditure targets (introduced in 1977-78) to the regional expenditure caps (introduced in 1985-86).[76] GAO reported that caps appeared to be more effective than targets in decreasing the rate of growth,[77] although other concomitant policy changes, and the short period of time for which GAO had data on the caps (1986-87) made it difficult for GAO to conclude that the caps alone caused the relatively greater decline in growth rates beginning in 1986 (176). Further, GAO's analysis produced some apparently counterintuitive results.[78]

Subsequent OECD data on physician expenditure growth rates do not clearly show whether expenditure caps checked the rate of growth more effectively than expenditure targets (120).[79]

Summary. In the United States, there has been less experience with regulation of physician expenditures than of hospital expenditures and it may be difficult to draw conclusions from the U.S. experience. There was 1ittle research on the impact of the Economic Stabilization Program on physician expenditures but the work that was done suggested that it had little effect. In 1989, Medicare began to implement significant changes in Medicare physician payment, intended, in part, to control future expenditure growth by regulating both fees and volume. It is too early to tell how these controls have influenced physician expenditures although future studies should be informative. Other countries have had more experience with controls on physician expenditures than has been the case in the United States. Some research on the experiences of Germany and Canada suggests that these controls have been effective in constraining spending on physician services.

All of the physician payment regulations reviewed evolved from a focus on physician fees to

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76 GAO asserts that allowable spending was not reduced when spending exceeded the target (180). However, another expert, William Glaser, asserted that when the expenditure targets were in effect, the federal government and the sickness funds imposed relatively small annual increases in expenditures on the physicians' associations (43). The associations in turn administered claims with member physicians such that expenditure targets resembled the later, more strict expenditure caps. For example, in many regions, the sickness funds and physician associations agreed that if unpredicted increases in utilization and service intensity exceeded expenditure targets, the associations would pay discounted fees during the final months of the year (43).

77 Spending for physician services showed 2 percent annual growth between 1985-86 and 1987, compared with 7 percent average annual growth from 1977-78 to 1985-86 (176).

78 For example, GAO's results for the effects Of targets and caps on physician spending in Germany indicate that increases in the Population led to a decrease in physician expenditures, which would not generally be expected. A more important counterintuitive result was their finding that their "point estimates indicate that with caps in place, increases in national income led to decreases in physician care spending rather than to the moderation in spending increases that would be expected." (176). GAO explained these findings as short-term effects of the caps and concluded that they would probably not continue (176).

79 OECD data indicate that the rate of growth between 1986 and 1990 (years of regional expenditure caps) was 5.6 percent, or only slightly lower than the annual growth rate in physician expenditures between 1978 and 1985 (5.8 percent) when expenditure targets were in effect (120). Moreover, some year-to-year growth rates were larger during the period of expenditure caps than during the period of expenditure targets (120).

regulating both fees and the volume of service (e.g., through expenditure caps and targets). Research showing that physicians respond to fee controls by increasing volume (e.g.,Rizzo(137)), as well as research showing that volume is a principal factor in driving up expenditures for physician services (123), suggests that controlling volume may be important for reaching a satisfactory level of cost containment.

Whether physician expenditures controls will result in cost-shifting to other payers (e.g., individual patients, private health insurers in the United States) and spillover to other services will depend on how they are implemented and whether other payers or services are reimbursed at a higher rate. These effects have not been well studied.

Although, the research reviewed in this chapter does not detail the political issues involved in implementing regulations on physician payment, in the past the imposition of fee and utilization controls has been the focus of contention between payers and providers (69, 100).

Findings and Policy Implications

Findings

This chapter examined assumptions made by analysts attempting to estimate the impact of various types and levels of government cost controls on national health expenditures in proposals that include such controls. Government cost controls were defined as measures by which federal, state, or local governments play a direct or indirect role in financing and paying the facilities and providers through which health care services are delivered. The chapter then examined the empirical research literature on previous attempts at government cost controls. Thus, this chapter set out to answer two questions:

1. **Can any savings be attributed to government cost controls and, if so, is it possible to quantify the savings resulting from a particular set of government cost controls?**

   The empirical evidence, while imperfect, suggests that government controls on the amount of funds available for specific types of health care services can reduce the growth rate in health care spending for the targeted services.

Studies of experience from several countries and states in the United States suggest that government cost controls with more "teeth" (i.e., that put providers at more financial risk through strictly enforced expenditure caps) are, logically, more successful than government cost controls with less teeth (i.e., that set fee schedules and "targets" rather than caps), However, there appears to be a continuous search for new and more effective ways to reduce the growth rate of health care expenditures.

It is difficult to draw overall conclusions about the magnitude of potential savings from government cost controls. Several factors appear to be important variables affecting success versus failure: the extent to which both prices and volume of services are regulated, the regulator's will and ability to enforce controls, decisions about the level and increase in the category of spending subject to the controls, supporting mechanisms designed to enforce the controls such as penalties and rewards, the ability and incentives for providers to offset controls on one category of health expenditures or one payer by shifting services or costs to other health care settings or payers, and interaction with other aspects of the government cost control program. In addition, success and failure may be defined differently in different studies and by different observers. Knowledge of the ways in which success is defined and of the factors that may contribute to or confound success and failure is necessary to accurately estimate the magnitude of the impact of a particular government cost control on NHE. In most cases, this information is difficult to obtain, model, and synthesize.

2. Is **empirical evidence available to support the assignment of an effectiveness rating to a set of government cost-control strategies?**

As discussed earlier, an "effectiveness rating" is sometimes "assigned" by analysts when a proposal provides for a limit on spending for a specific payer (e.g., federal or state government), service (e.g., hospitals), or proposed combination (e.g., a health plan). The rating depends on analysts' judgment of how successful the array of supporting government cost control mechanisms

(and other measures) in a reform proposal will be in achieving the proposed statutory rate of growth for the portion of NHE subject to the limit. Effectiveness ratings might be easier to assign if a reform proposal incorporated a package of government cost controls identical to some other system, *and* if there were documented evidence about the effectiveness of that system in controlling health expenditures. However, none of the current legislative proposals to reform the U.S. health care system mirrors the cost-containment mechanisms of any other country or previous U.S. experience in their entirety. Moreover, the evidence for specific mechanisms similar to those proposed may be nonexistent (e.g., premium limits), methodological y flawed (e.g., the plethora of uncontrolled stud ies), or marginally generalizable to current proposals (e.g., hospital budgeting in France[80]). Perhaps most important, previous studies may report results in ways that do not allow judgments about whether specific mechanisms reached a specified target. This chapter suggests, however, that analyses of previous experiences can provide some general guidance about the direction of the effects of specific mechanisms.

Theoretically, the concept of effectiveness ratings may constitute an advance over all-or-nothing judgments about the effectiveness of proposed policy changes. It may require analysts to think more carefully about the possible effects of given cost controls. However, given the paucity of data and the difficulty in determining the effects of complex systems, contemporary analysts appear to have no choice than to assign effectiveness ratings using subjective judgment. In the policy arena a problem arises when the evidence or uncertainty behind such ratings is neither provided nor explicitly acknowledged in an analysis. Assigning overall numerical ratings of effectiveness, without providing further quantitative justification or sensitivity analyses,[81] may lend analysts' estimates an unwarranted aura of precision. In addition, it is not always clear what these effectiveness ratings mean.

Policy Implications

Most analysts' qualitative assumptions that government cost controls slow the rate of growth in the sectors to which they have been applied seem reasonable. However, because of the amount of judgment required to make assumptions about growth rates for the portion of NHE subject to expenditure limits under alternative reform proposals, policymakers should be aware of the rationales for particular ratings before ranking health reform proposals in terms of their relative savings.

In addition, because assumptions about exact effectiveness ratings for expenditure 1imits cannot be based entirely on the empirical literature but are subjective, analysts may aid policy makers by providing a range of NHE estimates based on a range of plausible alternative effectiveness ratings. In addition, analysts should clearly document how they arrive at their assumptions about the effectiveness of cost controls so that other people can more easily independently assess those effectiveness ratings. This would allow outsiders who are interpreting NHE estimates or proposing legislation to have a clearer idea of how analysts formed, or would likel y form, an effectiveness rating for an expenditure limit for a particular proposal.

Finally, as with other chapters in this report, policymakers and others may find it useful to think beyond the issues raised by reviewing analysts' assumptions about only the cost implications of reform. Other considerations may not be amenable to modeling of NHE, but may be just as important to reform decisions.

In summary, the empirical evidence appears to support the direction of most analysts projections about potential savings from adopting a health system that includes more extensive government cost controls than are currently used in the U.S. health care system, but no particular quantitative rating of effectiveness is possible.

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80 France's hospital budgeting approach is chosen as marginally general izable because it involves a system in which two-thirds of the hospitals are public, and for which governments and French sickness fund representatives negotiate budgets individually with each covered hospital.

81 Sensitivity analyses provide an indication of the effect of variations in analysts' judgments or m the available evidence.

Effects of Managed Competition and HMO Enrollment

3

Many health reform bills before Congress are asserted to reduce health care expenditures by introducing competition to the health care marketplace through "managed competition." For example, the Health Security plan press packet states that "reform will encourage competition—forcing costs down as health plans compete by offering high-quality care at an affordable price" (207). Similarly, the press conference statement for the Managed Competition Act of 1993 states that "[ifl costs are to be controlled, the government must encourage the market to fundamentally restructure the way health care is provided" (187). To validate these assertions, policymakers and others have looked, in part, to formal economic analyses.

Alain Enthoven, one of the original architects of managed competition, defines it as a "purchasing strategy to obtain maximum value for consumers and employers, using rules for competition derived from macroeconomic principles" (31). Under managed competition "a sponsor" (either an employer, government entity, or purchasing cooperative), acting on behalf of a large group of subscribers, structures and adjusts the market to overcome attempts by insurers to avoid price competition (31). Other elements of managed competition, such as limiting employer contributions to the cost of the lowest priced plan available, aim to increase consumers' sensitivity to the price of health insurance and to encourage more active shopping for health

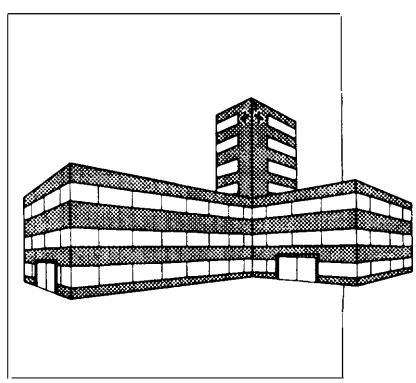


TABLE 3-1: Features of Managed Competition in the Health Security Act and the Managed Competition Act of 1992[a]

General feature of the plans	Specific features of the plans	
	Health Security Act (H.R. 3600/S. 1757)	Managed Competition Act of 1992 (H.R. 5936)
Health plan purchasing cooperatives	States must establish regional health alliances that offer a choice of state-certified plans. Participation is mandatory for businesses with less than 5,000 employees and for individuals. Large employers may join regional alliances or form corporate alliances. A corporate alliance must offer to participants at least three plans. These plans may be certified, self-insured, or third-party plans,	**States establish health plan purchasing cooperates that offer a choice of accountable health plans.[b] Employers with 1,000 employees or less must offer, but not pay for, enrollment opportunity in a health plan purchasing cooperative. Large employers do not have to offer coverage through a health plan purchasing cooperate. They must offer coverage from at least one, but not necessarily** more than one, plan on their own. As with small employers, there is no obligation to pay for coverage.
Risk--adjusted payments to insurers	Regional alliances adjust payments to insurers to account for risk selection using a method established by the National Health Board.	Each health plan purchasing cooperative would pay accountable health plans risk-adjusted premiums based on a methodology to be established by the National Health Board.
Employer contributions tied to lower priced plans	Requires all employers to pay at least 80% of the cost of the average priced plan in the regional alliance area,	No requirement to limit employer contributions, although health plan expenses would be tax deductible only up to the cost of the lowest priced accountable health plan in the area.
Standard banefit package	Requires a standard benefit package,	Requires a standard benefit package.
Community rating and open enrollment	Health plans must have open enrollment and community rating with specific rating procedures to be established by the National Health Board,	Accountable health plans must have open enrollment. Large employers may have closed plans. All accountable health plans have modified community rating.

(continued)

plans. [1] In response to the greater price competition, health plans are expected to reduce health care costs by using the tools of managed care.[2]

Although there is general agreement on the broad outlines of managed competition, various managed competition proposals would establish different regulations and entities to restructure the market for health insurance and health care. Features common to the managed competition proposals include:

[1] The term *health plan* has no standard definition, and different insurer organizations and health reform proposals define it differently (e.g., the Health Security Act (S. 1757); the Managed Competition Act of 1993 (H.R. 3222); The Health Equity and Access Reform Today Act of 1993 (S. 1770)). The term *health plan was* coined, in part, because the term *insurance plan* does not indicate that many plans both provide insurance-that is they finance health care through premiums collected from employers and individuals—and are involved in the delivery of care (e.g., through utilization management, by hiring providers, and/or by providing settings). Thus, the term *health plan is* more general than the term *insurance p/an* and includes a wide spectrum of private health care financing and delivery arrangements, ranging from traditional fee-for-service plans to traditional health maintenance organizations.

[2] In some descriptions of managed competition, health plan purchasing cooperatives, or health alliances, are expected to aggressively negotiate and selectively contract with health plans, thus reducing health care expenditures. In other proposals, alliances or cooperatives must contract with all qualified plans and are not allowed to negotiate.

TABLE 3–1: Features of Managed Competition in the Health Security Act and the Managed Competition Act of 1992[a] (cont'd.)

General features of the plans	Specific features of the plans: Health Security Act (H.R. 3600/S. 1757)	Specific features of the plans: Managed Competition Act of 1992 (H.R. 5936)
Changes in the tax deductibility of health insurance	Employer contributions for benefits and services outside the scope of the standard package would be taxed starting in 2004. The self-employed may deduct 100% of the amount paid for health Insurance, limited to the cost of the standard benefit package	Employer payments for health plans above the cost of the lowest priced accountable health plan, as well as payments to a plan that is not an accountable health plan, would be subject to a **3470 excise tax.** Individuals are allowed tax deductions for premiums paid to an accountable health plan, but the individual and the employer could together deduct no more than the cost of the cheapest accountable health plan,
Reports on plan quality	Requires each regional all lance to make available information on prices, providers, and services, The information requirements would be established by the National Health Board	Requires each health plan purchasing cooperative to analyze and distribute Information on accountable health plans to eligible individuals and employers, including Information on prices, health outcomes, and enrollee satisfaction,

aThis table is meant to be illustrative and is not a detailed analysis of the proposals.

bAccountable health plans are health insurance plans that must meet standards set by the National Health Board and offer a uniform set Of benefits Two types of accountable health plans would exist closed plans which would be limited to employees of large firms and open plans which would be required to accept all applicants

SOURCE Off Ice of Technology Assessment, 1994

- health plan purchasing cooperatives or sponsors that offer several health insurance plans and adjust payments to insurers to account for risk selection,
- incentives to limit employer contributions to the price of the least expensive plans or a fixed dollar amount,
- standard benefit packages,
- community rating[3] with open enrollment[4] and limited underwriting and exclusions,
- limits on the tax deductibility of employer contributions to employee health insurance, and
- reports on health plan quality.

Proposals vary in how these aspects of managed competition would be implemented, whether they would be voluntary or mandatory, and how extensively they would be applied. Table 3-1 describes the features in proposals that have been

[3]Definitions of *community rating* vary. According to one definition, it is a method of determining premium rates that is based on the allocation of total costs without regard to past claims experience. According to another definition, it is an approach to pricing health insurance premiums that requires an insurer to accept all applicants at virtually the same rates. The second definition is the one used in this chapter and the onc most applicable to the health reform proposals referred to in the chapter.

[4]*Open enrollment* is defined as a health insurance enrollment period during which coverage is offered regardless of health status and without medical screening,

analyzed in terms of their effects on national health expenditures (NHE).

Managed competition would attempt to change the incentives faced by consumers, health plans, and providers, and to create new organizations to improve how health insurance markets function. Because the impact of managed competition hinges on how multiple actors in the health care system would react and interact, modeling the dynamics of managed competition presents a daunting task. The second section of this chapter describes the assumptions used in simulations of the impact that managed competition proposals would have on NHE. The analyses of proposals reviewed in this chapter are summarized in table 3-2. Analysts' key assumptions are summarized in table 3-3.

The third section of the chapter describes research and experiences that form the basis for predicting how managed competition could influence NHE.

ANALYSES OF REFORM PROPOSALS

Two proposals that contain features of managed competition have been estimated in terms of their impact on NHE: the Managed Competition Act of 1992 (H.R. 5936) and the Health Security Act (H.R. 3600/S. 1757).[5] Both the Congressional Budget Office (CBO) and the Economic and Social Research Institute (ESRI) estimated the impact of the Managed Competition Act of 1992 on NHE. CBO, Lewin-VHI, and the Clinton Administration estimated the impact of the Health Security Act on NHE. Lewin-VHI estimated the impact of the Health Security Act both with and without the premium limits. All of the analyses reviewed are relatively simple and use a few key explicit, quantitative assumptions. To estimate the impact of the Managed Competition Act on NHE, analysts posit that managed competition will stimulate enrollment in health maintenance organizations (HMOS) and that this will result in a reduction in NHE. (See box 3-1 for a definition of HMOS and managed care.) Analyses of the Managed Competition Act of 1992 make different assumptions as to whether managed competition will influence the growth rate in national health expenditures beyond the *one-time* impact of HMO enrollment, although all analysts indicate this determination is extremely difficult and subject to serious uncertainties.[6]

Analyses of the Health Security Act differ from those of the Managed Competition Act in that the key simplifying assumption is not savings from HMOS, but rather the impact of government cost containment. Assumptions about managed care and managed competition are not explicitly used in the quantitative analyses of the Health Security Act.[7]

Analyses of Managed Competition Proposals Without Government Cost Controls

The Managed Competition Act of 1992 (H.R. 5936 in the 102d Congress) and of 1993 would require each state to establish a health plan purchasing cooperative through which individuals could choose from several health plans. A national health board would develop criteria for the specific types of plans, called *accountable health plans.* Accountable health plans would be required to offer at least a minimum set of specified benefits; charge all subscribers similar premiums (premiums could vary only by the geographic loca-

[5] The Managed Competition Act of 1992 (H.R. 5936) is very similar to the Managed Competition Act of 1993 (H.R. 3222/S. 1579). CBO released an analysis of NHE under The Managed Competition Act of 1993 (174) too late for inclusion in this report.

[6] The term *one-time* impact means a short-term or limited effect on the level of health expenditures. Another interpretation of this assumption is that HMOs have a limited ability to control the factors that are causing health care costs to increase. For example, analysts may implicitly think that although HMOs can reduce inpatient admissions, HMOs have no ability to continue to reduce costs through other means.

[7] Lewin-VHI does use assumptions about managed care and managed competition to estimate what NHE might be under the Health Security Act if implemented without the government cost controls.

TABLE 3–2: Analyses of the Impact of Health Reform Proposals on National Health Expenditures Reviewed in This Report

Proposal	Analyses[a] Applying government cost controls (chapter 2)	Encouraging managed competition (chapter 3)	Providing universal coverage to uninsured people (chapter 4)	Reducing administrative costs (chapter 5)
American Health Security Act of 1993 (H, R 1200/S. 491)[b]	CBO		CBO	CBO
Comprehensive Health Reform Act of 1992 (H. R. 5919)[c]				CBO
Health Care Cost Containment and Reform Act of 1992 (H. R. 5502)[c]	CBO		CBO	CBO
Health Security Act (H. R. 3600/S. 1757)[b]	CBO Clinton Administration Lewin-VHI	**CBO** Clinton Administration Lewin-VHI	CBO Clinton Administration Lewin-VHI	CBO Clinton Administration Lewin-VHI
Health Security Act (H. R. 3600/S. 1757)[b], Lewin-VHI scenario without government cost controls		Lewin-VHI		
Managed Competition Act of 1992 (HR. 5936)[c]		CBO ESRI	CBO	CBO
Managed competition plan, Starr version			Sheils et al.	
National health plan, full savings scenario				ESRI
National health plan, administrative savings scenario				ESRI
Single-payer plan, CBO version with patient cost-sharing			CBO	
Single-payer plan, CBO version without patient cost-sharing			CBO	CBO
Single-payer plan, GAO version				GAO
Single-payer plan, Grumbach et al version				Grumbach et al
Single -payer plan, Lewin-VHI version				Lewin-VHI[d]
Single-payer plan, Woolhandler and Himmelstein version				Wool handler and Himmelstein
Universal Health Care Act of 1991 (H R. 1300)[c]	CBO		CBO	CBO

KEY CBO = U S Congress Congressional Budget Off Ice GAO U S General Accounting Office ESRI= Economic and Social Research Institute

aFull citations for the analyses are in appendix B

bBill numbers are for 103d Congress

cBill numbers are for 102d Congress

dAnalysis was conducted by Lewin-ICF The company was acquired and expanded in 1992. For purposes of this report all Lewin analyses are Identified as Lewin-VHI.

SOURCE Office of Technology Assessment, 1994

TABLE 3–3: Key Assumptions in Estimates of Managed Competition and HMO Enrollment by Privately Insured Individuals in the Health Security Act and the Managed Competition Act of 1992

Proposal	Analysis[a]	Savings from enrollment in HMOS by year ($ billions)[b]		Key assumptions: Increase in individuals' enrollment in HMOS (millions)[c]	Key assumptions: Amount spent in non-HMO plans	Key assumptions: Average savings from HMOs (percent)[d]	Key assumptions: Change in growth rate of NHE due to managed competition (percent)
The Health Security Act (HR. 3600/ s 1757)	CBO	No explicit estimates		No assumption	No assumption	No assumption	No assumption
	Clinton Administration	No explicit estimates		No assumption	No assumption	No assumption	No assumption
	Lewin-VHI	No explicit estimates		No assumption	No assumption	No assumption	No assumption
The Health Security Act (H R 3600/ S.1757), Lewin-VHI scenario without government cost controls	Lewin-VHI	1998	$149	All indivlduals not m HMOS at the time of reform will join HMOS	$499.9 billion	3%	No explicit assumption
The Managed Competition Act of 1992 (H R 5936)	CBO	1995	1 50	94e	**$2,130 per** enrollee	7.5%	O% reduction
		1996	166	9 6	2,300 per enrollee		
		1997	169	9	2,500 per enrollee		
		1998	1.62	8	2,700 per enrollee		
		1999	1.77	8	2,950 per enrollee		
		2000	1.87	7,8	3,200 per enrollee		
	ESRI-[f,g] optimistic	1994	993	169	$3,916 per enrollee	15%	2% reduction
		1995	993	169			
		1996	9.93	169			
		1997	188	3.2			
		1998	188	3.2			
	ESRI -[f,h] pessimistic	1994	247	63	$3,916 per enrollee	10%	1 % reduction
		1995	247	63			
		1996	247	63			
		1997	247	6.3			
		1998	247	63			
		1999	031	0.8			
		2000	031	08			
		2001	031	08			
		2002	031	08			
		2003	031	08			

(continued)

TABLE 3–3: Key Assumptions in Estimates of Managed Competition and HMO Enrollment by Privately Insured Individuals in the Health Security Act and the Managed Competition Act of 1992 (cont'd.)

KEY: CBO - U S Congress, Congressional Budget Off Ice, ESRI = Economic and Social Research Institute HMO = health maintenance organization, NHE = national health expenditures

[a]Full citations of the analyses are in appendix B

bFigures exclude Medicaid The amount saved through managed care would be higher if Medicaid were included For example, under the Managed Competition Act of 1992, CBOestimated that Medicaid enrollment in HMOs would increase from approximately 12 to 80 percent Savings from having Medicaid enrollees join HMOS were assumed to be $6 billion from 1995102000

[c]Flgures exclude Increased enrollment in HMOS by Medicaid recipients

[d]This column only indicates what HMOs were assumed to save on *average. Some analysts made different* assumptions about how much particular forms of HMOS would save (I e group- and staff-model HMOS versus indvidual practice associations) and how savings would differ for specific types of services (e.g., inpatient versus outpatient care)

[e]CBO assumed 75 percent of the nonpoor, urban population would join HMOS Increased enrollment is phased in over 6 years

[f]The savings from HMOS do not include its *growth rate* assumptions. ESRI assumed that the growth rate of health care expenditures would be reduced under managed competition by 1 to 2 percent

YE SRI assumed an additional 75 percent of workers in small firms and an additional 50 percent of workers in large firms would join HMOS Increase in enrollment is phased in over 4 years

[h]**ESRI assumed an additional** 50 percent of workers in small firms and an additional 25 percent of workers in large firms would joln HMOS. Increase in enrollment IS phased in over 10 years

SOURCE Office of Technology Assessment 1994

tire, family status, or age); and report on quality. Accountable health plans would either be closed *plans* that would be limited to groups of at least 1,000 people in the act of 1992 and 100 people in the act of 1993, or *open plans* that would be required to have open enrollment and could not deny coverage on the basis of poor health.

Changes in the tax code would be used to encourage the purchase of coverage through accountable health plans. Small employers, defined as those with fewer than 1,001 employees in the act of 1992 and fewer than 101 in the act of 1993, would be required to enter into agreements with health plan purchasing cooperatives that would allow employees coverage through accountable health plans. Employer contributions to health insurance above the cost of the lowest priced accountable health plan, and payments for plans that were not accountable health plans, would be taxed.

Congressional Budget Office's Analysis of the Managed Competition Act

In a July 1993 publication, *Estimates of Health Care Proposals from the 102nd Congress, CBO* reported estimates of the impact of the Managed Competition Act of 1992 (H.R. 5936) on NHE (168).

CBO states that one of the principal ways that the bill would reduce NHE from current levels would be through increasing HMO enrollment (168). CBO estimated savings from enrollment in HMOS by privately insured individuals of $1.5 billion in 1995, and $10.1 billion in total from 1995 through 2000. It also estimated that enrollment in HMOS by Medicaid recipients would save $6 billion over the same period (59).

To estimate the savings that would accrue from HMO enrollment, CBO:

1. *Estimated premiums of non-HMO plan for* **1995** *through 2000.* It estimated that in 1995, non-HMO plan premiums would be $2,130 per enrollee (for those under age 65), and assumed premiums would increase at the rate of baseline per capita national health expenditures thereafter (59,1 68).
2. *Estimated how many individuals would leave their non-HMO plan and join an HMO.* CBO assumed that several factors would encourage people to join HMOS. First, it assumed that group- or staff-model HMOS would offer the lowest priced plan in the area. Second, CBO as-

BOX 3-1: Managed Care and Health Maintenance Organizations

Managed care can refer to both the elements of managing care and the institutional structures within which care is managed. To some, managed care means the process of managing, whether using the simpler tools of utilization management or the more sophisticated techniques of continuous quality improvement. To others, the term is equated with alternative delivery systems that are variously know by such names as HMOs, PPOs, IPAs.

In contrast to traditional indemnity insurance plans where the insurer simply reimburses the insured individual for incurred health expenses and has no direct relationship with the providers of care, alternative delivery systems create a direct relationship between the insurer and the provider of care. Whether physicians are salaried employees or contractors, they have a relationship with the HMO or PPO wherein they give up some clinical and financial autonomy to that organization. The consumer who joins a managed-care organization also surrenders some freedom of choice in making that decision. The HMO or PPO in turn takes on a managerial role with the hope of containing costs and enhancing the quality of care.

The organizational forms that fit under the rubric of managed care are becoming increasingly difficult to distinguish. Although an understanding of the current organizational forms of managed care remains important, it may be necessary in the future to develop new definitions and new typologies to describe the evolving world of managed care.

FORMS OF MANAGED CARE

Fee-for-service plan: Used in this report to mean a traditional or conventional health insurance plan that permits employees to select providers of services and pays the providers according to the fees charged for such services. The term is used to distinguish such plans from HMOs, under which the enrollee generally must obtain services from the HMO providers whose payments from the HMO are not necessarily directly related to the type or quantity of services actually provided.

Group-model HMO: An HMO that contracts with one independent group practice to provide heath services.

Health maintenance organization (HMO): A health care organization that acts as both insurer and provider of health care. A defined set of physicians (and, often, other health care providers such as physician assistants and nurse midwives) provide services to an enrolled population. Benefits are usually provided with minimal patient cost-sharing. Types of HMOs include group-model HMOs, staff-model HMOs, and individual practice associations.

Independent (or individual) practice associations (IPA): A type of HMO that contracts directly with physicians in independent practice, with one or more associations of physicians in independent practice, and/or with one or more multi-specialty group practices to provide health services.

Managed care: A general term applied to a range of initiatives from organized health care delivery systems (e.g., HMOs) to features of health care plans (e.g., preadmission certification programs, utilization review programs) that attempt to control or coordinate enrollees' use of (and thus the cost of) services.

Network-model HMO: An HMO that contracts with two or more independent group practices to provide health services.

Preferred provider organizations (PPO): A term that refers to a variety of different insurance arrangements under which plan enrollees who choose to obtain medical care from a specified group of participating providers receive certain advantages, such as reduced cost-sharing charges. Providers usually furnish services at lower than usual fees in return for prompt payment by the health insurance plan and a certain assured volume of patients.

Staff-model HMO: An HMO in which physicians practice solely as employees of the HMO and are usually paid a salary.

SOURCE: Adapted from the Physician Payment Review Commission Annual Report (123)

sumed that H.R. 5936 would increase the difference in effective prices to the enrollee between HMOS and non-HMO plans because enrollees would have to pay for the cost of more expensive plans with aftertax rather than pretax income. In addition, CBO assumed that the standardization of benefits would make the price differences much more apparent. Due to these factors, CBO predicted that three-quarters of the nonpoor, urban population would leave their non-HMO plans and join an HMO over the 6 years following the bill passage. In total, CBO predicted that 51.8 million people would switch from fee-for-service (FFS) plans to HMOS between 1994 and 2000 (59). To support this assumption, CBO referred to the experience of California and Wisconsin-states whose health insurance programs for public employees have similarities to managed competition and who have a relatively high percentage of employees in HMOS.

3. *Predicted that eventually 80 percent of the Medicaid population would join HM0s.*[8]
4. *Assumed that group- and staff-model HMOs would reduce personal health expenditures by about 15 percent compared with traditional private health insurance with higher patient cost-sharing (168).* However, CBO stated that the evidence that other forms of HMOS can reduce costs is much less conclusive. Therefore, CBO assumed that enrolling additional people in various types of HMOS would, on average, reduce their personal health expenditures by 7.5 percent. The CBO assumption of HMO savings appears to be based on three studies, although it is not clear how the assumptions of a 15 or 7.5 percent savings were derived from the studies (161, 163).[9]
5. *Multiplied the 7.5 percent cost difference by the estimated cost per covered person in non-HMO plans and by the number of individuals expected to switch to an HMO plan to arrive at HMO savings.* For example, CBO assumed that in 1991, 9.4 million people would switch to HMO plans and that persons in non-HMO plans would spend $2,130. Therefore CBO calculated that increased HMO enrollment by privately insured people would save $1.5 billion in 1991, [10]
6. *Did not predict any reduction in the growth rate of health expenditures under managed competition, except for the estimated savings from increased enrollment in HMOS.* CBO states, however, that "by restructuring the market for health insurance . . . this version of managed competition might produce additional savings over a longer time period" (168). In other publications, CBO has written that "[although] the overall effect [of managed competition] could be to reduce national health expenditures in the longer term, the available evidence does not permit one to forecast changes in magnitude or timing with any precision. Moreover, important behavioral responses to these changes have not yet been quantified" (166).

Economic and Social Research Institute's Analysis of the Managed Competition Act

ESRI provides a second example of how the effects of managed competition have been estimated. In a May 1993 report, *Managed*

[8] Under H.R. 5936, the federal government w [mid subs idize the health insurance premiums of poor people. The subsidy would cover any premium not paid by the individual's employer, up to the cost of the lowest-priced accountable health plan. CBO assumed that this would increase HMO enrollment by those who received Medicaid prior to the act.

[9] The CBO review seemed to rely on some of studies of HMOs with the strongest methodologies, Including those of Manning and colleagues (98), Brown, 1987 (101), and Greenfield and colleagues, 1992 (46).

[10] Information on how [his calculation was made and the specific "line items" were provided through personal communications with CBO staff (59).

Competition in Health Care: Can It Work?, the authors analyze the impact on NHE of a managed competition plan proposed by the Conservative Democratic Forum and introduced in the 102d Congress as H.R. 5936 (108).

Separate analyses were conducted using "optimistic" and "pessimistic" assumptions. Under an optimistic scenario, ESRI estimated that increasing enrollment in HMOS would save approximately $10 billion in 1994. Under pessimistic assumptions, it estimated savings of $2.5 billion in 1994. To arrive at these figures (108,149),11 ESRI:

1. *Estimated expenditures in non-HMO plans to be $3,916 per enrollee in 1994 or approximately $403 billion in total.*
2. *Assumed the proposal would* ***cause*** *employees to switch from non-HMO plans to HMOS.* lt estimated that, before the reform, 10 percent of employees in small firms and 28 percent of employees in large firms are enrolled in HMOS. After reform, under the pessimistic scenario, it assumed that 50 percent of workers in small firms would switch to HMOS over a 5-year period, and that 25 percent of workers in large firms would switch to HMOS over a 10-year period. This assumption translates into about 35.5 million workers joining HMOS over a 10-year period. Under the optimistic scenario, ESRI assumed that 70 percent of workers in small firms would switch to HMOS over a 3-year period, and 50 percent of workers in large firms would switch to HMOS over a 5-year period (for a total of 57 million people over 5 years) .12
3. *Assumed that some proportion of Medicaid enrollees would enroll in HMOS.*
4. *Assumed that HMOS offered savings of 15 percent over non-HMO plans under the optimistic scenario, and 10 percent under the pessimistic scenario.*
5. *Multiplied the number of people who would switch to an HMO by the cost of a non-HMO plan ($3,916) and by HMO savings (10 or 15 percent).* This resulted in total savings of approximately $34 billion over 5 years under optimistic assumptions, and $14 billion over 10 years under pessimistic assumptions.
6. *Assumed that there is "likely to be some deceleration in the growth of health care spending over the long-run" due to other elements of managed competition, such as price competition, administrative cost savings, and monop - sonistic buying power* ESRI posited that these factors will reduce the growth rate of personal health expenditures for the nonelderly population by 1 to 2 percentage points below the baseline (i.e., the growth rate under current law) by 2003. The growth rate assumption was applied after taking into account the reductions in the level of expenditures. This assumption contributed to ESRI'S considerably higher savings under managed competition than CBO'S. As with other examples, ESRI'S growth rate assumption is not based on an explicit model of individual or organizational responses to managed competition, or on any explicitly cited evidence, but rather represents the judgment of the analysts. Indeed, the authors note that their assumptions are "highly speculative."

Lewin-VHI's Analysis of the Health Security Act Without Government Cost Controls

As part of its overall analysis, Lewin-VHI estimated the impact of the Health Security Act on NHE if the Health Security Act were implemented without the premium limits (89). To arrive at its estimate of savings from increased HMO enrollment under the Health Security Act (equal to $14.9 billion in 1998), Lewin-VHI:

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11 The methods used in the ESRI analyses to estimate savings under managed competition were described in a published report and were elaborated upon through personal communication with the authors.

12 ESRI assumed the managed competition proposals would give employees Of small firms more of an incentive to enroll "HMOs and therefore more employees would be enrolled at a faster rate.

1. *Determined how much money would be spent on non-HMO plans in 1998 under current law. The* expenditure estimates were based on 1987 National Medical Expenditure Survey data projected forward to 1998 using a variety of sources, primarily the March 1992 Current Population Survey and Health Care Financing Administration's (HCFA) health expenditure projections. The market shares of HMOS and non-HMO plans were projected to 1992 using either data from the Group Health Association of America or the Health Insurance Association of America (it is unclear from the document which was used). The analysis seemed to assume that the market share of HMOS would not change from 1992 to 1998 under current trends. [13] Lewin-VHI estimated that spending by non-HMO plans for inpatient and outpatient services and prescription drugs would be $499.9 billion in 1998.
2. *Assumed that "under managed competition, people would be able to choose among a variety of plans with differing levels of effectiveness in controlling utilization. "* Further it assumed that "savings under these plans would be consistent with the overall average savings achieved by the current mix of all types of HMOS."
3. *Estimated the average difference in health service* utilization *between HMO and non-HMO members.* [14] *For* persons younger than age 65, the estimate was based on a Lewin-VHI study that used the 1989 National Health Interview Survey Health Insurance Supplement data (89). For persons 65 and older, the estimated change in utilization was based on the Medicare Tax Equity and Fiscal Responsibility Act (TEFRA) evaluation results (1 05).[15]
4. *Determined the savings that would occur if all individuals were enrolled in plans with savings "consistent with the overall average savings achieved by the current mix of all types of HMOS. "* It did this by multiplying the average percent difference in *utilization* in hospital days and physician visits in HMOS compared with non-HMO plans—found in a Lewin-VH1 study (for under 65) and the Medicare TEFRA evaluation (for over 65)—by the estimated baseline expenditure on care on inpatient and outpatient care in non-HMO plans in 1998. Note that there is an implicit assumption of a linear, one-to-one relationship between changes in utilization and expenditures. For example, Lewin-VHI assumes that every 1 percent decrease in hospital days will reduce inpatient expenditures by 1 percent.
5. *Calculated separate expenditure estimates by location (metropolitan/nonmetropolitan), age (under 65/over 64), inpatient/outpatient category, and for prescription drugs.* For example, inpatient care in metropolitan areas for persons under 65 and not enrolled in HMOS was estimated to cost $188.9 billion in 1998 under current policy. This number was then multiplied by 11.7 percent, the assumed percent reduction in inpatient days in HMOS. The resulting figure, $22.1 billion, is the estimated reduction in expenditures for inpatient care in metropolitan areas in 1998 for individuals under age 65. Using an assumption about the percent increase in physician visits in HMOS, the same method was repeated for outpatient care provided in metropolitan areas to individuals under age 65, inpatient and outpatient care provided in nonmetropolitan areas to individuals under age 65, inpatient and outpatient care provided to indi-

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[13] If the market share of HMOs grows over these years under current law, as it has in previous years, Lewin-VHI 's estimated savings from managed care are overstated since some of the potential savings assumed from HMOs would occur anyway, without reform.

[14] Utilization was measured in terms of hospital days and physician visits.

[15] Under the aegis of the Tax Equity and Fiscal Responsibility Act, Medicare allowed HMOs to enroll Medicare beneficiaries and Medicare paid them a capitated payment in return for providing or arranging for their Medicare-covered services.

viduals age 65 and older, and for prescription drugs. The totals were then added to arrive at total savings from moving the entire non-HMO population to HMOS, or $14.9 billion in 1998. This is equal to approximately 3 percent of estimated expenditures in non-HMO plans. [16]

In a section labeled "caveats" in an appendix to the report, Lewin-VHI stated that: "[t]hese estimates are based upon observed experience in existing managed care environments. It is possible that changes in the delivery system envisioned under the Health Security Act will result in substantially more managed care savings than estimated here."

Analyses of Managed Competition Proposals With Government Cost Controls

The Health Security Act incorporates many features of Enthoven's original concept of managed competition. A key distinction, however, is that it would impose a government-enforced limit on the growth rate of premiums. The act and analysis of the act are described in greater detail in chapter 2.

Congressional Budget Office's Analysis of the Health Security Act

The CBO analysis of the Health Security Act did not make any explicit, quantitative assumptions about savings from managed care or managed competition (132, 172). Rather, CBO projected NHE under the proposal by assuming expenditures would grow at either the legislated growth rate for services covered by the act's standard benefit package; at the growth rate expected in the federal programs for services covered by these programs (e.g., Medicare and Medicaid); or at baseline growth rates for services not covered under the comprehensive benefit package or other government programs. [17]

Clinton Administration's Analysis of the Health Security Act

Similar to CBO, the Administration's analysis of the Health Security Act did not make any explicit, quantitative assumptions about savings from managed care or managed competition (202). Rather, like CBO, the Administration projected NHE under the proposal by assuming that expenditures would grow at either the legislated growth rate for services covered by the standard benefit package; at the growth rate expected in the federal programs for services covered by these programs (e.g., Medicare and Medicaid); or at baseline growth rates for services not covered under the standard benefit package or other government programs. The Administration explained that assumptions about savings from managed care and managed competition entered implicitly into the model. Specifically, the anticipated effects of managed care and managed competition were thought to support the assumption that the legislated growth rate for the premiums could be achieved.

Lewin-VHI's Analysis of the Health Security Act

Consistent with CBO and the Administration, the overall Lewin-VHI analysis of the Health Security Act (i.e., with government cost controls) did not explicitly consider the impact of managed competition or HMO enrollment on NHE.

Summary

Estimates of managed competition proposals without government cost controls are based on the assumption that the proposals will increase HMO enrollment. In turn, this is expected to reduce health care costs. Analysts typically use several calculations and assumptions to estimate the potential savings from encouraging individuals to join HMOS.

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16 Note that $14.9 billion is 3 percent of $500 billion, estimated by Lewin-VHI to be total expenditures in non-HMO plans in 1998 under current law, or 1 percent of $1,394 billion (total projected baseline NHE in 1998).

17 See chapter 2 for more discussion on government cost controls.

First, an estimate is made of non-HMO plan expenditures at the time of reform. For example, in its estimate of the Health Security Act without government cost controls, Lewin-VHI assumes $500 billion would be spent on non-HMO plans in 1998. Second, a prediction is made of the number of individuals who would switch to HMOS.

All of the analyses assume that increasing enrollment in HMOS can reduce utilization and that this will translate into a *one-time* reduction in expenditures. Estimates of the savings from greater HMO enrollment vary. For example, Lewin-VHI calculated that, on average, moving individuals to HMOS would save about 3 percent of health care expenditures spent in traditional fee-for-service plans. CBO puts the savings at 7.5 percent of expenditures, on average. ESRI figured the savings for privately insured would come to 10 to 15 percent.

Lewin and CBO indicate that, in their judgment, managed competition might reduce the growth rate of NHE. However, analysts cite a lack of explicit research evidence to support this prediction and only ESRI makes a quantitative prediction of how managed competition might reduce the growth rate in health expenditures after taking into account savings from managed care enrollment. Table 3-3 summarizes analysts' estimates of savings from HMO enrollment and the key assumptions used in the estimates of managed competition.

The analyses of managed competition with government cost controls do not use any explicit assumptions about the effect of HMO enrollment or managed competition on national health expenditures.

REVIEW OF THE EVIDENCE

Analysts of managed competition proposals make assumptions about current expenditures in traditional FFS plans, the number of individuals that will enroll in HMOS as a result of managed competition, and the difference in expenditures between FFS and HMO plans. One analysis reviewed (ESRI) assumed that managed competition might lower the growth rate in heath care expenditures beyond the impact of HMO enrollment, while another did not (CBO). [18] The following section reviews the empirical evidence on enrollment in HMOS, savings from HMOS, and the impact of managed competition on the growth rate in national health expenditures.

Will People Join HMOS?

In its analysis of the Managed Competition Act of 1992, CBO assumed that 75 percent of the nonpoor, urban population would join HMOS, or that 51.8 million people would switch from non-HMO to HMO plans between 1995 and 2000. ESRI assumed that 50 to 70 percent of workers in small firms and 25 to 50 percent of workers in large firms would switch to HMOS (35.5 million to 57.3 million people). (Only CBO cites specific evidence in support of its enrollment estimate, based on two health insurance programs for public employees in California and Wisconsin.)

Do these estimates imply a relatively large or small shift in HMO market share as a result of managed competition? In 1992, approximately 41 million individuals were enrolled in HMOS, making up approximately 19 percent of the insured population and 16 percent of the total population

[18] In their most recent analysis of the Managed Competition Act of 1993, CBO did assume that the act would reduce the growth rate in health care expenditures in later years due to competition among plans (174).

(49).[19] Figure 3-1 shows the percentage of insured persons who might be enrolled in HMOS in the year 2000 under current policy, assuming enrollment increases at 3 million enrollees per year.[20] It also shows the HMO market share under the Managed Competition Act as projected by various analysists.[21] In general, analysts predict that a large number of individuals will join HMOS compared with current policy.

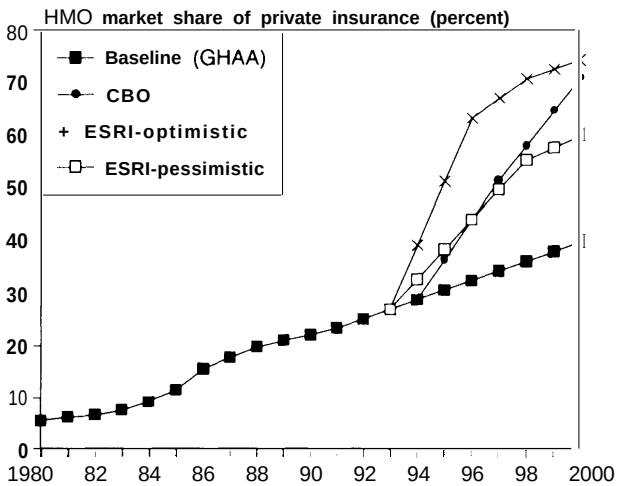
Three implicit assumptions underlie aggregate assumptions about the size of HMO enrollment:[22]

- Managed competition will create incentives for plans to compete on price and HMOS will offer the lowest priced plans.
- Managed competition will create incentives for consumers to switch to lower-priced plans.
- Enough is known about insurance plan pricing and the demand for insurance to make a quantitative prediction about HMO enrollment under reform.

Research evidence supports the contention that consumers are responsive to the price of health insurance (16,34,92,99, 106,113, 148,206). Thus increasing the effective price of insurance to consumers is likely to encourage them to switch to lower-priced plans. Moreover, research provides some indication of the size of the price differentials between HMO and FFS plans needed to cause consumers to switch from FFS to HMO plans (33).

Whether HMOS will offer the lowest priced plan, and more importantly the size of the price differences between various plans that would result under managed competition, are less certain. The prices charged by a particular health plan will depend on many factors, including the other characteristics of the plan (e.g., benefits offered and patient cost-sharing); degree of consumers' responsiveness to price differences; degree of consumers' responsiveness to other characteristics of the plan (e.g., access to specialists); how actively consumers shop for plans; the number, type, and prices of other plans offered; the market share of

FIGURE 3–1: Projected HMO Market Share of Private Insurance for the Year 2000 in Various Analyses, 1980–2000



KEY: CBO = U S Congress, Congressional Budget Office, ESRI= Economic and Social Research Institute, GHAA= Group Health Association of America, HMO = health maintenance organization

SOURCE Off Ice of Technology Assessment, 1994, based on data from Group Health Association of America, prepared by S. Palsbo(49), J A Meyer, S Snow-Carroll, and E Wicks (108), U S Congress, Congressional Budget Office (168)

19 Group Health Association of America includes staff-, group-, and network-model HMOs and Individual practice Organizations (IPAs) in its definition of HMOs (49).

20 According to data from the Group Health Association of America, enrollment in HMOs grew by approximately 3 million persons annually from 1986 to 1992 (49).

21 Estimates were calculated by the Office of Technology Assessment (OTA) based on analysts' assumptions and OTA assumptions about the baseline growth rate of HMO enrollment.

22 It should be noted that none of these assumptions are explicitly used, That is, no analyst used assumptions about the price elasticity of demand for insurance or about price differentials in its models.

plans; health status of plan members; and the behavior of employers and health plan purchasing cooperatives.[23] Because of the difficulty in determining consumer behavior and HMO pricing under reform, the magnitude of the shift to HMOS that will occur under reform is difficult to predict.

Evidence from Public Employee Insurance Programs Used as Examples of Managed Competition

Some evidence on HMO enrollment maybe available from public employee insurance programs that incorporate some of the features of the managed competition proposals. The CBO analysis cites two state employer insurance programs—the California Public Employees' Retirement System (CalPERS) and the insurance program for Wisconsin State employees—as the basis for its enrollment assumptions. Other state and federal health insurance programs that are looked to as examples of managed competition include the Minnesota and Missouri State employee health insurance programs and the Federal Employees Health Benefits Program (FEHBP).[24] However, none of these programs incorporates all of the features of the managed competition proposals, complicating attempts to make inferences from them.

Table 3-4 shows HMO market share in 1993 for the public employee insurance programs sometimes used as examples of managed competition. The table also shows HMO market share for the relevant State's insured population as a whole. As table 3-4 indicates, the market share of HMOS in the state public employee insurance programs is substantially higher than the HMO market share in the relevant state overall, suggesting that the programs resulted in a higher level of HMO enrollment than would have otherwise occurred. Both the Wisconsin and Missouri programs experienced dramatic increases in HMO enrollment a year after employer contributions were limited to the lower cost plans and other changes were instituted. In the Missouri program, HMO market share went from 35 to 65 percent in counties with HMOS in 1 year. In the Wisconsin program, HMO market share grew from 18 to 62 percent of active employees (74). In contrast, the HMO market share has remained relatively low in FEHBP.

Table 3-5 describes the elements of managed competition proposals in relation to the characteristics of the state and federal employee insurance programs. Features of managed competition proposals include the opportunity for individuals and employers to join a health plan purchasing cooperative and to choose from several plans; community rating and open enrollment; standardized benefits; employer contributions limited to the cost of the lowest priced plan (or at least limited to a fixed dollar contribution); limits on the tax deductibility of employer contributions (usually tied to the lowest-cost plan); risk-adjusted insurance plan payments; and reports on plan quality. The state programs and FEHBP have some, but not all, of these features. For example, all allow employees to choose from several plans offered through a sponsor or "health alliance." In addition, most plans are required to use community rating, which means that every plan must accept all applicants at virtually the same rate.

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23 For example, such factors as how many plans employers or alliances offer and how aggressively they negotiate Premiums may influence HMO prices and HMO enrollment.

24 This chapter reviews the known published research on programs similar to managed competition, and provides some additional information that has not been previously published. It includes all of the State programs that are known to have several of the features of managed competition proposals. There may be other examples that are claimed to be managed competition not reviewed in this chapter. For example, many private employers have banded together to form insurance purchasing groups and even individual private employers may have adopted some of the features of managed competition proposals. These models have to be considered carefully, however, since they may differ in significant ways from the reforms described in some managed competition proposals (e.g., they may not offer employees a choice of plans, they may aggressively negotiate with plans, they may not limit employer contributions to the cost of the lowest priced plan). In any event, none have been subjects of research published in peer-reviewed journals.

TABLE 3–4: HMO Market Share of Public Employee Insurance Programs, 1992–93

	HMO market share for all participants (percent)	HMO market share for participants in urban areas (percent)	HMO market share in the state (1992) (Percent)[b]
CalPERS[a]	89	NA	41
FEHBP	**25**	NA	na
Minnesota	**55**	**86**	**33**
Missouri	**25**	**65**	15
Wisconsin	**84**	**NA**	**25**

KEY: CalPERS = California Public Employees' Retirement System, FEHBP = Federal Employees Health Benefits Program, HMO = health maintenance organization; NA = not available, na = not applicable

aFigures exclude retirees and out-of-state members. Otherwise, approximately 75 percent of CalPERS participants are enrolled in HMOS if retirees and out-of-state members are included

bData are from the Group Health Association of America, Inc.

SOURCES Off Ice of Technology Assessment, 1994, based on information from R Cleverly (21), R. Gresch (48), Group Health Association of America, Inc. (49), J. Klein (73), T. Korpady (76), R Meyer (109)

However, neither CalPERS nor FEHBP limits employer contributions to the cost of the lowest priced plan (although CalPERS is getting close since it froze its contribution to 1991 levels). The Wisconsin program limits contributions to 105 percent of the lowest-cost HMO premium available in the county of residence or to 90 percent of the conventional insurance premium, whichever is less. Only the Missouri and Minnesota programs limit employer contributions to the cost of the lowest priced HMO or plan in a given area. HMO enrollment might have been greater in CalPERS, FEHBP, and the Wisconsin program had they limited employer contributions to the lowest priced plan.

Another difference between the state and federal programs and one of the managed competition proposals (i.e., H.R. 5936 in the 102d Congress) is that state and federal employees automatically participate in the "health alliance" or "health plan purchasing cooperatives." In contrast, under the Managed Competition Act of 1992 only employees of small firms would be offered tax incentives to enroll in a health plan offered through a health plan purchasing cooperative. Employees in large firms would be offered tax incentives to enroll in certain types of certified plans (e.g., accountable health plans, which could not deny coverage on the basis of health status and would have to use community rating), but the employees would not be encouraged to purchase plans through a health plan purchasing cooperative or to choose from several plans.[25]

Another problem in generalizing about HMO enrollment based on these public programs is that the relative prices of plans may differ under the managed competition proposals from that experienced in the public employee programs. Unlike the managed competition proposals, the public employee programs have not paid plans risk-adjusted premiums (21,73,76). Currently, premiums of plans in public insurance programs reviewed above reflect differences in the characteristics of plan members, "administrative efficiency," and in some cases, the benefits provided. Therefore, HMOS may have lower premiums because of favorable risk-selection (that is, because they have a healthier population of members) rather than because of greater efficiencies. For example, analy -

[25] The Health Security Act would require that large firms that form corporate alliances offer at least three plans.

TABLE 3–5: Public Employee Insurance Programs as Examples of Managed Competition

Features of managed competition proposals	Public employee	Insurance programs with managed competition features			
	CalPERS	FEHBP	Minnesota	Missouri	Wisconsin
Consumers can buy insurance through an "alliance" and can choose from several plans.	Yes	Yes	Yes	Yes	Yes
Plans have community rating and open enrollment	Yes	Yes	Yes	Yes	Yes
Plans have standardized benefits	Yes[a]	No	Yes	Yes	Yes[b]
Employers' contribution IS limited to cost of the lowest priced plan	No[c]	Nod	Yes[e]	Yes[f]	No[g]
Consumers are provided with Information on the "quality" of competing health plans	No[h]	No	Yes'	No[j]	No
Tax deductibility of premiums IS limited	No	No	No	No	No
Plans are paid risk-adjusted payments.	No	No	No	No[k]	No

KEY: CalPERS = California Public Employees Retirement System; FEHBP = Federal Employees Health Benefits Program

aThe CalPERS program required health maintenance organizations (HMOS) to provide a standard package of benefits in 1993

bIn 1994, the Wisconsin program required uniform benefits for all HMOS and preferred provider organizations but not for the fee-for-service plans. Previously, the HMO plans had very similar benefits.

cPrior to 1991, CalPERS paid an amount equal to 100 percent of the weighted average premiums in the four largest plans (1 82) Since 1991, the State agreed to set the contribution in collective bargaining agreements with State employee unions From 1991 through 1994, the State paid a fixed amount frozen at the 1991 level (1 82)

dUnder FEHBP, the government contribution for each enrollee's premium is a fixed dollar amount equal to 60 percent of the average premiums in six plans 1) the two government-wide plans (Blue Cross and Blue Shield and Aetna) 2) the two employee organizaton plans with the largest number of enrollees, and 3) the two HMOS with the largest number of enrollees (48,1 83) The government contribution cannot exceed 75 percent of the cost of any plan's premium, and in most plans of the FEHBP, the government contribution is at or near the maximum (48)

eThe employer contribution in the Minnesota program is limlted to the lowest priced health plan in a given county (as of 1985)

The employer contribution in the Missouri program is limited to the lowest priced HMO in each service area (as of 1993).

9The employer contribution in the Wisconsin program equals 105 percent of the lowest priced HMO premium available in the county of residence or 90 percent of the conventional Insurance premium, whichever is less (as of 1983) Administrators of the program argue that this formula has sigmficantly Impeded price competition and incentives to join the cheaper plans relative to a contribution of 100 percent of the lowest priced plan

hIn 1994 CalPERS wil require plans to submit data on a list of quality indicators. Beginning in 1995 published *information* on plan quality will be distributed to members

'The Minnesota program conducts surveys of enrollee satisfaction with providers and plans The results of these surveys are distributed in the form of a brochure during open enrollment (73)

jThe Missourl program wiII distribute information on plan quality

kThe Missouri program is planning on paying plans risk-adlusted payments in the future (49).

SOURCE Off Ice of Technology Assessment 1994

ses of the FEHBP program have found that selection had a significant impact on the premiums charged (126, 184). If plans are paid risk-adjusted payments, their premiums may differ from those currently charged in the public employee insurance programs and HMO enrollment could be reduced.

Finally, cities with public employee insurance programs tend to have relatively high HMO penetration rates and may have experienced greater and more rapid HMO enrollment than might occur elsewhere (49). In other areas, providers may be less willing to join an HMO and plans may have more difficulty recruiting providers.

Summary

There is some research on consumers' sensitivity to the price of health insurance and the size of the price differences that will lead them to join HMOS. Moreover, evidence from state employee insurance programs that have implemented some aspects of the managed competition proposals indicate that these reforms could significantly increase enrollment in HMOS. However, given the complexity of the reforms and the market for health insurance, it is difficult to predict the magnitude of HMO enrollment.

Will Increasing HMO Enrollment Save Money?

As stated previously, estimates of the potential reduction in NHE under managed competition proposals rest on three key premises, namely that:

- Individuals will leave non-HMO plans and join HMOS.
- After switching to HMOS, individuals will pay less for health care than they would have if they had remained in a non-HMO plan.
- HMOS will, or will not, have a limited *one-time* effect on NHE.

The previous section examined the first premise that individuals would join HMOS. This next and the following sections examine the premise that NHE would decline after individuals joined HMOS and whether this is likely to be a *one-time* effect. This section reviews the evidence on savings from HMOS and from the public employee insurance programs often deemed to exemplify managed competition.

HMO and Non-HMO Expenditure Differences

The simulation models reviewed above made various assumptions about savings from HMOS. In its analysis of the Managed Competition Act of 1992, CBO assumed that HMOS could save 7.5 percent of non-HMO expenditures, on average (for all types of HMOS). CBO based this assumption on a CBO review of published studies, although exactly how the estimated savings were derived is unclear. Lewin-VHI estimated that HMO enrollment could save, on average, 3 percent of health expenditures in non-HMO plans, based on its own analysis of utilization differences using the National Health Interview Survey and the National Medical Expenditure Survey (142). ESRI assumed that HMOS could save 10 to 15 percent of non-HMO expenditures and stated that its assumption was based on CBO'S review and studies "conducted by Rand and others" (107).

Several comprehensive reviews have been done of studies comparing utilization in HMOS to FFS plans (62,95,104,110).[26] The studies consistently show that enrollees in IPAs, and staff-, and group-model HMOS have lower hospital utilization (i.e., hospital admission rates, length of stay, days per enrollee) than FFS plans, although stud-

[26] Of these four reviews, the one by Miller and Luft was the most comprehensive. They selected studies that met the following criteria: data from 1980 forward, private insurance or Medicare enrollees, a comparison group, a reasonable attempt at statistical adjustment for noncomparable HMOs and indemnity insurance enrollees, and peer-reviewed findings (with two exceptions) (11 O). Andrews and Lake reviewed studies published in the last 10 years. Most of the studies reviewed were published in refereed journals, although a small number of unpublished papers were also included (104). Health Care Strategy Associates, Inc., reviewed studies conducted from 1985 to the present, found using literature searches of computerized databases and other sources. They included only studies that contained "reasonable attempts to control for important confounding variables such as selection bias" (62).

ies vary in the magnitude of the difference (95,104,1 10). Comparisons of physician visits per enrollee in HMOS and FFS plans produce mixed results, with some studies showing HMO members make fewer visits and an equal number of studies finding the opposite (11 O). Several studies have found that HMOS use fewer expensive procedures, tests, and treatments (11 O).

Researchers continue to debate what aspects of HMOS are necessary to reduce overall expenditures. For example, in their 1992 review, CBO found insufficient evidence to assess the effect of IPAs and stated that savings from IPAs are generally thought to be appreciably smaller than those from staff- and group-model HMOS (161). However, some studies have found no difference between IPAs and group- and staff-model HMOS (105), although the data are limited. Since IPAs and other hybrid forms of managed care plans make up the largest and fastest growing portion of the HMO market (49,63), determining which features of health plans are necessary to control costs, and which types of plans subscribers will join under reform, is critical.

Most observers assume that because HMO members use fewer services than members of FFS plans, they also have lower health care expenditures. However, the relationship between utilization and expenditures may not be straightforward. HMOS could have lower expenses for patient care but higher administrative expenses. Alternatively, HMOS might reduce the number of hospital days or physician visits, but increase the intensity of services received during each day or visit. In their recent review, Miller and Luft found almost no studies on total expenses per enrollee by plan type (110). In part the difficulty arises because, unlike FFS plans, HMOS do not need to generate billed or paid charges. In addition, data on plan members' costs and characteristics are not reported.

Plan premiums are one source of data on expenditures. In fact, premium data indicate that HMOS may, on average, have lower premiums than FFS plans; however, unadjusted average premium levels are not good indicators of the savings that increased HMO enrollment might produce. This is because the data are not adjusted for the level of benefits, patient cost-sharing, and the population covered (63,78). Moreover, they do not reflect the out-of-pocket costs of services used but not covered by the plan.

As a result of the limited direct data on expenditures, researchers have to translate utilization differences between HMO and FFS plans into expenditure differences.

Some studies that have measured utilization differences between FFS and HMO plans have imputed expenditures for those differences. For example, data from the Rand Health Insurance Experiment were used to impute an expenditure difference of 28 percent between members of the HMO and FFS plans without cost-sharing. Similarly, data from the Medicare TEFRA demonstration were used to impute an expenditure difference of 10 percent between the HMOS and the FFS plans. Neither of these calculations included administrative costs.

Other analysts have synthesized the findings from a number of studies of utilization differences between HMO and FFS plans and attempted to apply them more broadly to estimate the magnitude of potential savings from increased HMO enrollment. These analysts confront a voluminous and diverse literature on utilization differences by plan type. The exercise of assigning a dollar value to the utilization differences presents serious obstacles (62). The issues include:

- How the various studies on each type of service should be synthesized. For example, should the results be based on the "best" study or on a combination of some or all of the studies?
- Whether to assume that managed care affects various health services differently (e.g., hospital, physician, dentist, home health).
- How to combine estimates for different types of services. Should one assume that the differences are additive (e.g., that the reductions in length of stay should be added to the reduction in hospital admissions)? Should one assume that there are offsetting effects (e.g., that a de-

crease in hospital days will be offset by an increase in outpatient or nursing home use)?
- Whether to assume that utilization effects differ by type of HMO (e.g., IPA, or group-, staff-, and hybrid models).
- Whether to assume that the effect of managed care differs by insurance status (e.g., private insurance, Medicare, Medicaid, and uninsured) or by other population characteristics?
- What to assume about the intensity of services received. Should every decrease in a unit of service be multiplied by the average cost of that service, or should a unit of service be valued at less or more than the average cost?
- Whether to assume that administrative costs, including profits, are equivalent across HMOS and FFS plans.

The problems of synthesizing the literature and determining how much HMOS would save are illustrated by three studies of potential savings from enrolling into HMOS all persons who are not already members of HMOS (62, 142,163). The estimates range from savings of 3.3 to 27.1 percent (see table 3-6).[27]

In some ways, each of the three studies took a relatively similar approach to estimate savings from HMO enrollment. All estimated the extent to which utilization differs between managed care plans and traditional FFS plans. Then they applied those utilization differences to expenditures for persons not currently enrolled in HMOS. The studies differ, however, in other important ways that make them difficult to compare. All of the analysts note that the estimates are very uncertain. For example, CBO writes that its "illustrative estimates should be interpreted with considerable caution. . . By necessity, the analysis incorporates a large number of assumptions, but the data or evidence supporting them have many limitations" (163). Similarly, Health Care Strategy Associates, Inc., notes "[i]t is a tenuous exercise to distill a simple savings number from a large and diverse literature" (62).

Generalizing to Health Reform

Analysts who estimate savings from greater HMO enrollment make the implicit assumption that past evidence on savings will apply equally to the new population of subscribers and providers that might join HMOS under reform. However, HMO enrollees may not be demographically representative of the population as a whole. For example, they tend to be younger than members of FFS plans (46, 102). Since older individuals tend to use more health care services, increasing enrollment of older individuals may increase savings from HMOS if HMOS can reduce their health care expenditures for new, older, enrollees. Alternately, a review found that service use by people who subsequently join an HMO is significantly lower than use by those who choose to remain in a conventional plan (64). Therefore, savings for the new subscribers could be lower than that found in studies based on the current population of subscribers if part of HMO savings previously found are derived from favorable selection.

As HMO enrollment increases, the number of providers serving the plan must increase, and these new providers may be less conservative in their practices and less responsive to administrative controls than providers already in HMOS (3). Alternatively, as HMO enrollment increases plans may have more leverage with individual providers and thus be able to generate more savings.

Finally, HMOS may be structured differently under reform than they are now. For example, in the Health Security Act, HMOS must offer an "out-of-network" option. Since, there is little research on which aspects of managed care plans are necessary to control costs, it is difficult to predict with certainty how policies that alter the structure

27 The largest estimate is very optimistic relative to other estimates. It is almost equivalent to the difference in expenditures imputed in the Rand Health Insurance Experiment, which only looked at one, well-established group-model HMO.

TABLE 3–6: Estimates of Savings for Total Enrollment in HMOs from Selected Studies[a]

Authors	Total savings estimated ($ billions)	Estimated savings as proportion of expenditures that could be affected (percent)	Key assumptions: Enrollment assumption	Key assumptions: Source for assumptions about HMO savings	Key assumptions: Assumptions about how HMO difference in utilization translate into differences in expenditures	Assumptions regarding HMO savings
CBO, Aug. 1992	$51 to $64 (1 990 dollars)	108 to 135	All individuals enroll m group or staff-model HMOS	**Literature review**	Multlply utilization differences by expenditures Indicated in the national health accounts according to category of Insurance status (i.e., , Medicare, Medicaid, privately insured) and by category of service (e g , hospital, physicians, dentists)	Staff and group-model HMOS reduce personal health expenditures by 15% for privately Insured persons and Medicare beneficiaries Staff- and group-model HMOS reduce personal health expenditures by 7.5%. for Medilcaid beneficiaries "Effective forms" of utilization review reduce personal health expenditures by 1 to 4% under traditional insurance and Medicare "Effective forms" of utilization review reduce personal health expenditures by 0.5 to 2%. under Medicaid
Health Care Strategy Associates, Inc., 1993	$81.4 (1 990 dollars)	271	All individuals enroll in HMOS. No distinction is made by HMO model type All HMOS are assumed to provide an equivalent level of savings,	Literature review	Multiply utilization differences by expenditures indicated in the national health accounts according to category of insurance status (i e , Medicare, Medicaid, privately insured) and by category of service (e g , hospital, physicians, dentists)	All forms of HMOS reduce hospital expenditures by 39.4% for privately insured persons All forms of HMOS Increase physician expenditures by 3.3% for privately insured persons. All forms of HMOS reduce expenditures on dentists, other professionals, vision products and durables, and other personal health care by 16% for privately insured persons All forms of HMOS increase expenditures on home health and nursing home care by 15%. for privately insured persons All forms of HMOS reduce expenditures on drugs and medical nondurable by 757. for privately insured persons HMOS increase costs to Medicare by 5.7%. HMOS decrease costs to Medicaid by 7. 5%.

(continued)

TABLE 3–6: Estimates of Savings for Total Enrollment in HMOs from Selected Studies[a] (cont'd.)

Authors	Total savings estimated ($ billions)	Estimated savings as proportion of expenditures that could be affected (percent)	Key assumptions: Enrollment assumption	Key assumptions: Source for assumptions about HMO savings	Key assumptions: Assumptions about how HMO difference in utilization translate into differences in expenditures	Key assumptions: Assumptions regarding HMO savings
Lewin-VHI, Mar 18, 1993	$342 (1 994 dollars)	33	Individuals in metropolitan areas enroll in group-model HMOS. Individuals in nonmetropolitan areas enroll in IPA-model HMOS.	Lewin-VHI econometric analysis of National Health Interview Survey	Multiply utilization differences by expenditures Indicated in the 1987 National Medical Expenditure Survey aged to 1994. Divide expenditures into categories according to whether metropolitan or nonmetropolitan, inpatient or outpatient, and over or under age 65, and by type of service (e g., prescription drugs)	Group-model HMOS reduce hospital days by 19.1% and increase outpatient visits by 6.6% for privately insured persons IPA-model HMOS reduce hospital days by 69% and increase outpatient visits by 9.9% for privately insured persons. All forms of HMOS reduce hospital admissions by 16% for Medicare beneficiaries. All forms of HMOS increase physician services by 12% for Medicare beneficiaries,

KEY: IPA = individual practice association

[a]These estimates were calculated independently by each analyst. The estimates have not been incorporated into any of the legislative proposals examined by OTA.

SOURCE Off Ice of Technology Assessment, 1994; based on sources shown. Full citations can be found in the list of references at the end of this report

of MOS will affect their ability to reduce expenditures (104).

Summary

Although a substantial amount of research points to lower utilization in HMOS, no research has directly measured total per capita expenditures for demographically similar members of HMO and FFS plans. Using the research on utilization differences by plan type to estimate expenditure differences between HMOS and FFS plans raises thorny issues and requires a number of assumptions. Given the uncertainties raised by using the incomplete research on HMO and FFS plans, future analyses of managed competition might be improved by using a range of probable savings from HMOS. However, efforts to find an appropriate range of savings confront difficulties similar to those encountered in developing a point estimate. A simple approach is to base the range of estimated savings on the assumptions used in the simulation model analyses—that is, that HMO plans can save 3 to 15 percent relative to non-HMO plans. Although this range is somewhat ad hoc, it is relatively wide and thus could indicate the uncertainty that surrounds estimates of HMO savings.

Will Managed Competition Have a Continuing Impact on the Growth Rate of National Health Expenditures?

Some of the analyses reviewed assume that managed competition will result in *one-time* or limited savings. This implies that although greater enrollment in HMOS will reduce the level of health care spending, once these savings are achieved, costs will grow at the same rate as in current FFS plans. One-time savings might occur, for example, if HMOS reduced hospital admissions compared with FFS plans, but adopted new technologies and procedures at the same rate as FFS plans. Consequently, in later years hospital costs would grow at the same rate in both types of plans.[28]

Proponents of managed competition assert that the growth rate in national health expenditures will slow over time as consumers choose plans based on price and quality, and as health plans compete for enrollees by offering the best care at the lowest price. None of the estimating approaches OTA reviewed explicitly models this process; rather the analysts simply offer a judgment as to whether the process would succeed. Lewin-VHI and CBO indicate that managed competition might reduce the growth rate of NHE, although CBO notes that the magnitude and timing of any decreases are highly uncertain. ESRI assumes that managed competition would reduce the growth in NHE by 1 to 2 percent, although it called this assumption speculative. In general, as the following section indicates, very little research has been done to explore the question of whether HMOS or managed competition is likely to substantially reduce the growth rate in health care expenditures.

There are only two peer-reviewed studies comparing the growth rate in spending for HMO and FFS plans. Both used data collected prior to 1982, before the widespread growth in HMOS and other forms of managed care. One of the studies (1 19) found no difference in the growth rate of HMO premiums and premiums in conventional plans. The other study found very weak and mixed evidence of differences (94).

Recent employer health insurance surveys provide some weak and preliminary indication that HMOS may have experienced a lower rate of premium increases than conventional FFS plans (38,41,1 10,1 81). These data must be interpreted cautiously, however. Premium information has only been collected by benefits consulting firms and the samples have been relatively small and may not be representative. Moreover, higher

28 $O_{ne\text{-}time}$ savings should not be confused with *one-year's* savings. For example, if expanding the market share of HMOs reduces costs by $10 billion in 1 year, then savings over 5 years would be over $50 billion. However. the assumption of (me-time savings implies that plans cannot continuously or significantly limit factors that are causing health care costs to rise substantially each y car.

growth rates of FFS plan premiums might be due to an increase in benefits or to a change in the population mix within different types of plans. Overall, a much more careful analysis of premiums by type of plan needs to be completed before any conclusions can be drawn about the differential growth rate of premiums.

Some studies have examined how the growth of health care costs is influenced by HMOS and competition by comparing the rate of growth of total health care expenditures in markets with greater HMO enrollment to the growth rate in markets with less HMO enrollment.[29]

Empirical studies based on data from before 1985 consistently have failed to find an association between HMO enrollment and either average hospital costs per admission or average health care costs per capita (11 O). However, a study that used data from private non-HMO-plan hospitals in California for 1983-88 concluded that a 10 percent increase in HMO market penetration lead to a 9.4 percent lower increase in total hospital costs per admission over the 6-year period (138). However, overall hospital costs per admission grew by 74.5 percent over the same period (138).

Another source of evidence about the impact of managed competition on the growth rate of national health expenditures might come from programs that have implemented some of the reforms proposed under managed competition. Unfortunately, little evidence from such programs currently exists (1,3 1,1 66). The most commonly cited examples are the state employee insurance programs discussed above—including those in California, Minnesota, and Wisconsin—and the FEHBP. The experiences of these programs, in terms of their growth rate of health expenditures, might provide some basis for predicting the effects of managed competition.

A General Accounting Office (GAO) study of CalPERS found that for contract years 1989 through 1991, the average CalPERS premium grew by 16.7 percent annually, compared with increases of 15.3 percent per year reported by employers nationally (182). For contract year 1992, CalPERS negotiated premiums that increased by an average of 6.1 percent compared with a 10.1 percent increase in employer premiums nationally. For the 1993 contract year, CalPERS negotiated rate increases averaging 1.4 percent, compared with 8 percent for other employers.[30] For contract year 1994, CalPERS negotiated an overall rate change of -1.1 percent (21).

GAO wrote that:

> . . . several factors contributed to CalPERS recent success in negotiating health insurance rates: 1) a budget crisis led the state of California to freeze its premium contribution in 1992; 2) CalPERS began exercising its purchasing power by negotiating more aggressively, for example, asking HMOS not to increase their rates [e.g., CalPERS froze enrollment in the plan with the largest market share when the plan refused to hold down its premiums]; and 3) CalPERS introduced a standard benefit package for HMOS in 1993 that requires patient copayments for certain health services, thereby allowing some plans to restrain the growth in premiums.

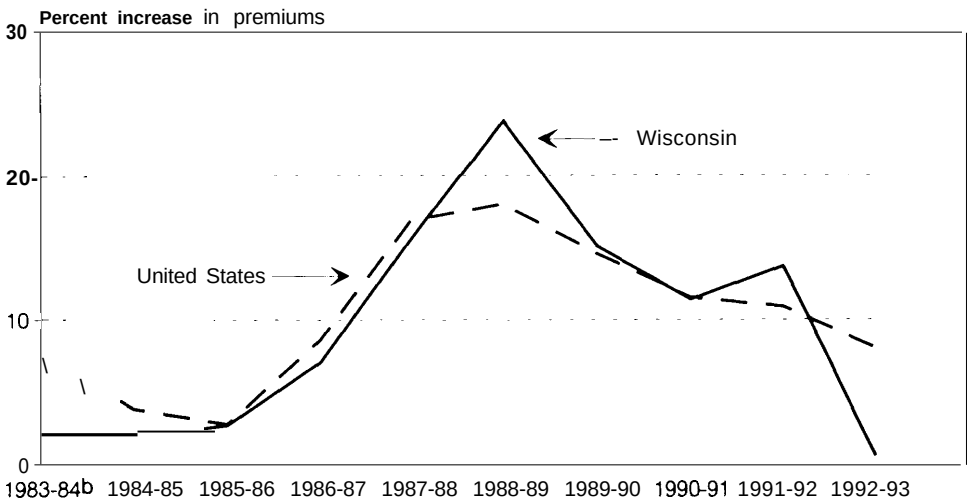
Drawing conclusions based on the CalPERS experience is difficult. There are a number of possible explanations for the lower premium increases over the last 3 years, including: greater patient cost-sharing, tougher negotiations, and a standardized benefit package. It is not clear whether the success over the past 3 years will continue, nor is it clear whether the experience would be recreated under the managed competition proposals. For example, under most managed competition proposals, the extent to which health alliances would have the desire or ability to aggressively negotiate premiums are either not clear or are limited.

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29 Analysts have questioned whether HMOs may reduce health care costs for their members but leave total, system-level health care expenditures unchanged (e.g., because of cost-shifting). These studies address the issue of cost-shifting by examining total expenditures.

30 CalPERS premium increases were also below those for other employers in California for 1992 and 1993.

FIGURE 3–2: Comparison of U.S. and State of Wisconsin[a] Growth Rates for Employee Premiums, 1983–93



a Wisconsin Employees Health Insurance Program
b Indicates the year the program started

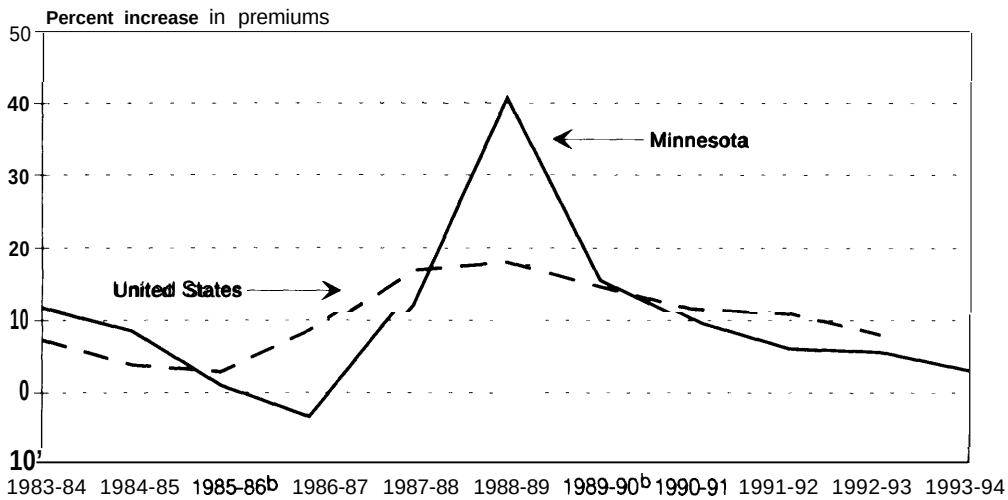
SOURCES T Korpady (76), KPMG Peat Marwick (77), KPMG Peat Marwick (78), C B Sullivan and T Rice (153), Congressional Research Service (1 84)

A Congressional Research Service (CRS) study of FEHBP for the period 1980 to 1989 found that premiums rose by 12 percent, compared with 14 percent nationwide (1 84). The CRS attributed much of the difference to a 1982 benefit reduction mandated by the Office of Personnel Management. It also noted that a reduction in reserves in 1986 reduced premiums. A more recent analysis also compared the growth rate of premiums in the FEHBP for the period 1980 to 1990 (37). It found that total premiums grew by 9 percent a year in FEHBP and at around 12 percent per year for private employers nationwide.

Figures 3-2 and 3-3 show the rate of increase in premiums in the Wisconsin and Minnesota state employee insurance programs, respectively, compared with the rate of increase nationally. Wisconsin implemented features of managed competition in 1983 (see table 3-5). Over the period 1984 to 1993, premiums rose an average of approximately 10 percent a year in the Wisconsin state employee program as a whole (75). Nationally, premiums rose an average of 11 percent per year (39,184).[31] This could be interpreted as evidence that managed competition may reduce the growth rate in premiums slightly. However, premium increases have been cyclical (40,42) and therefore the time period of comparison matters greatly. When compared for the period 1985 to 1993, premiums rose 10 percent a year nationally, and 11 percent in Wisconsin. Thus, there does not appear to be convincing evidence of any difference in the growth rate of premiums.

[31] The data from Gabel (39) is from a personal communication. He derived national premium growth rates using data from the Department of Labor's Bureau of Labor Statistics, Hay/Huggins, the Health Insurance Association of America (HIAA), and KPMG Peat Marwick. The Congressional Research Service (CRS) data were for the period 1984-88 and reported in a Committee Report (184). Data for later years came from HIAA and KPMG Peat MarWick.

FIGURE 3–3: Comparison of U.S. and State of Minnesota[a] Growth Rates for Employee Premiums, 1983–94



[a]Minnesota Employee Health Insurance Program
b Indicates the year the program started It is not clear whether the Minnesota program started in 1985 or 1989

SOURCES J Klein (73), KPMG Peat Marwick (77), KPMG Peat Marwick (78), C B Sullivan and T Rice (153), Congressional Research Service (184)

Similarly, there is evidence that the Minnesota program did not reduce the growth rate in premiums, although different interpretations of the evidence lead to different conclusions (73). The State of Minnesota Employee Group Insurance Program implemented aspects of managed competition beginning in 1985. From 1985 through 1993, premiums grew by approximately 10 percent a year in the nation and in the Minnesota program. From 1986 through 1993, premiums grew by approximately 12 to 13 percent a year in the nation and by approximately 12 percent in the Minnesota program. Administrators of the Minnesota program argue that the program really did not get going until 1990 and therefore premiums should be compared beginning in 1989, not 1985. Before 1989, the FFS plan had the lowest cost. In 1989, the FFS plan raised premiums substantially, in part to makeup for very low premiums in previous years. At that point the viability of the FFS plan seemed questionable and it was subsequently reorganized as a preferred provider organization (PPO). The premium increases from 1989 to 1993 in the Minnesota program have remained below the national average.

Administrators of the Minnesota program review health plans' rates and negotiate with plans over their premiums. Administrators of the program describe this process as an active review and negotiation process and explain that they will challenge rates that seem excessive. Moreover, administrators use the review process as a way to discover causes of cost increases and to develop responses (e.g., an increase in utilization of chiropractic services might cause administrators to negotiate a change in benefits or to encourage greater controls on chiropractic services). The administrators state, however, that negotiations are not heavy-handed in the sense that rate increases are dictated with the threat of discontinuing plans or freezing enrollment. The influence that this process has had on rate increases, as opposed to the other aspects of the program, is not clear (19).

As discussed in the previous section, although the experiences of these programs may provide

useful lessons, generalizing from these programs must be done cautiously. Potentially important differences between the programs and the reform proposals—such as risk-adjusted payments and the ability to negotiate with plans—may limit their generalizability. Moreover, the results to date are subject to different interpretations as to what actually caused or prevented the program from having an impact on health expenditures. For example, simple observations leave open the question of whether consumer choice, premium review and regulation, a change in benefits, or some other factor influenced health care expenditures.

Summary

An important question is whether savings from increased HMO enrollment can be sustained over time or whether they reflect a "one-time" effect. There are limited data to address this question.

There are on] y two relative] y old peer-reviewed studies of differential growth rates in costs between HMOS and FFS plans. Premium comparisons by private consulting firms do not control for important differences between plans.

However, more data may be forthcoming from studies examining the effect of HMO market penetration on health care costs and from studies on programs with elements of managed competition.

FINDINGS AND POLICY IMPLICATIONS

Quantitative predictions of the impact of proposed managed competition plans on NHE have been based on a relatively simple framework. The three critical assumptions are that: 1) managed competition will increase enrollment in HMOS, 2) HMOS will reduce the health expenditures of those new enrollees, and 3) managed competition will, or will not, reduce the growth rate in NHE beyond the one-time impact of increased HMO enrollment. It is important to understand that this framework is a highly simplified model of a very complex market proposal.

The review of the research supporting the three key assumptions found that although evidence exists on which to base HMO enrollment assumptions, there are still uncertainties that make this prediction difficult. Evidence indicates that consumers are responsive to the price of insurance and will switch to lower priced plans, although it is difficult to foresee what choices they will face under reform. State and federal employee health insurance programs indicate that as many as 90 percent of employees may join HMOS and these programs may serve as examples of what will occur under health reform. However, the population, location, and elements of these programs may limit the extent to which they are appropriate models for managed competition. In the absence of empirical evidence, simulations that attempt to be evidence-based should probably use a relatively wide range of enrollment assumptions.

A number of studies have found that HMO enrollees use fewer of some types of services than individuals in FFS plans, suggesting that HMOS may reduce the health expenditures of those in HMOS. Yet no direct evidence exists on per capita expenditures by plan type. To generate savings estimates, analysts impute expenditure differences from the large and diverse literature on HMO and FFS utilization differences. The process of imputing expenditures requires a number of assumptions that influence the size of the estimated savings. The difficulties inherent in this process have not been explicitly recognized in the simulation models reviewed. The analyses were either based on one study or referenced a few more rigorous studies but did not explain how the studies were used to estimate savings from greater HMO enrollment. Future estimates might better reflect the degree of uncertainty about HMO savings if they used alternative and explicit assumptions to synthesize the research literature. In the absence of such a synthesis, using a range of 3 to 15 percent savings would reflect the range of assumptions used in the simulation models reviewed and would indicate that there is considerable uncertainty about HMO savings.

At this time there is almost no direct empirical evidence on which to base predictions as to whether managed competition is likely to reduce the growth rate in national health expenditures beyond a "one-time" impact. This is because very little data exist on expenditures by plan type and

very little recent research has been done on the issue of differences in expenditures by plan type over time.

Managed competition would rely largely on the private sector to allocate resources. For example, proponents of the concept have written that "[i]n an environment of managed competition, doctors, hospitals, and health plan administrators would figure out how many resources are needed to take good care of an enrolled population" (81). Moreover, proponents have explained that the "primary justification for private insurance is the hypothesis that a health care delivery system in which competing health plans vie for patients will cause physicians and hospitals to make better decisions regarding resource consumption than would a system in which the public sector makes direct payments to providers" (81). Because the market for health care and health insurance is so complex, and involves the decisions of multiple actors, it is extremely difficult to predict how NHE would be affected. For example, will providers and plans be willing to forego the latest technology to contain costs or will new, less expensive technology be invented? Will consumers continue to choose less expensive plans knowing that their choice may result in longer waits for procedures or appointments, less choice of providers, older technologies, lower-paid providers, and less investment in capital improvements, or will new efficiencies limit the necessity of these tradeoffs? How will health care providers react if health plans and health plan purchasers attempt to substantially curtail their incomes? These questions are not addressed within the relatively simple framework used to estimate NHE under managed competition reforms.

Effects of Providing Insurance to Uninsured People

4

With national health expenditures (NHE) rising rapidly, many policy makers fear the cost implications of reform proposals that would extend coverage to the estimated 37 to 38 million uninsured Americans. Thus, new health expenditures by or on behalf of those who otherwise would be uninsured are perceived as an important element of reforming the nation's health care system. Analysts and policymakers come to different conclusions about the likely cost of covering this segment of the population. This chapter examines the assumptions underlying estimates of the costs of covering uninsured people. The analyses reviewed are summarized in table 4-1.

The first part of this chapter briefly discusses the different approaches various reform proposals take to provide coverage to uninsured people. Then it examines the different assumptions analysts make for estimating the incremental and total costs of those provisions. The third section compares approaches taken in analyses of reform proposals with methods and findings of recent studies about utilization and expenditure differences between insured and uninsured people (e.g., Long and Marquis (91); Spillman (151)). The final section compares the results of these studies with the results of analyses.

The chapter's focus is on analyses of proposals that would provide for universal coverage by a specific date (e.g., the American Health Security Act of 1993 (H.R. 1200/S. 491), other single-payer, tax-financed proposals, and the Health Security Act of 1993 (H.R. 3600/S. 1757)). Some attention is given to analyses of proposals that would provide coverage gradually (e.g., H.R. 5502, H.R. 5919, and H.R. 5936 in the 102d Congress), although there is typically less information on the methods and results of these analyses than for the universal coverage proposals.

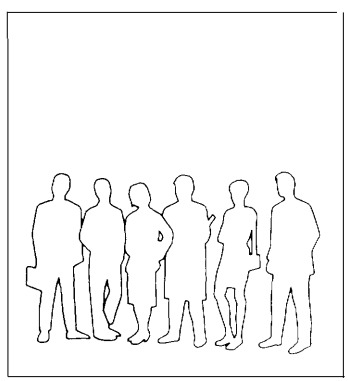


TABLE 4–1: Analyses of the Impact of Health Reform Proposals on National Health Expenditures Reviewed in This Report

Proposal	Analyses[a] Applying government cost controls (chapter 2)	Encouraging managed competition (chapter 3)	Providing universal coverage to uninsured people (chapter 4)	Reducing administrative costs (chapter 5)
American Health Security Act of 1993 (H.R. 1200/S. 491)[b]	CBO		CBO	CBO
Comprehensive Health Reform Act of 1992 (H.R. 5919)[c]				CBO
Health Care Cost Containment and Reform Act of 1992 (H.R. 5502)[c]	CBO		CBO	CBO
Health Security Act (H. R. 3600/S. 1757)[b]	CBO Clinton Administration Lewin-VHI	CBO Clinton Administration Lewin-VHI	CBO Clinton Administration Lewin-VHI	CBO Clinton Administration Lewin-VHI
Health Security Act (H.R. 3600/S. 1757)[b], Lewin-VHI scenario without government cost controls		Lewin-VHI		
Managed Competition Act of 1992 (H.R. 5936)[c]		CBO ESRI	@ O	CBO
Managed competition plan, Starr version			Sheils et al.	
National health plan, full savings scenario				ESRI
National health plan, administrative savings scenario				ESRI
Single-payer plan, CBO version with patient cost-sharing			CBO	
Single-payer plan, CBO version without patient cost-sharing			CBO	CBO
Single-payer plan, GAO version				GAO
Single-payer plan, Grumbach et al. version				Grumbach et al.
Single-payer plan, Lewin-VHI version				Lewin-VHI[d]
Single-payer plan, Woolhandler and Himmelstein version				Woolhandler and Himmelstein
Universal Health Care Act of 1991 (H.R. 1300)[c]	CBO		CBO	CBO

KEY: CBO = U.S. Congress, Congressional Budget Office; GAO = US. General Accounting Office; ESRI = Economic and Social Research Institute.

[a]Full citations for the analyses are in appendix B.

bBill numbers are for 103d Congress.

CBill numbes are for 102d Congress.

dAnalysis was conducted by Lewin-ICF, The company was acquired and expanded in 1992. For purposes of this report all Lewin analyses are Identified as Lewin-VHI.

SOURCE: Office of Technology Assessment, 1994.

The chapter also devotes attention to the distinction between incremental and total expenditures related to covering uninsured people. Incremental expenditures are the additional expenditures that might be incurred by or on behalf of people previously (or currently) without insurance if they became insured. Total expenditures combine the baseline healthcare expenditures that uninsured people incur even in the absence of insurance, plus the incremental expenditures estimated to result from *insurance-induced* demand for services. [1] The amount of incremental expenditures is important to projections of NHE, the subject of this report. Total costs maybe important in so-called distributional analyses, and for analyses of Federal budget impacts. These issues are important, but are beyond the scope of this report.

The Office of Technology Assessment (OTA) faced several obstacles in developing this chapter. One that may be particularly frustrating to users interested in the cost of a covering uninsured people under a specific proposal is that some analysts do not report these costs in their publications. A second obstacle is that when cost estimates are available, they may be difficult to compare because they are based on different assumptions. Some analysts assume that newly insured people will have utilization patterns typical of those insured under current law, not reflecting in their estimates the scope and depth of the benefit package proposed by the reform (e.g., Lewin-VHI (89); Sheils, Lewin, and Haught (146)).2 In other analyses, the estimates do reflect the benefit package and other aspects of a particular reform proposal (e.g., Doyle (28); Thorpe (154)). Analysts may make different assumptions about baseline spending by uninsured people. Using a lower baseline is likely to result in higher incremental costs, all other things being equal. Finally, analysts differ in how they take into account currently "uncompensated" care for uninsured people, some or all of which is now cost-shifted to people with insurance.

It is difficult to compare evidence from the empirical research literature on the incremental costs of covering uninsured people to analysts' estimates because the few current research studies available focus largely on expenditures for a subset of the health services that might be covered under any particular reform bill (91,1 51), or do not compute total costs (198). [3]

PROVISIONS FOR PROVIDING COVERAGE FOR UNINSURED PEOPLE IN REFORM PROPOSALS

Proposals to extend coverage to uninsured people vary according to whether the purchase or provision of coverage is mandatory, the scope of services covered, the depth in terms of patient cost-sharing, [4] and how quickly the coverage is phased in. Selected proposals that provide for universal coverage or incremental approaches to coverage are described below and summarized in table 4-2.

Proposals for Universal Coverage

OTA characterizes a proposal as a universal coverage proposal if it provides that all Americans 1egally in the United States would have insurance coverage by a specified date. Universal coverage proposals that take this approach and that have

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[1] As described later in this chapter, people with insurance have been found to use more services than those without insurance, all other things being equal. The expected increase in the use of services that is associated with obtaining insurance is sometimes referred to as *insurance-induced* **demand. In economic terms, consumer** *demand* increases as the price decreases; the (immediate) price to the consumer decreases because most or all of the cost of a service is being paid by a third party (the insurer).

[2] Analysts may account for differences between the expenditures expected undercurrentbenefit packages and expenditures expected under the **benefit package described in a** reform proposal elsewhere in their analytic process.

[3] There is more research evidence on the utilization (as opposed to expenditure) patterns of **insured versus uninsured people** (e.g., Long and Marquis (9 I); Office of Technology Assessment (189)).

[4] Patient cost-sharing is the share of providers' charges that insured patients are obligated to pay themselves (191).

TABLE 4–2: Approaches to Expanding Coverage in Selected Health Care Reform Proposals

Proposal	Approach to expanding coverage	Scope and depth of benefits
Universal Coverage		
American Health Security Act of 1993 (H. R. 1200/S. 491)	Tax-financed, government-administered Insurance program	Comprehensive, including long-term care, no patient cost-sharing
Consumer Choice Health Security Act (H.R. 3698/S. 1743)	Individual mandate, with individuals assisted by refundable tax credits	All medically necessary acute care and prescription drugs; maximum deductibles at $1,000 per indvidual and $2,000 per family through 1998, adjusted to reflect CPI increases after that; out-of-pocket limit is $5,000 for years prior to 1998
Health Equity and Access Reform Today (H.R. 3704/S. 1 770)	Individual mandate effective January 2005; prior to 2005, voluntary, but availability increased by employers mandated to offer but not required to contribute and phase-in of Federal subsidies for low-income persons depending on savings	Scope and depth to be determined largely by a board but voted on by Congress; cost-sharing differs between "standard" and "catastrophic" plans
Health Security Act (H. R. 3600/S. 1 757)	Individual and employer mandate, plus Federal subsidies	Comprehensive,[a] excluding long-term care[b]; three levels of combination patient cost-sharing and delivery systems[c]
Managed competition plan, Starr version	Individual and employer mandate, plus Federal subsidies	Comprehensive, high cost-sharing and low cost-sharing
Single-payer plan, CBO version, with patient cost-sharing	Tax financed, government-administered insurance program	Actuarially equivalent to Medicare and current private coverage; patient cost-sharing equivalent to current typical levels
Single-payer plan, CBO version without patient cost-sharing	Tax-financed, government-administered insurance program	Same as above, but no patient cost-sharing
Universal Health Care Act of 1991 (H. R. 1300)	Tax-financed, government-administered insurance program	Comprehensive, including nursing home, home health, long-term care for disabled, no patient cost-sharing
Proposals that gradually expand coverage		
Comprehensive Family Health Access and Savings Act (HR. 3918/S. 1807)	Purchase of Insurance voluntary, subsidies for premium expenses of certain persons with pre-existing conditions, phase-m of Federal subsidies, contingent on Federal Medicare and Medicaid savings	Relatively minimal standards for catastrophic plans, high cost-sharing (at least a $3,000 deductible)
Comprehensive Health Reform Act of 1992 (H.R. 5919)	Tax deductibility of health insurance for self-employed, regulation of employment-based health insurance	Not specified

TABLE 4–2: Approaches to Expanding Coverage in Selected Health Care Reform Proposals (cont'd.)

Proposal	Approach to expanding coverage	Scope and depth of benefits
Health Care Cost Containment and Reform Act of 1992 (H R 5502)	Voluntary Improvements in Medicare and Medicaid, new Federal health Insurance program for children, and extension and expansion of tax deductibility of health Insurance costs for self-employed Insurance market reforms	Most would be covered by same scope and depth of coverage as today, some expansion of public benefits
Managed Competition Act of 1992 (H R. 5936)	Voluntary: Subsidies for low-income people, regulation of private Insurance market	Uniform package to be specified by a national health board expansion of Medicare preventive service benefits

KEY: CPI = consumer price index

[a]Comprehensive can have different meanings, but typically Includes a mandated benefit package that covers payment for hospital care, physcian and other professional services, prescription drugs preventive health services, and some mental health benefits.

bLong-term care refers to home- and community-based services to assist people unable to perform specified numbers of activitles of daily living.

[c]The three levels are *lower cost-sharing,* higher cost-sharmg, arid *combination cost-sharing For* purposes of calculating premium costs of covering uninsured people, the Clinton Administration uses the higher cost -sharing plan, which is essentially equivalent to current conventional fee- for-service indemnity plans (e.g., with annual indivldual and family deductibles and coinsurance of 20 percent for most services) except that fee schedules are required The Iower cost-sharing and combination cost-staring plans differentiate cost-sharing for In-network and out-of-network services The lower cost-sharing plan specifies a table of flat copayments for most in-network care, but does not include a deductible

SOURCE Off Ice of Technology Assessment, 1994

been analyzed in terms of their impact on NHE include the American Health Security Act of 1993 (H.R. 1200/S. 491) and the Health Security Act (H.R. 3600/S. 1757), both introduced in the 103d Congress, and the Universal Health Care Act of 1991 (H.R. 1300), introduced in the 102d Congress. In addition, the Consumer Choice Health Security Act (H.R. 3698/S. 1743) and the Health Equity and Access Reform Today Act (H.R. 3704/S. 1770) are universal coverage proposals that have been introduced during the 103d Congress, but, to OTA's knowledge, have not been subject to analysis in terms of their impact on NHE.

As summarized in table 4-2, these proposals for universal coverage use different strategies. The American Health Security Act of 1993 would establish a federally-mandated single-payer national health insurance program administered by the states. The program would replace most private and public health insurance programs and provide coverage for a comprehensive set of health and long-term care benefits. The program would require no per-service cost-sharing by patients.

In contrast, the Health Security Act (H.R. 3600/S. 1757) would require all persons to either purchase or be covered by a comprehensive health benefits package. The act would require all employers to pay for a portion of health insurance. Unemployed and self-employed individuals would be required to buy their own insurance. Subsidies would be available to people below a certain income and to certain types of firms, and increases in premiums for the standard benefit package would be held to the rate of growth in the Consumer Price Index (CPI) (see chapter 2 for details).

Under the Consumer Choice Health Security Act (H.R. 3698/S. 1743), all persons would be required to purchase health insurance through plans that meet Federal benefits, rating, and underwriting standards. Employers currently providing health benefits would be required to convert them into added wages, at least in the first year. Federal subsidies would be in the form of refundable tax credits for a portion of the premium cost of qualified health insurance plans and other medical expenses. The plans would have relatively higher patient cost-sharing than those under the Health Security Act and the American Health Security Act of 1993. This reform proposal has not been analyzed in terms of its impact on NHE.

The Health Equity and Access Reform Today Act (H.R. 3704/S. 1770) would combine an individual mandate effective in the long-term (i.e., in 2005) with phased-in subsidized coverage for low-income uninsured individuals as savings from other provisions of the proposals are achieved. There has been no analysis of this proposal in terms of its impact on NHE.

Proposals That Phase in Coverage

Some proposals attempt to extend coverage by relying on incentives and market reforms to encourage individuals and families to purchase health insurance, including: the Managed Competition Acts of 1992 (H.R. 5936 in the 102d Congress) and 1993 (H.R. 3222/S. 1579 in the 103d Congress), the Comprehensive Health Reform Act of 1992 (H.R. 5919 in the 102d Congress), the Affordable Health Care Now Act of 1993 (H.R. 3080/S. 1533 in the 103d Congress), and the Comprehensive Family Health Access and Savings Act (H.R. 3918/S. 1807 in the 103d Congress) (table 4-2). Not all of these proposals have been subject to analysis in terms of expenditures associated with covering uninsured people or their impact on NHE.[5]

It is important to try to estimate the effects of expanded coverage on NHE for all these approaches, but this chapter focuses primarily on the methods used to project costs of covering uninsured people under "universal coverage" bills that have been analyzed. A brief section is devoted to methods and assumptions used in analyses of a

5 The Congressional Budget Office (CBO) completed an analysis of the Managed Competition Act of 1993 as this report was being prepared for publication (134, 174).

more incremental approach to covering uninsured people.

ANALYSES OF REFORM PROPOSALS

Overview of Basic Analytic Approaches

Although projecting the cost of covering newly insured people for any year and under any proposal requires answering a series of complex questions (see box 4-1), the typical overall conceptual approach can be described quite simply. Analysts overall seem to follow a relatively similar framework:

1. They estimate the expenditures that uninsured people would incur if they remained uninsured in the first full year of the reform;
2. They estimate the expenditures currently insured people who are demographically similar to uninsured people would incur in the first full year of the reform;
3. Then analysts subtract 1 from 2, to derive an estimate of the incremental cost of (expenditures associated with) covering previously uninsured people.[6]

There are differences among analysts in how they implement their framework and in what estimates and information on methods they choose to publish. These differences are important to the interpretations that may be placed on any particular number.

These differences include the following:

- how analysts define the benefit package under reform (i.e., services covered and patient cost-sharing);
- how analysts account for a change in benefits under reform;
- how analysts define insured and uninsured people;
- how analysts determine what prices will be in the future, particularly if the prices are regulated;
- how analysts take account of previously uncompensated care; and
- the general statistical approach that analysts take to estimating the costs of covering uninsured people.[7]

The next section of this chapter reviews in greater depth the methodological detail that is available on the key assumptions and inputs underlying the analytical approaches used to estimate costs of covering uninsured people under proposals for universal coverage. The section focuses on analyses of the American Health Security Act of 1993 (H.R. 1200/S. 491); other tax-financed, single-payer, universal-coverage plans (e.g., the Universal Health Care Act of 1991 and generic single-payer plans with and without coinsurance); and the Health Security Act of 1993 (H.R. 3600/S. 1757). Analyses of these bills were conducted by the Congressional Budget Office (CBO), the Clinton Administration, and/or Lewin-VHI. Table 4-3 summarizes the available es-

6 An implicit assumption of this approach is that previously uninsured people will use health services as do demographically similar people who are already insured. Analysts make this assumption in part because there is little or no experimental data on how uninsured people will respond once they become insured. This issue is discussed later in this chapter.

7 General statistical approaches include the folk) wing:

- Use a two-part econometric model, which involves first estimating if uninsured people have used any services, and then estimate how much they cost, using a variable for insurance status;
- Statistically match expenditures of insured people to uninsured people;
- Use an econometric model for estimating utilization differences and use average expenditure figures to cost out new services;
- Statistically match utilization (physician visits and hospital days) and use average expenditure figures to cost out new services;
- Multiply insurance costs for currently privately insured people by a previously calculated factor that measures insurance-induced demand.

BOX 4-1: Information Required To Estimate the Effects of Extending Health Insurance to Uninsured People

1. How many people have no health insurance?
   - full year
   - part year
   - by age, sex, health status, income, region, employment status, family composition
2. How many people would be newly covered by the proposal?
3. What is the current health care utilization of persons with:
   - no coverage
   - part-year coverage
   - coverage less complete than mandated[1]
   - coverage similar to that proposed/mandated
   - by type of service:
     - hospital
       - inpatient
       - outpatient
       - emergency room
     - physician
       - ambulatory
       - inpatient
     - dental
     - pharmaceutical
     - mental health
     - optical
     - other
4. What are the health expenditures of persons currently without coverage—part year, full year, by type of service?
5. How will health care utilization of various services change for newly insured persons?[2]
   - part-year to full-year coverage
   - expanded coverage (services covered)
   - by plan type
   - by age, sex, income, health status, and so forth
   - by type of service
   - in response to changes in coinsurance requirements
6. How will expenditures change?
   - by type of service

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[1] Some items may not be addressed explicitly in all analyses. According to Anderson, these items are always required at least implicitly.

[2] This is sometimes analyzed in two steps: 1) effects of change from uninsured to hypothetical average or standard plan; 2) effects of specific proposed coverage, copayments, and so forth, relative to average/standard plan (7).

SOURCE: Office of Technology Assessment, 1994, based in part on Anderson, March 1994 (7). Full citation is at the end of this report.

timates of costs, in 1994 dollars, of covering uninsured people under universal coverage proposals that have been subject to analysis. Table 4-4 sets out some of the key assumptions underlying these estimates. Table 4-5 summarizes the estimates as percentages of projected baseline NHE.[8]

Analyses of Proposals for Universal Coverage

CBO'S Analyses of Single-Payer Universal Coverage Proposals

Box **4-2** presents CBO'S general approach to estimating the demand response of previously uninsured people to insurance coverage under any benefit package. As described below, aspects of particular reform proposals or other factors may cause CBO to make additional or alternative assumptions that may change the results of its analysis. It is not always possible to discern the effects of the alternative assumptions because, as noted above, CBO rarely reports its estimates of costs of covering uninsured people separately from its overall NHE estimates (see table 4-3).

CBO has concluded generally that with universal coverage, expenditures by or on behalf of currently uninsured people would increase by 57 percent under typical employment-based insurance with 25 percent coinsurance, and by 93 percent under policies without requirements for patient cost-sharing.[9] It is important to note that these percentage increases do not represent percentage increases in overall NHE, but only percentage increases in expenditures on behalf of uninsured people.

Generic single-payer proposals

CBO'S April 1993 analysis examines two hypothetical single-payer systems (not related to specific reform proposals). CBO defined a single-payer system as one in which all covered health care services are insured and paid for by a single insurer.

The first single-payer system (SP1) formulated and costed out in terms of NHE by CBO in its April 1993 memorandum had the following features: it would require the kind of patient cost-sharing that is now typical in the United States; the plan's benefits would be actuarially equivalent to the average benefits now paid under Medicare and private insurance; and it would prohibit balance billing.

As formulated by CBO, the second single-payer system (SP2) is a "Canadian-style single-payer system" with universal coverage, but no cost-sharing.

CBO'S April 1993 analysis of the two single-payer reform systems incorporated into its estimates of the cost of covering uninsured people some, but not all, assumptions about the potential effects of hypothetical reform systems (see table 4-4). For example, analyses of SP1 and SP2 assumed the use of Medicare's payment rates for hospital and physician services to estimate the costs of services now covered by all types of third party payers.[10] On the other hand, CBO did not include in its April 1993 analysis 'the effects of cost containment provisions-such as effective expenditure caps or price and utilization controls-that might reduce spending if these were part of the new system" (165).

CBO'S April 1993 analysis estimated that the increase in expenditures for new physician and hospital services in 1991 would be $21.9 billion under SP1 (with coinsurance), and $30.9 billion under SP2 (with no coinsurance); these estimates are inflated to 1994 dollars in table 4-3.

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[8] Each table also presents findings from the research evidence on costs reviewed later in this chapter.

[9] According to CBO and others, the increase would be greater for physician services than for hospital services .

[10] In contrast, in an example described in CBO's November 1993 memorandum providing background on its behavioral assumptions, CBO noted that it assumed "no change in average payment rates for providers."

TABLE 4–3: Summary of Estimates and Research Evidence of Incremental, Total, and Premium Costs of Providing Insurance for Uninsured People[a]

Proposal subject to analysis and research evidence	Analysis[b]	Estimated increase in spending (1994 $ billions)	Estimated total spending (1994 $ billions)	Estimated total "premium" costs (1994 $ billions)
Proposal				
Single-payer proposals				
American Health Security Act of 1993 (H.R. 1200/S. 491)	**CBO**	NA	NA	NA
Single-payer, CBO version with patient cost-sharing	CBO	$29.2	$75.8 (0)[c]	NA
Single-payer, CBO version without patient cost-sharing	CBO	$41.1[d]	$87.7 **(O)**[c]	NA
Universal Health Care Act of 1991 (H.R. 1300)	CBO	NA	NA	NA
Managed competition proposals				
Health Security Act (H.R. 3600/S. 1757)	CBO	**NA**	NA	NA
	Clinton Administration	$83.6[e]	NA	NA
	Lewin-VHI	$28.4	NA	$82.2 (0)'
Managed competition plan, Starr version, low patient cost-sharing	**Sheils et al.**	$39.8[f]	$85.2 (0)[g]	NA
Managed competition plan, Starr version, "typical" patient cost-sharing	Sheils et al.	$33.7	$78.0 (0)[h]	NA
Research evidence				
	Long and Marquis	$17.6 -31.9 (0) (P)	$62.3 -$77.0 (0) (P)	$77.0
	Spillman	$41,4 (o) (P)	$66.6 (P)	NA

KEY: CBO = U.S. Congress, Congressional Budget Office; NA = not available, O = OTA calculation, P = partial estimate, not comparable to others that may consider all of personal health care expenditures

[a]All estimates have been converted to 1994 dollars by either increasing or decreasing the amounts at annual rates of 10 percent Ten percent is a rough estimate of recent annual inflation in national health expenditures

bFull Citations for the analyses are in appendix B. Full citations for the research studies--Long and Marquis (91) and Spillman (151)--are in the list of references at the end Of the report

[c]By addition.

dAssumes no patient cost-sharing (therefore, higher projected utilization).

TABLE 4–3: Summary of Estimates and Research Evidence of Incremental, Total, and Premium Costs of Providing Insurance for Uninsured People[a] (cont'd.)

eCalculated based on method suggested by Off Ice of Management and Budget analysts as follows The Administrations unpublished estimate of costs of newly expanded coverage for insured people, plus costs of covering previously uninsured people, is $95 billion in 1994 dollars (155,202) The Administration does not have a separate estimate for covering previously uninsured people, but suggests that using the same proportions used by Lewin-VHI in its analyses of the Health Security Act would provide a rough idea of the distribution between newly covered people and expanded benefits for previously insured people (202) In Lewin-VHI's December 1993 analysis, it estlmated that the cost of covering uninsured people and the cost of expanded coverage for people already insured would be a total of $47 billion in 1998, the flrst full year of plan Implementation (89) (A total of $47 billion in 1998 is approximately equivalent to $28.4 billion in 1994, using a 10% annual discount (inflation) rate) The $416 billion of this total relevant to covering previously uninsured people is equivalent to 88 percent of $47 billion. Eighty-eight percent of $95 billion is $836 billion

fAssumes low Patient ~ost-sharing (a $10 copayment **per Outpatient visit, but no deductible). Further assumes that total utilization** under the low patient-cost-sharing plan would be about 2 percent higher than in the high cost-sharing plan for persons who are not now enrolled in plans with lower cost-sharing Sheils and colleagues identified privately insured persons in the National Medical Expenditure Survey data who are already in plans without cost-sharing by examining the source of payment data reported for services used by those individuals (1 46)

9Calculated by adding Sheils and colleagues' estimate for baseline 1998 spending by uninsured people to Sheils and colleagues' estimate for new 1993 spending by newly insured people with low cost-sharing, plus the estimated impact of reduced patient cost-sharing, and inflating to 1994 dollars

hCalculated by adding Sheils and colleagues' estimated baseline to their estimate of expenditures associated with Increased utilization by newly insured people and inflatlng to 1994 dollars.

IOTA calculation, **based** on Lewin's premium estimate being 15 percent higher than the Administration's ($1 ,933 • 1.15 = $2,223) times 37 million full -time-equivalent uninsured people.

SOURCE Office of Technology Assessment, 1994.

TABLE 4–4: Key Assumptions in Estimates of Costs of Providing Insurance for Uninsured People and in Research Studies

Proposal subject to analysis	Analysis or study[a]	Key assumptions
Proposal		
Single-payer proposals		
American Health Security Act of 1993 (H.R. 1200/S, 491)	CBO	The program would cover virtually all spending for hospital care, physician and other professional services, nursing home care, and home health services, all spending on prescription drugs, and "all baseline third-party payments and half of baseline out-of-pocket expenditures for durable medical equipment ,. "[b] For hospital care, physician and other professional services, nursing home care, and home health services, "the estimate excludes only other private funding (Including nonpatient revenues and philanthropic contributions), 20 percent of current out-of-pocket spending (representing an estimate of services that the new program would not cover), and spending by the Veterans Administration[c] and Indian Health Service." State plans would have to cover routine dental care for all beneficiaries.d "[l]Spending for drug abuse treatment [apparently, for newly Insured and others] would triple over baseline expenditures, adding $16 billion to the cost of these benefits by the third year of the plan. " "The benefit for home and community-based services and the unlimited mental health benefit would add over $50 billion a year to uncapped health spending after three years [this apparently applies to newly insured and previously insured people combined]."
Single-payer plan, CBO version with patient cost-sharing	CBO	"Typical" contemporary coinsurance (e.g., deductible + 20% coinsurance, with out-of-pocket maximum);[e] Medicare payment rates;[e] baseline spending $46.6 billion (1994 dollars); no effects of supplementary coverage; potential provider offsets not considered; effects of potential cost-containment provisions not included.
Single-payer plan, CBO version without patient cost-sharing	CBO	First dollar coverage;[e] Medicare payment rates;[e] baseline spending $46.6 billion (1994 dollars); no effects of supplementary coverage; potential provider offsets not considered; effects of potential cost-containment provisions not included.
Universal Health Care Act of 1991 (H.R. 1300)	CBO	Policy parameters as specified in H.R. 1300; "estimated additional demand for health services generally based on the methodology detailed in CBO'S April 1993 staff memorandum (165)"; spending would increase in proportion to the growth in the use of health services.
Managed competition proposals		
Health Security Act (H.R. 3600 /S. 1 757)	CBO	Estimate of insurance induced demand uses the assumptions described in CBO's November 1993 memorandum (169).
	Clinton Administration	Coverage equivalent to that under the Health Security Act; OTA calculation, per Administration guidance-product not equivalent to multiplication of average alliance fee-for-service premium by 37 million FTE uninsured people.

TABLE 4–4: Key Assumptions in Estimates of Costs of Providing Insurance for Uninsured People and in Research Studies (cont'd.)

Proposal subject to analysis	Analysis or study[a]	Key assumptions
	Lewin-VHI	Incremental costs represent increased health expenditures under current law and utilization patterns following from existing distribution of insurance plans (i e., not adjusted for proposed cost-sharing or other provisions of the act), total premium costs calculated by OTA, based on Lewin-VHI premiums 15% higher than Administration's and 37 million FTE uninsured
Managed competition plan, Starr version, low patient cost-sharing	Sheils et al	Impact of reduced patient cost-sharing
Managed competition plan, Starr version, "typical" patient cost-sharing	Sheils et al.	Makes assumptions about nature of high versus low patient cost-sharing, assumes a relatively comprehensive uniform minimum benefit package [f]
Research evidence		
NA	Long and Marquis	Incremental and total expenditure costs are for physician and hospital expenditures only, baseline spending for physician and hospital services equivalent to $447 billion (1994 dollars) total premium costs include coverage for physician and hospital services plus coverage for ' other professional' services and prescription drugs, with typical coinsurance under a mix of managed care and indemnity plans
NA	Spillman	Expenditures for basic' (physician and hospital services) only baseline spending estimate was $252 billion (1994 dollars).[g]

KEY: CBO=U.S. Congress Congressional Budget Office. FTE = full-time equivalent: NA + not applicable.

[a]Full citations for the analyses are in appendix B Full citations for the research studies are at the end of the report.

[b]CBO notes that, "The bill authorizes the board to place limits on the cost and frequency of benefits for eyeglasses and durable medical equipment" However, the source of these figures used by CBO to estimate the impact of this provision of the bill is not provided in CBOs memorandum (170)

[c]The Veterans Administration is now the Department of Veterans Affairs

[d]CBO estimates that this represents approximately 50 percent of baseline dental spending from all sources of payment in 1996, initially about $100 per person per year. The source of these figures is not provided in CBOs memorandum (170)

[e]These were assumptions rather than policy parameters set forth in a particular reform proposal because CBO designed the generic systems analyzed in its April 1993 analysis

[f]The benefit package was assumed to include hospital Inpatient and outpatient care, physclan care, laboratory tests and x-rays psychiatric services, prescription drugs, preventive and primary care. and other professional services referred by a physician The plan was assumed to not cover dental care eyeglasses or cosmetic surgery.

[g]By excluding from calculations of use and spendlng by currently uninsured people those who received some pubic benefits under various programs Spillman's analysis excluded those with the potentially heaviest use of services (169). Spillman's estimate of baseline spending by ininsured people under her definitlon of uninsured) was $15.6 billion in 1989 dollars (equivalent to $25.2 billion in 1994 dollars) Spillman's estimate of baseline spending by uninsured people is substantially different from Long and Marquis's estimate of baseline spending ($40 6 billion in 1993 dollars equivalent to $447 billion in 1994 dollars)

SOURCE Office of Technology Assessment 1994

TABLE 4–5: Incremental Costs of Covering Uninsured People as a Percentage of NHE

Proposals subject to analysis and research evidence	Analysis[a]	Estimated Increase as a percentage of baseline NHE in projection year
Proposal		
Single-payer proposals		
American Health Security Act of 1993 (HR. 1200/s, 491)	CBO	NA
Single-payer plan, CBO version with patient cost-sharing	**CBO**	2.9%
Single-payer plan, CBO version without patient cost-sharing	**CBO**	4.1%
Universal Health Care Act of 1991 (H.R. 1300)	**CBO**	NA
Managed competition proposals		
Health Security Act (H.R. 3600/ S. 1757)	**CBO**	NA
	Clinton Administration	NA
	Lewin-VHI	3.0%[b]
Managed competition plan, Starr version	Sheils et al.[c]	3.4%
Empirical research studies not connected to particular proposals		
	Spillman	39% (O) (P)[d]
	Long and Marquis	1.8-3 2% (P)

KEY: CBO = U.S. Congress, Congressional Budget Office; NA = not available, NHE = national health expenditures, O = OTA calculation, P = partial estimate, not comparable to other estimates

aFull citations for analyses are in appendix B. Full citations for the research studies are at the end of the report.

bBaseline for 1998 NHE used by Lewm-VHI (89) waS $1,395 billion.

cNote that under Sheils and colleagues' method, the particular reform proposal is Irrelevant except to the extent it affords universal coverage and the benefit package (services covered) are more-or-less comprehensive (i.e., typical of a package sponsored by a large group such as in an employment setting) See text

dCalculation by OTA using CBO baseline of $664 billion for 1989 (167).

SOURCE Off Ice of Technology Assessment, 1994

American Health Security Act of 1993 (H.R. 1200/S. 491)

CBO published little description of its method for estimating additional demand for health services by previously uninsured people in its December 1993 analysis of S. 491 (170). Instead, CBO referred readers to the methods detailed in its November 1993 memorandum, "Behavioral Assumptions. . . ." and noted that its analysis of insurance-induced demand under S. 491 does not distinguish between the additional spending attributable to currently uninsured persons and additional spending due to enhanced coverage. Rather, all of the figures "represent weighted averages of the estimated increases in demand on the part of the currently uninsured, Medicare beneficiaries, Medicaid recipients, and people with private health insurance coverage" (170).

Analyses of Managed Competition Universal Coverage Proposals

Lewin-VHI's analysis of Starr's managed competition proposal

Sheils and his colleagues' 1993 analysis of Starr's managed competition proposal with universal

BOX 4-2: CBO's Generic Approach to Projecting Costs of Covering Uninsured People in the Context of Calculating Premium Costs

General Approach

According to a November 1993 memorandum, the Congressional Budget Office generally takes the following steps to project the costs of covering previously uninsured people:

1. Overall, ". . .using data from the 1987 NMES [National Medical Expenditure Survey], [CBO] bases its estimates of the effect of insurance coverage on a comparison of use by otherwise similar demographic groups who differed only in whether they had insurance during the year." In this step:

   > The uninsured group [in the NMES] was made up of people under age 65 who reported themselves as uninsured throughout the year, even if some public-sector payments were made on their behalf during that time. The insured group was composed of people younger than 65 who had employment-based or union coverage throughout the year and who received no health benefits from public programs.

2. CBO calculates:

   > . . .what costs and payments for services used by the uninsured group would have been if those individuals had been insured by giving specific uninsured demographic groups the same average use as the corresponding insured group, summed over all groups. The demographic groups are defined by age, sex, [self-reported perceived] health status, and income relative to the poverty threshold.[1]

According to CBO:

> The adjusted results indicate that uninsured people cost about 64 percent of what they would cost (at current charges) if they had insurance. Hence, their use of services would increase by 57 percent[2] if they received coverage under a typical employment-based plan (which includes copayment requirements), with no access to benefits under public programs (169).

Important Underlying Conditions and Assumptions

CBO's generic method incorporates some important underlying conditions and assumptions, and has some limitations recognized by CBO. For example, CBO typically imposes the following conditions:

1. that currently uninsured people will be covered by a "typical employment-based plan" (as of 1987);
2. that the plan includes typical copayment requirements,[3] and
3. that newly insured people will have no access to benefits under public programs.

In addition, CBO considers whether a proposal prohibits, requires, or assumes copayments at the point of service. CBO calculates the associated increase in expenditures by multiplying its "utilization/expenditure increase" factor of 1.57 by a factor of 1.23 for a total increase in expenditures of 1.93 (169). The factor of 1.23 is based on CBO's analysis of results of the Rand Health Insurance Experiment (169).[4]

CBO benchmarks (or "control totals") its initial results to the national health accounts (133).

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[1] In this aspect of its analysis, according to CBO: "Costs were measured as reported charges, reduced by insurer discounts where applicable; they included all services used, even if the providers were not compensated. Payments included only services for which patient-specific payments were made to the providers." (169)

[2] If uninsured people "cost" 64 percent of what they would cost with insurance, the increase in costs is (1/.64) - 1 = .56, or approximately 57 percent.

[3] Because CBO derives expenditures information directly from NMES, it does not actually use coinsurance information in calculating expenditures; rather, CBO uses a factor based on the Rand Health Insurance Experiment later in its process to deduce what expenditures might be if coinsurance were not included under reform.

[4] Issues related to the impact of patient cost-sharing on use of services are not covered in this report. For a discussion of limitations of the Rand Health Insurance Experiment, see OTA's background paper, *Benefit Design: Patient Cost-Sharing* (191).

SOURCE: Office of Technology Assessment, 1994, based on CBO sources as shown. Full citations are at the end of the report.

coverage projected a $30.6 billion increase in NHE in 1993 ($33.7 billion in 1994 dollars; table 4-3), equal to about 3.4 percent of baseline projected NHE in 1993 (table 4-5). As CBO did, Lewin-VHI based its estimates on a comparison of expenditures by otherwise similar demographic groups who differed only in whether they had insurance during the year.

Lewin-VHI's method differs from CBO'S in at least one way. According to CBO, projections by Lewin-VHI (e.g., Sheils, Lewin and Haught (146)) of the percentage increase in expenditures related to increased utilization by newly insured people may be too high because Lewin-VHI included people with public benefits, such as Medicare-disabled [11] and Medicaid, in the group it defined as "insured" (169).

According to CBO, this is the reason one of Lewin-VHI's estimates of increases in health care utilization and expenditures for newly insured people (74 percent overall) is higher than CBO'S estimate of 57 percent (see above). Lewin-VHI has countered that including people with public coverage in the insured group is legitimate because nearly all health reform plans would excuse patient cost-sharing for low-income persons even if they are employed (144). In any event, Lewin-VHI'S and CBO'S estimates do not differ by much when adjusted roughly for health care cost inflation (see table 4-3). For example, CBO'S April 1993 estimate for universal coverage with a typical cost-sharing plan is $29.2 billion (when adjusted to 1994 dollars by OTA) (165). Lewin-VHI's estimate for the "high cost-sharing" version of managed competition (essentially equivalent to contemporary cost-sharing arrangements) is $33.7 billion (1994 dollars) (146), a difference of $4.5 billion.

Lewin-VHI's analysis of the Health Security Act

In December 1993, Lewin-VHI calculated that the Health Security Act would increase expenditures by previously uninsured people by $41.6 billion in 1998 (approximately $28.4 billion in 1994 dollars; table 4-3), equal to approximately 3 percent of both baseline and reform 1998 NHE[12] (table 4-5). As with the Lewin-VHI estimate for Starr's managed competition proposal, this figure represents the incremental costs of coverage, assuming utilization patterns similar to those of people with insurance coverage in 1987, adjusted for estimated changes in utilization between 1987 and 1990 (89).

Clinton Administration's analysis of the Health Security Act

The Clinton Administration produced projections of NHE in January 1994(197) but did not publish estimates of the costs of covering newly insured people. Two groups in the U.S. Department of Health and Human Services (the Agency for Health Care Policy and Research (AHCPR) and the Health Care Financing Administration (HCFA)) have included estimated expenditures associated with covering previously uninsured people to model *premium costs* under the Health Security Act (28, 135, 154). Their methods are described in box 4-3. In addition, in response to OTA's requests, Administration analysts have provided an estimate of the costs of new and enriched insurance coverage taken together and explained how one could then derive a separate dollar estimate of costs of covering uninsured people under the Health Security Act (box 4-4) As explained in box 4-4, the resulting Administration estimate of incremental costs of covering unin-

11 People under 65 with disabilities may be eligible for, and receive services that are paid for, by Medicare.

12 According to Lewin-VHI's analysis, baseline and reform NHE would be nearly identical in 1998.

BOX 4-3: HCFA and AHCPR Methods for Projecting Costs of Covering Uninsured People

HCFA's Method

According to testimony:

The first step in HCFA's simulation process was to determine each individual's **insurance** status. The modelers used CPS [Current Population Survey] indicators for this, and considered a person to be insured if he/she was covered by employer-sponsored insurance, other private insurance, CHAMPUS, Medicare, or Medicaid. HCFA then adjusted health expenditures to reflect the coverage offered through the regional alliance plan. That coverage is for hospital care, physician and other professional services, prescription drugs, and durable medical equipment other than vision and hearing products. Therefore, the analysts excluded all other National Health Accounts (NHA) expenditure categories.

The cost of coverage of mental health, dental, and preventive care in the standard benefit package was estimated separately, from aggregate data, and added in at the end of the process. Once expenses were adjusted for coverage differences, the modelers applied the fee-for-service plan deductibles, coinsurance, and cost-sharing limits to each person covered through the regional alliances.

An **insurance-induced demand adjustment** was applied to all those enrolled in the regional alliance. The basis for the induced demand was the difference between out-of-pocket spending under current law and that determined by the reform simulation already described. The induction factor varied by type of service. Post-induction spending is equal to the expenditures calculated previously plus (or minus) induced spending.

Following these steps, HCFA imputed expenses to currently **uninsured** people. Existing patterns for use for the **uninsured** person were discarded, because those patterns are influenced by the absence of insurance. An imputation file was created for each service covered under the regional alliance. To create the file, insured people were divided into groups according to gender, four age classes, and three poverty status classes. Expenditures were tabulated for each group to determine: (a) the proportion that had no expenditure and (b) means expenditures and use for each decile of the user distribution. Expenses were inputted for **uninsured** persons using these imputation files. . .

After plan benefits had been determined, premiums were calculated for each of the policy and alliance types. An offset was applied to expenses to reflect current-law cost-shifting attributable to uncompensated care. . . (154).

AHCPR's Method

According to testimony

. . . following conventions in health economics, AHSIM estimates a two-part model of expenditures for each service. The unit of observation is the person. The first equation in each service's set of two equations estimates the probability of using the service at all as a function of demographic, income, **insurance**, employment, and health status measures from the 1987 NMES-2. The second equation estimates annual expenditures on the service for all *users* of the service, as a function of the **same explanatory variables**. Combining the results of these equations (i.e., multiplying the probability of use times the coefficients in the second equation) yields an equation that predicts expenditures for each type of person. Predicted expenditures are aged to 1994.

Health expenditures for each person are then predicted for each of the ten services included in the AHSIM [Agency for Health Care Policy and Research's Simulation Model] model using this system of equations. Predictions for both the probability and the level (given any use) of an expense were made for each person based on these regressions. The procedure assigns the same expected values to people with private insurance and similar personal characteristics, based on a hypothetical "average" insurance policy. Expected values are modified to take into account specific plan provisions using information from the Rand National Health Insurance Experiment about the effects of such provisions. . . (154).

(continued)

BOX 4-3: HCFA and AHCPR Methods for Projecting Costs of Covering Uninsured People (cont'd.)

An April 1993 memo from AHCPR explains the AHSIM model on a step-by-step basis as follows:

- *Step 1:* AHCPR estimates a multivariate model predicting the probability of use and the level of expenditure per user for 10 categories of expenditures, from the 1987 NMES;
- *Step 2:* AHCPR uses the coefficient estimates from the model to impute 1987 expenditures under alternative insurance arrangements to everyone under the age of 65 in the NMES household sample. The AHCPR memo illustrates the use of this step in the AHSIM model to:

1. estimate the effect of age, gender, health problems, and geographic site on the baseline probability of hospital use and the level of expenditure if the person is hospitalized. The effects of all characteristics are "summed. . .in order to determine the predicted values for a person with the specified characteristics";

2. predict the expected hospital expenditures of a currently uninsured person in the baseline survey data;

3. alter the predicted values when, "as a result of reform, the person is covered all year by a plan that is typical of employer sponsored insurance." According to AHCPR:

> In this case, the indicator for [employer-sponsored insurance] is switched from 0 in the baseline to 1 after reform, and the estimated effect of this characteristic is added to the predicted values.

AHCPR then takes the following steps:

- *Step 3:* Adjust the expenditures assigned to each person for the relative generosity of the benefit package being simulated, based mainly on findings from the Rand Health Insurance Experiment (HIE). "Generosity" is defined in terms of patient cost-sharing provisions.
- *Step 4:* Calculate benefits paid and out-of-pocket expenses for each person in the database under a particular plan, by applying the plan provisions to the expenditures imputed to each person.
- *Step 5:* Project the claims and expenditures of each family to 1994.
- *Step 6:* "Age" the NMES sample "by age, race, and sex to the Census Bureau's 1994 population projections," incorporating "the population growth rates observed between 1987 and the most recent Current Population Survey (CPS) with respect to insurance status (employer-sponsored, other private, public insurance, and uninsured) and family income in relation to the poverty line";
- *Step 7:* Tabulate the projected health expenditures database for 1994 to calculate estimated health expenditures statistics under the baseline and reform scenarios, or use the projected microdata for more elaborate simulations and calculations (7,199).

AHCPR's memo illustrates the effect of all steps in the AHSIM model, for the uninsured person whose hospital expenditures were predicted in Step 2 above. The AHCPR model can also introduce the values for each person and family "into a more elaborate simulation model that calculates premium payments and subsidies for out-of-pocket expenditures under various scenarios for health care reform" (199). According to testimony, the following steps have been taken to calculate premiums under reform (specifically, the Administration's Health Security Act):

> Every individual included in the AHSIM model actually had three types of reform expenditures assigned to them, indicating their (assumed) behavior under fee-for-service (FFS) , managed care (HMO), and preferred provider (PPO) insurance arrangements. . .Premiums for each type of insurance plan were computed on the basis of average benefits paid per insurance policy plus an administrative load. . .In this way, each person was taken into account in computing initial premium levels. Premiums were adjusted for current regional variations in premiums. . .

BOX 4–3: HCFA and AHCPR Methods for Projecting Costs of Covering Uninsured People (cont'd.)

Two passes through the data were made to compute the final set of premiums. . . The first pass. . .determines the extent to which a household's direct costs will be offset by supplemental insurance and out-of-pocket discounts. In the second pass through the data, expenditures are increased to reflect additional spending induced by supplemental insurance and out-of-pocket discounts. Insurance premiums are then adjusted to reflect these higher expenditures.

The AHCPR memo also shows the predictions of the model with respect to the 1994 annual expenditures of all persons who are uninsured all year under current law, if they were provided with a full year of coverage under the 20th percentile fee-for-service plan and why the predicted per capita expenditures of the all-year uninsured do not vary greatly from the expenditures predicted for the population that currently hold employer-sponsored insurance.

SOURCES: Office of Technology Assessment, adapted from Anderson, March 1994 (7); Thorpe, Nov. 22, 1993 (154); Department of Health and Human Services, Jan. 26, 1994 (199). Full citations are at the end of the report.

sured people (table 4-3) is not equivalent to other analysts' estimates of incremental costs. The primary reason is that Administration analysts do not include previously uncompensated costs in their base] inc. [13]

CBO'S analysis of the Health Security Act

CBO'S February 1994 analysis of the Health Security Act of 1993 (H.R. 3600/S. 1757) provides a brief overview of projected NHE by sources of funding. However, CBO does not go into any detail about how it arrived at costs of covering uninsured people, or what proportion of increased NHE in any year would be attributable to coverage for previously uninsured people (172). CBO'S analysis refers to coverage for uninsured people as a factor contributing to increases in demand for services (and associated expenditures), and as a component of its estimates of average health insurance premiums for the standard benefit package. [14] However, CBO provides no quantitative estimates of the amount of the increase from covering uninsured people.

According to CBO, the calculation of the average premium follows the method specified in section 6002 of the Health Security Act. According to CBO, the estimate proceeds in three steps:

1. calculate the initial amount of health spending in the baseline that would be paid for by premiums collected by the alliances,
2. increase that base amount in proportion to the expected increase in the use of health services by individuals who are currently uninsured or who have coverage that is less comprehensive than the standard benefit package,
3. divide the result by the number of people covered by alliance premiums.

CBO assumed that the Administration's standard benefit package would initially be 5 percent more expensive than the average benefit of privately insured people in the baseline. It is unclear from its report how CBO used this assumption to

[13] Administration analysts argue that it is more rational to think about the costs of enriched insurance overall, rather than considering separately the costs of providing insurance for those currently without any insurance and providing enriched benefits to those who are already insured (202).

[14] CBO notes that: "[the proposal's] provisions for covering the uninsured [and other provisions] would increase the demand for health services. But the limits on the growth of health insurance premiums and the reductions in the Medicare program would hold down health spending. For the first few years after the proposal was in place, the increases in spending would exceed the decreases. . . . From 2000 on, however, national health expenditures would fall below the baseline by increasing amounts."

BOX 4-4: Why Clinton Administration Estimates of Costs of Covering Uninsured People Are Different from Other Estimates

Clinton Administration officials have said that the costs of new and enriched insurance coverage taken together would be $95 billion (in 1994 dollars) (202). Officials at the Office of Management and Budget (U.S. Executive Office of the President) provided the Office of Technology Assessment (OTA) with a formula for deriving the newly insureds' share of the costs (202). This formula consists of applying the Lewin-VHI proportions for: 1) coverage for previously uninsured people (88.5 percent), and 2) coverage for new benefits to previously insured people (11.5 percent) to the $95 billion figure. The result of this calculation is a net cost for covering previously uninsured people of approximately $83.6 billion in 1994 dollars.

It is important to note that a major component of this estimate is the "offset applied to expenses to reflect current-law cost-shifting attributable to uncompensated care" (see box 4-3). For estimating the costs of covering uninsured people, this offset means that only the out-of-pocket expenditures of uninsured people are considered in the baseline (155). In contrast to other analysts' approaches, then, the Administration's approach is roughly as follows:

Baseline estimate =

Uninsureds' out-of-pocket expenditures for services	$ [1]
= Total baseline expenditures	$

Incremental expenditures =

Uninsureds' historical use of services for which providers may not be compensated (based on National Medical Expenditure Survey utilization figures)	$
+ Uninsureds' use of "insurance-induced" services	$
+ Uninsureds' use of new services due to enriched benefit package	$
Total incremental expenditures	$
Total expenditures attributable to newly insured = baseline + incremental expenditures	$

Implicitly, then, the Administration's approach assumes that the costs of services for which providers are not compensated by uninsured patients now (and for which providers may shift costs to other payers) may not be fully recouped under reform and they make this adjustment on their costs of covering previously uninsured people. In contrast, other analysts (e.g., Lewin-VHI) implicitly assume *in this aspect of their estimates* that uncompensated costs will be recouped under reform. However, as does the Clinton Administration, other analysts may account for some reduction in other aspects of their analyses. For example, as shown in table 1-3 in chapter 1 in this report, Lewin-VHI's analysis of the Health Security Act dealt with uncompensated care costs by calculating gross increases in provider reimbursement as a result of previously uncompensated care being compensated under the act, and then assuming "that a portion of the increase in provider reimbursement would be returned to consumers in the form of reduced charges through the negotiation process in managed care plans, resulting in a [smaller] net increase in provider

BOX 4–4: Why Clinton Administration Estimates of Costs of Covering Uninsured People Are Different from Other Estimates (cont'd.)

reimbursement..." (i.e., the "reduction in cost shift" shown in the table) (89). These adjustments are made in the portion of the Lewin-VHI analysis termed "change in provider reimbursement" and "pre-empt reimbursement windfall," and not in the Lewin-VHI estimate of the costs of covering uninsured people. The Clinton Administration builds into its premium caps (see chapter 2 in this report) an implicit mechanism for recouping the "reimbursement windfall" that would come from providing coverage to previously uninsured people.[2]

In terms of calculating change in NHE, either approach seems reasonable. The difference in approaches means, however, that Lewin-VHI's and the Clinton Administration's *dollar estimates of incremental costs of covering uninsured people* are not comparable.[3,4] This difference in estimating methods alone is likely to account for a considerable part of the apparent difference between the Administration's and others' estimates of incremental costs of covering uninsured people. However, without additional information from the analysts, it is difficult to estimate just how much assumptions about uncompensated costs matter.

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[1]Specific numbers are unavailable.

[2]To suggest how this offset might work, OTA did a trial calculation similar to the one in footnote i of table 4-3, in which it multiplied the Administration's estimate of the premium for a single person ($1,933) and CBO's estimate of the premium for a single person ($2,100) by an estimate of the number of full-year uninsured people (37 to 38 million), for a roughly estimated range in total premium costs of $71.5 billion to $79.8 billion. Note that this range is both less than the incremental cost of covering newly insured people (as calculated by OTA following the Clinton Administration's instructions) and in the same range as the other analysts' estimates.

[3]In addition, Lewin-VHI and the Clinton Administration differ with respect to their estimates of the amount of physician uncompensated (i.e., cost-shifted) care that will be recouped under reform (135,145). Any attempt to reconcile the Clinton Administration and Lewin-VHI estimates of NHE would have to account for this difference.

[4]There are other reasons why the Lewin-VHI and Clinton Administration estimates of changes in NHE are different (see Lewin-VHI (89); Rivlin et al. (135); Rivlin et al. (136); Sheils and Lewin (145)).

SOURCE: Office of Technology Assessment based on sources as shown. Full citations are at the end of the report.

calculate increased spending attributable to newly insured people.

CBO also says that its "estimate of the base amount of spending includes all baseline private health insurance premiums, subsidies from State and local governments for public hospitals and clinics, half of State and local subsidies for mental institutions, all Medicaid spending for noncash beneficiaries, and federal Medicaid payments for disproportionate share hospitals." Thus, CBO'S definition of the base amount differs from the Administration's.

Overall, CBO says its premium estimates are about 15 percent higher than the Administration's.[15,16]

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15 The difference was smaller for the single-person premium: CBO estimated a $2, I 00 total premium for a single person; the Administration estimated $1,933 for a single person.

16 To get a rough estimate of the total premium costs for covering uninsured people, OTA multiplied CBO's premium estimate for a single person by the approximately 37 million to 38 million full-time-equivalent uninsured people in the United States, for an estimate of $77.7 billion to $79.8 billion (all figures in 1994 dollars; see table 4-3); this estimate is slightly lower than similar estimates calculated by others (e.g., from using the same method to calculate total premiums for uninsured people using Lewin-VHI's estimated premiums (see table 4-3)). Given that OTA used the same rough formula to calculate Lewin-VHI and CBO total premium costs, the difference between the OTA estimates can be accounted for by different premium estimates for single persons provided by Lewin-VHI and CBO. These calculations are not helpful in figuring the incremental costs of covering uninsured people (i.e., how much NHE would increase due to providing insurance to uninsured people), however.

To estimate the incremental spending attributable to newly insured people, CBO reports it used an estimate of induced demand using the assumptions described in its November 1993 memorandum (see box 4-2).

Summary of Analyses of Universal Coverage Proposals

Because of differences in analysts' assumptions, available estimated spending *increases* attributable to insurance coverage for previously uninsured people appear at first glance to differ markedly. Overall, the available range of increases is $28.4 billion to $83.6 billion (1994 dollars) (89,165).

Several problems arise in trying to draw solid conclusions about the actual range in estimated increases, however. Comparisons of estimated total spending may provide a better sense of the estimated magnitude of spending by previously uninsured people, '7 but such comparisons do not provide information on the incremental *change* in expenditures associated with covering uninsured people.

Issues raised in comparing estimated increases in spending include:

- Very few incremental estimates are actually reported, so the range presented above may not be representative of analysts' estimates of the cost of insuring uninsured people.
- Perhaps more importantly, the estimates that are presented by or obtained from analysts may have strikingly different components. For example, the estimates make different assumptions about benefits covered. Some estimates represent spending assuming past insurance coverage and utilization patterns, not the types of insurance coverage and utilization patterns that may occur under particular reforms (89,165). Other estimates include spending by previously uninsured people that would occur under the benefit package provided under reform. In addition, some analyses differ in their definitions of insured and uninsured, and estimates differ in what they assume about uncompensated care costs.[18]

The next section of this chapter provides a brief overview of analyses of proposals that would phase in coverage. The analyses report no separate estimates of the cost of covering uninsured people. The analyses were all done by CBO.

Analyses of Proposals That Phase In Coverage

The preceding section reviewed analyses of proposals that would require universal coverage by a specific date. Other proposals may aim to increase the proportion of Americans with coverage gradually. Some proposals aim to increase coverage by subsidizing the purchase of private health insurance or by other measures to reduce the price of insurance. In estimating the cost and impact of such bills, a critical assumption is the extent to which the purchase of insurance would rise with a fall in price. Other bills would place more emphasis on expanding coverage from public programs, in which case key assumptions include eligibility and participation (e.g., H.R. 5502 introduced in the 102d Congress, H.R. 200 introduced in the 103d Congress). Neither approach would necessarily achieve universal coverage. In either case, analysts may have a problem in attempting to predict how many people will either purchase private insurance or be eligible for public coverage in any given year. Assumptions about voluntary purchase of coverage may be particularly difficult. Further, not every eligible person participates in public coverage programs (145).

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17 As shown in the last two columns of table 4-3, most estimates of the *total* spending (or premium costs) of covering previously uninsured people are in the $70-billion to $80-billion range.

18 Questions about the range in estimates are different from questions about whether any of the estimates reflect reality. This issue is addressed later in this chapter.

19 Two papers prepared under contract to OTA review the literature on insurance choice among consumers (35,140).

In projecting NHE and the federal budget impact of plans that were introduced in the 102d Congress, with no specific date for universal coverage, CBO projected increases in the number of people likely to be covered by health insurance in selected calendar years (168). However, CBO did not report estimates of the incremental costs of covering these people. Because the benefit packages differ across the reform proposals (or are unspecified), it would be difficult to use '*typical" employment-based coverage (and associated premium costs) to estimate gross premium costs per year. In its July 1993 document, CBO did not provide enough information to enable another analytic group to understand or replicate the results in terms of net new increases in covered individuals, or in terms of the impact of these increases on health expenditures. However, in response to OTA's request, CBO provided information on how it arrived at the numbers of newly insured people under each of three proposals (see box 4-5).

CBO says that under the Managed Competition Act of 1992 (H.R. 5936 introduced in the 102d Congress), newly insured people would increase their use of health services by 80 percent. CBO does not, however, explicitly state why, nor the specific impact this increase would have on national health expenditures (1 68).[20]

Summary of Analyses

Because analyses of the incremental costs of covering previously uninsured people under alternative reforms use varying assumptions and publish varying types and levels of analysis, comparing and reaching conclusions about the likely range of estimates in costs of covering uninsured people is difficult.

REVIEW OF THE EVIDENCE

OTA's review of the evidence on the costs of covering previously uninsured people has two sections: evidence on utilization and evidence on expenditures.

Evidence on Utilization with Expanded Coverage

The most compelling evidence on how newly insured individuals would increase their utilization would come from comparing representative samples of individuals randomly assigned to insurance coverage or not.[21] N. such study has been conducted, nor is one likely to be conducted (1 89). Instead, researchers infer evidence on differences in utilization among people who are insured or uninsured, or who go in and out of these conditions, from either the Rand Health Insurance Experiment (HIE) conducted between 1974 and 1981 or, more typically, from surveys that collect information on health care utilization from people in various insurance circumstances (e.g., the Health Interview Survey (HIS), the Survey of Income and Program Participation (SIPP), and the National Medical Expenditure Survey (NMES).[22] This section reviews the evidence from these sources.

Numerous studies have looked at differences in utilization between insured and uninsured people. This review relies heavily on a previous report by OTA (189) and on a draft review of existing literature conducted under contract for OTA and for the Library of Congress' Congressional Research

20 The 80 percent increase is not consistent with CBO's generic method for calculating increased utilization (169).

21 Obviously such a study would not be a simple undertaking.

22 Sometimes, analysts informally "combine" both types of information. For example, CBO says that it uses the Rand HIE evidence as a "floor" for responses to becoming insured (169).

BOX 4-5: CBO's Approach to Estimating the Numbers of Newly Insured People Under Reforms Without Universal Coverage

This note from CBO provides additional details on the estimates of the number of additional people who would have health insurance coverage under three legislative proposals. It supplements the information contained in the CBO paper "Estimates of Health Care Proposals from the 102d Congress" (168). All the bills referred to were introduced in the 102d Congress.

H.R. 5502

H.R. 5502, the Health Care Cost Containment and Reform Act of 1992, would reduce the number of individuals with no health insurance through two mechanisms. The bill would extend Medicaid eligibility to all children in families with income under 200 percent of the Federal poverty level and to adults under age 65 in families with income below 100 percent of the Federal poverty level. H.R. 5502 would also establish a new Federal health insurance program for children under 19 years of age.

CBO's estimate of the number of individuals who would become newly insured under this plan is equal to the sum of the previously uninsured individuals enrolling in Medicaid plus other previously uninsured children enrolling in the health insurance program for children.

The number of individuals eligible for these benefits was estimated using data from the March 1991 Current Population Survey extrapolated to the year 2000. All pregnant women and infants who would become eligible for Medicaid and who currently lack insurance are assumed to enroll. The participation rate for all other previously uninsured children and adults qualifying for the Medicaid program is assumed to be 85 percent. In total, 8.6 million previously uninsured individuals would enroll in Medicaid in the year 2000.

The estimate of the health insurance plan for children assumes that 10 to 15 percent of employers who do not now offer health insurance would offer coverage to employees' children through the new plan, and 90 percent of the previously uninsured children with family income in excess of 200 percent of the Federal poverty level would become insured. These figures are based on tabulations by Lewin-ICF that relate the purchase of nongroup health insurance to its cost relative to income. In total, 0.6 million children would become insured for the first time.

H.R. 5919

H.R. 5919 would make a number of changes in the health insurance market for small businesses. The changes would induce some companies to provide health insurance for their workers and cause others to drop insurance coverage. CBO's estimate assumed that these small-market reforms would cause no net change in insurance coverage.

The bill would increase health insurance coverage by allowing the self-employed to deduct their health insurance costs from taxable income. CBO's estimate of the increase in the number of insured people is based on the Joint Committee on Taxation's estimate of the resulting increase in spending on health insurance.

H.R. 5936

In developing its estimates of H.R. 5936, CBO assumed a baseline number of uninsured persons of 40.4 million in 2000. As a result of the low-income assistance and tax subsidies included in the bill, an estimated 20.2 million uninsured people would become insured in that year. The net reduction in the number of people without health insurance in the year 2000 would be only 13.9 million, however, because an estimated 6.3 million people now covered by Medicaid or employer-sponsored group health insurance would lose their coverage. This loss of coverage would occur mainly among current Medicaid recipients whose incomes exceed the level at which a full subsidy would be paid under H.R. 5936 and who would decide not to purchase insurance. In addition, some people who work for firms employing mostly low-wage workers who would be eligible for partial premium subsidies may lose insurance coverage if the firm decides to cease its employer contribution.

BOX 4–5: CBO's Approach to Estimating the Numbers of Newly Insured People Under Reforms Without Universal Coverage (cont'd.)

Of the 20.2 million people estimated to become insured, about 14.7 million would be persons whose incomes made them eligible for a full premium subsidy. People with incomes between 100 and 200 percent of the Federal poverty level would be eligible for a partial premium subsidy and a tax deduction for the portion of the premium that is not directly subsidized. Assuming a price elasticity of demand for basic health insurance of -0.6 and an average marginal tax rate of 15 percent for people who are currently uninsured, an estimated 3.6 million people between 100 and 200 percent of poverty and 1.9 million people with incomes over 200 percent of poverty would be newly insured. These estimates represent about 30 and 15 percent, respectively, of currently uninsured people in these two income ranges.

SOURCE: U.S. Congress, Congressional Budget Office, Mar. 17, 1994 (204). Full citation is at the end of the report.

Service (CRS) by Long and Marquis (91).[23] Selected recent studies not included in the previous OTA and the Long and Marquis reviews are also examined (55,56, 151).

Reviews

U.S. Congress, OTA

In September 1992, OTA published a comprehensive review of the association between being uninsured or insured on patients' use of health services (1 89).[24]

OTA's review of available multivariate studies[25] found that, in the aggregate, uninsured people used health services at approximately 30 to 100 percent the rate of privately insured individuals, and at approximately 10 to 50 percent the rate of publicly insured individuals, depending on the study. Further, OTA found that uninsured people had less access to more intensive, relatively high technology, expensive services. OTA's findings support analysts' assumptions that uninsured people typically use fewer services and incur fewer expenditures than insured people, and that the gap is considerable.

Given the limitations of available data and studies, however, OTA could not conclude that there was a causal relationship between health insurance and utilization. Other factors, not well controlled for in studies, could potentially influence both patients' and health care providers' decisions about the use of health services (e.g., availability of health care services, income, patient and provider attitudes and beliefs, and unmeasured health characteristics).

OTA's review provided little indication of what newly insured people might do once they obtain insurance. Finding that insured and uninsured people use services differently, or that previously insured people who lose their coverage use fewer

[23] The Long and Marquis analysis referred to in this report is being prepared under contract to OTA and CRS in connection with another OTA assessment (*Technology, Insurance, and the Health Care System*) and in connection with CRS's continuing responsibility to provide Congress with advice on health financing issues. The paper by Long and Marquis will be printed jointly by CRS and OTA.

[24] The main purpose of OTA's September 1992 review was to determine whether having health insurance made a difference to Individuals' health outcomes, as opposed to their health-scm ice-related expenditures. The fact that there were almost no studies that directly tracked the effects of health insurance status on health outcomes, controlling for other appropriate factors, required OTA to try to trace potential effects of health insurance status on health care utilization.

[25] Multi variate studies use observational data but control statistically for factors that could potentially account for differences in the variable of interest, In the studies that OTA reviewed in 1992 and that are of interest in this report, the variable of interest was use of health services. Potential confounding variables included such factors as income, health status, gender, ethnicity, and availability of services. Not all multivariate studies controlled for the same potential confounding factors (189).

services, does not necessarily indicate the quantity or cost of services that individuals might use once they are covered. OTA's analysis of the population of people who are uninsured found that they are a very diverse group in terms of health status, age, income, employment, education, family composition, ethnicity, residence (i.e., metropolitan versus nonmetropolitan area), and region (i.e., West, South, Midwest, Northeast). This diversity suggests that a range of responses to obtaining insurance coverage could be expected.

Long and Marquis, in press

In preparation for their own analyses of available data (see below), Long and Marquis reviewed past studies of estimates of the gap in utilization between insured and uninsured people. The studies were published between 1982 and 1992, and had used survey data from 1976 through 1987. The studies differed in many respects, including their definitions of insured and uninsured populations and the way in which they measured utilization (91). Not surprisingly, Long and Marquis found that studies differed widely in their estimates of the access gap. Depending on the study, uninsured people had from 46 to 100 percent as many ambulatory encounters as insured people,[26] and obtained 31 to 81 percent as many inpatient hospital services as insured people. In the context of estimating the costs of covering uninsured people, this wide range of estimates could be of considerable concern. As noted above, the larger the gap, the greater the estimated additional resource cost of universal access (91).

Long and Marquis' examination of the past literature led them to hypothesize that differences among past studies could possibly be attributed to one or more of the following factors:

- studies were done at different times and there were changes over time in uninsured people's use of services relative to insured people's use of services,
- different populations or different control variables in the analyses,
- different definitions of health care use,
- different definitions of insurance and lack of it,
- different data collection methods (91).

Studies

Rand HIE results

The Rand HIE is the largest experimental study of people with health insurance, although it has a number of limitations (118,191). Its biggest limitation may be that, except for one year in one site (1 17), no one in the experiment lacked health insurance.[27] According to the Rand HIE study team,

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26 Ambulatory encounters were defined differently in different studies.

27 In the Rand HIE, approximately 5,800 persons in six sites (Dayton, Ohio; Seattle, Washington; Fitchburg and Franklin County, Massachusetts; Charleston and Georgetown County, South Carol ina) were randomly assigned, for 3 years or 5 years, to one of over a dozen fee-for-service health insurance plans. In Dayton, Ohio, in the initial year of the study, some research participants were uninsured. In all other sites and at all other times, research participants had health insurance, although coverage varied in terms of patient-cost-sharing requirements (1 I 8,191).

"Strictly speaking, our results have nothing to say about uninsured individuals" (118).[28,29]

Spillman, 1992

Spillman used data from the 1980 National Medical Care Utilization and Expenditure Survey (NMCUES)[30] to estimate how being uninsured affects utilization of "basic" health care services (151). Spillman defined *basic health services* as emergency visits to hospital emergency departments, nonemergency services in hospital emergency departments and other ambulatory settings, and inpatient hospital services. Spillman's analysis differed from many others primarily because she used various State- and county-level variables, including county-level supply of primary providers of services, to control for factors affecting market price and access to services.[31]

Spillman found that:

- Uninsured men, women, and children who use services had only 70 to 80 percent as many nonemergency ambulatory visits as their insured counterparts.
- Uninsured men and women had slightly less than two-thirds the expected visits to hospital emergency rooms[32] of their insured Counterparts, but children's visits did not differ by insurance status.
- Uninsured men, women, and children were only 24 to 30 percent as likely to have any hospital admissions as their insured counterparts.[33]

Long and Marquis, in preparation

In an unprecedented effort to try to narrow the range of estimates, Long and Marquis used data from a range of surveys (i.e., the HIS, NMES, SIPP) and applied similar statistical methods to the dissimilar surveys.

Long and Marquis's analysis suggests the following:

- In a single year, adults reporting a complete lack of health insurance have 61 percent as many ambulatory health services contacts (that is, contacts with a physician or other medical provider working in a physician's office or clinic, including a visit to a doctor's office, a clinic, or hospital emergency room, and telephone contacts with a physician's office) and 67 percent

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28 Some argue that the experiment's condition in which family members were obligated to pay 95 percent of the fee for each health care service (e.g., visit to a physician, x-ray) is functionally equivalent to being uninsured. But the fact that people who are reimbursed even 5 percent of health care charges, especially with an income-adjusted annual out-of-pocket maximum, makes this conclusion tenuous. In addition, there were other factors that made these study participants different from the typical insured or uninsured person (e.g., their physicians knew that the patients were in a major national study).

29 The Rand HIE does have some evidence on how insured people respond to the likelihood of decreased coverage. Newhouse and colleagues compared utilization and expenditures in the year prior to the experiment (the "accounting year") to the first year of the experiment. In addition, they examined differences among groups covered for 3 and 5 years, and spending after families exceeded their annual maximum dollar expenditures. Newhouse and colleagues found no statistically significant increase in average expenditures during the first year of coverage, that the 3- and 5-year groups did not differ measurably, and that spending after exceeding the out-of-pocket maximum did not rise above the "free plan'" rate. They concluded that "In general, transitory effects for medical services were weak...." The same was not true, however, for dental services "Dental utilization on the lower coinsurance plans, especially on the free-care plan, was markedly higher in the first year than in subsequent years" (11 8). There was also an effect for mental health services (11 8). Unfortunately, however, Newhouse and colleagues do not report results separately for people who were completely uninsured before the experiment began. Information on this group would have been useful in the current debate.

30 NMCUES was the predecessor to the 1987 NMES.

31 Spillman's analysis also controlled for factors such as health status (including pregnancy), age, race or ethnicity, education, and income.

32 *Emergency visits* were defined as hospital emergency room visits for which the respondent reported that treatment 'as 'ceded within a few hours (15 I).

33 Average days per admission were found to be less responsive to price than the probability of admission, and the results varied by age and gender (15 1).

as many hospital days in the year as people with health insurance coverage all year.
- Children lacking health insurance had 70 percent as many ambulatory contacts and 81 percent as many inpatient days as children with coverage all year.

Long and Marquis point out several factors that they were unable to resolve that could increase or decrease their estimates of increased utilization by previously uninsured people. For example, Long and Marquis tested the impact of using more complete health status measures (e.g., number of chronic conditions) than the typical measure of perceived health status,[34] and found that the use of such measures would increase by about 10 percent their estimate of the number of ambulatory contacts that uninsured people would use once they were insured, and slightly increase their estimate of the number of inpatient services that uninsured people would use once they became insured.[35] In contrast, Long and Marquis concluded that their estimate of insurance-induced demand could be 50 percent too high if other unobserved differences between insured and uninsured people meant that previously uninsured people use services at 85 percent the rate of those who were previously insured.

Hafner-Eaton, 1993

Hafner-Eaton's analysis of data from the 1989 National Health Interview Survey examined only the likelihood of a person having made any physician visits during the previous 12 months (55). Hafner-Eaton theorized that initial physician visits are more patient-initiated than are follow-up visits and are therefore more sensitive to insurance status differences. According to Hafner-Eaton, "If patients are able to obtain some care, they have passed the threshold of such utilization determinants as their own perceptions, physician screening, geographic supply barriers, and so forth" (55). Hafner-Eaton's analysis also controlled statistically for a number of factors other than insurance status that could affect use of physician services. In addition to the variables that most researchers control for (gender, age, ethnicity, and perceived health status), Hafner-Eaton simultaneously controlled for functional health status,[36] comorbidities, region, metropolitan statistical area, and household head's education. Hafner-Eaton provided results for three different groupings of survey respondents: 1) those reporting chronic conditions (who may or may not also have had acute conditions); 2) those reporting acute illnesses during the 12-month period, but reporting no chronic conditions; and 3) those reporting neither chronic nor acute conditions (designated the "well" people). Hafner-Eaton's findings apply to people under 65.

Hafner-Eaton found that, overall, uninsured people were fifty percent as likely as insured people to have had an initial physician visit. Taking into consideration that Hafner-Eaton defined the insured population to include people with either private or public coverage, this estimate is roughly similar to that of other researchers. Hafner-Eaton's findings are also consistent with others in that uninsured individuals perceiving themselves to be in poor health had more visits than uninsured people in good health, but that uninsured persons reporting acute illnesses were less likely to go without care than both uninsured chronically ill individuals and uninsured well persons.

Hahn, 1994

Hahn's recently published article based on NMES also reports findings roughly consistent with other analysts (e.g., Long and Marquis (91)). Hahn examined data only for adults ages 18 to 64, used relatively complex measures of utilization (e.g., reactive versus proactive visits) and insurance sta-

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[34] Perceived health status is measured by questions such as "In general, would you say that your health is excellent, good, fair, or poor?"

[35] The increase in inpatient services was not quantified.

[36] *Functional health status* was not further defined, and results in Hafner-Eaton appear to be presented only for perceived health SlatUS.

tus (see table 4-6), and controlled for health status using only perceived health status. Hahn controlled for sociodemographics using family income and education, but did not include controls for region or residence (i.e., metropolitan area versus nonmetropolitan area).

Hahn presented her findings in terms of the expected additional (or fewer) visits or hospital nights that could result from extending full-year private insurance coverage to uninsured people. Hahn estimates that, on average, reactive physician visits would increase 69 percent (from 1.6 visits per patient per year to 2.7 visits per patient per year), preventive visits would increase 60 percent (from .204 visits per patient per year to .327 visits per patient per year), and hospital nights would increase 83 percent (from .331 nights per patient per year to .606 nights per patient per year). In contrast, Hahn found that physician visits and hospital nights for people with Medicaid coverage could decrease if they received private coverage instead.[37]

Evidence on Expenditures with Expanded Coverage

As described earlier in this chapter, analysts who calculate the costs of covering uninsured people under particular reform proposals may take somewhat different statistical approaches. The researchers who have done estimates of costs of covering uninsured people under a universal coverage scheme, although not in the context of particular reform proposals, also take differing statistical approaches. For example, the Long and Marquis and Spillman estimates described below first estimated differences in utilization as described above, and then assigned expenditures to services that were: 1) used previously and 2) expected to be used under universal coverage.[38] In contrast, the third study reviewed here only uses survey data on expenditures for health services by insured and uninsured individuals without first estimating utilization differences (198). This section reviews conclusions of three studies of estimated costs of covering previously uninsured people.[39]

Spillman, 1992

Following her analysis of differences in utilization of physician and hospital services (see above), Spillman asked, "What is the monetary cost of the additional resources that would have to be committed to health care if the uninsured were to use basic services on a par with the insured?" To arrive at this estimate in 1989 dollars, Spillman adjusted utilization differentials for nonemergency ambulatory and inpatient care using:

- estimates of the percentage of persons uninsured for any part of 1987 (the most recent year for which such estimates were available when she did her analysis),
- the average share of the year spent without insurance computed from NMCUES data,
- population estimates by age, and
- per capita spending data derived from HCFA'S 1984 and 1989 National Health Accounts.[40]

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37 This is an interesting example of a situation in which, although utilization maybe lower under private coverage, expenditures are likely to be higher, because of relatively low Medicaid provider payment rates (56).

Ix Only two studies described in the "utilization" section above went on to estimate the costs associated with reducing the gap in utilization between insured and uninsured people.

39 Some have made the argument that covering the currently uninsured would lead to cost Savings because the care received by uninsured people is often of a more expensive, emergency nature. However, no analyst has made this assumption.

40 Spillman used a complicated method to compensate for several deficiencies (relative to her goals) in the HCFA and NMCUES data (e.g., the fact that national health accounts do not include separate estimates for individuals younger than 65, for adults separately from children, or for outpatient against inpatient hospital spending). Spillman notes several implicit and explicit assumptions that arise from the methods she used (e.g., that spending ratios for elderly and nonelderly people were roughly the same in 1984 and 1989; that spending is approximately proportional to utilization; that being uninsured affects the probability of use by children but not average use once admitted to the hospital; and that ratios of inpatient to outpatient care in community hospitals are similar to those for all hospital spending) (151).

TABLE 4–6: Additional Methodological Details in Studies on Differences in Utilization of, and Expenditures for, Health Services by Insured and Uninsured People[a]

Study cited in source of evidence	Type of health insurance for which relevant	Measures of utilization used
Selected original studies		
Spillman, 1992	Health insurance on average	Emergency visits to hospital ED, nonemergency services in hospital EDs and other ambulatory settings; inpatient hospital services[b]
Long and Marquis, in preparation	Private employer-sponsored coverage; adjusted for all versus partial - year coverage	Numbers of ambulatory encounters and numbers of inpatient days, ambulatory services Included contacts with physiclans in their offices and clinics, as well as, to the extent it was able to be differentiated, outpatient hospital services
AHCPR, December 1991	Any private insurance or public insurance[c] but no private Insurance versus persons uninsured throughout 1987	*Expenditures for personal health services.* direct expenses Incurred for hospital stays, emergency room and outpatient clinic visits, ambulatory physician visits, nonphysician ambulatory care, dental visits, prescription medicines, home health care, and other items (e.g., medical equipment and supplies)
Hafner-Eaton, 1993	Any private insurance, Medicaid, Medicare, military coverage (e.g., CHAMPUS); the category uninsured was a residual	Llkelihood of a person having any physician visits during the previous 12 months
Hahn, 1994	Five mutually exclusive Insurance groups created from the data. 1) uninsured for the full year, 2) private Insurance for the full year, 3) private insurance for part of the year and uninsured for the remainder; 4) Medicaid coverage for the full year, and 5) Medicaid coverage for part of the year. Privately Insured Included military coverage (e.g., CHAMPUS) Study sample of persons with public Insurance Included only those covered under AFDC or a similar program, and excluded people who had coverage because they were sick and disabled (e g., medically needy Medicaid coverage).	Three types of medical care visits *Reactive ambulatory* measured using the sum of 3 variables (1) number of outpatient hospital visits to a physician, 2) number of medical visits not in an outpatient hospital setting to a physician; and 3) number of visits to an emergency room) only if the reason for the visit was not preventive or proactive, *Preventive or proactive,* measured using same 3 variables as reactive visits, but counted as prevent we or proactive if identified as a vision exam, maternity care visits, immunization, or general checkup not associated with a condition; *Hospitalization,* measured as 1) number of hospital stays, 2) number of nights spent in the hospital

TABLE 4–6: Additional Methodological Details in Studies on Differences in Utilization of, and Expenditures for, Health Services by Insured and Uninsured People[a] (cont'd.)

Study cited in source of evidence	Type of health insurance for which relevant	Measures of utilization used
Reviews		
OTA, September 1992	Varied; studies did not provide enough information to distinguish among scopes and depths of coverage	*Utilization* Patient reports of having a usual or regular source of care, and of foregone or delayed care, physician visits, inpatient hospital stays, use of clinical preventive services. Process *of care* Hospital length of stay, cost of hospital care, number of procedures, types of procedures, negligent adverse events, patient satisfaction with process of care,
Long and Marquis, in preparation (review portion)	Varied	Ambulatory encounters (probability of an ambulatory contact, plus number of contacts, combined)[d], Inpatient hospital services (probability of an inpatient stay plus length of stay, combined)

KEY: AFDC = Aid to Families with Dependent Children, AHCPR = U S Department of Health and Human Services, Public Health Service, Agency for Health Care Policy and Research; CHAMPUS = Civilian Health and Medical Plan of the Uniformed Services ED - emergency departments NA= not applicable or not available, OTA – U S Congress, Off Ice of Technology Assessment

[a]Study results are shown in table 4-2

bSpillman used the two-part model of utilization made standard after the Rand Health Insurance Experiment

[c]Persons with public insurance include those with Medicaid, Medicare, CHAMPUS and State and local medical assistance programs (198)

dAmbulatory encounters can include phone calls or visits to physicians' or other providers Offices or **visits to hospital** outpatient departments Surveys do not always distinguish among these types of encounters and settings for encounters and studies using surveys do not always define their terms clearly

SOURCES Off Ice of Technology Assessment, 1994 based on sources as shown Full citations are at the end of this report

Spillman projected the incremental cost of closing the service gap at $25.7 billion in 1989 dollars ($41.4 billion in 1994 do11ars) (151), an increase by or on behalf of previously uninsured people of approximately 165 percent.[41] Spillman's estimate amounts to 3.9 percent of NHE, using a baseline of $664 billion for 1989, and is higher than estimates from the other two studies reviewed here (OTA calculation, based on baseline from CBO (168)).

In its November 1993 publication on behavioral assumptions, CBO comments that the Spillman analysis probably overstates the increase in expenditures because of the way Spillman defined the uninsured population: "By excluding those who received some public benefits under various programs, she excluded the only segment of the uninsured population that has significant health care expenses" (169). As a result, Spillman's estimate of expenditures on behalf of uninsured people was atypically low.

As noted above, CBO estimated that baseline spending by uninsured people was approximately $35 billion in 1991 ($46.6 billion in 1994 dollars, by OTA's calculation (165)). By comparison, Spillman estimated that baseline spending by uninsured people was $15.6 billion in 1989 ($1 *8.9* billion in 1991 dollars, and $25.2 billion in 1994 dollars, by OTA's calculations (151)). The difference between CBO'S approach and Spill man ap-

41 That is $25.7 in new spending/$15.6 in spending at uninsured utilization level=1.65.

preach suggests the importance of understanding how the uninsured population is defined for estimates of incremental costs of covering uninsured people. It is also important to understand that Spillman's total applies to a smaller portion of personal health care expenditures than the analysts' estimates (see table 4-5).[42]

Long and Marquis[43]

Long and Marquis converted estimates of differences between insured and uninsured people into predicted units of ambulatory and hospital inpatient services (i.e., numbers of ambulatory encounters and numbers of inpatient days) for uninsured people, and used the predicted units to calculate the potential cost of covering the uninsured (91).

As did Spillman's, Long and Marquis's cost information came primarily from the HCFA National Health Accounts (86), and their estimates of aggregate use came from the HIS.[44]

Long and Marquis concluded that, if previously uninsured people were insured with a typical employment-based policy, they would incur an additional $19.9 billion in payments to physicians and hospitals in 1993 alone ($21.9 billion in 1994 dollars, as calculated by OTA) (91). Long and Marquis estimated that this increment is equal to 2.2 percent of projected baseline 1993 NHE.[45]

In addition to noting uncertainties that could affect their estimates of utilization, Long and Marquis noted other uncertainties that could affect their estimates of the costs of covering uninsured people (91). In 1993 dollars, Long and Marquis estimate that incremental costs could range from $16 billion to $29 billion.

AHCPR Analysis of NMES, 1987

The National Medical Expenditure Survey (NMES) is the basic source of information on expenditures that most analytical groups use to make projections of the costs of more complete insurance coverage. In a 1991 report, analysts at the AHCPR analyzed the NMES data and found that "differences in health care use and expenditures according to insurance coverage remained when economic status, ethnic/racial background, and health status were considered separately" (198).

The NMES results suggest that individuals under 65 who were uninsured all year incurred average total expenditures of $915 per user, compared with an averageof$1,316 for people with any private insurance all year, and $2,619 for people with public insurance only. Thus, prior to adjustments for other factors likely to affect the use of services, uninsured individuals who used services incurred costs that were 69 percent of those incurred by people with private insurance, and 35 percent of those incurred by people with public insurance only.[46] Thus, to bring expenditures of the average uninsured health care user to the level of a privately insured health care user would increase expen-

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42 Physician and hospital services account for about 65 percent of personal health care expenditures, and 60 Percent Of overall NHE (83).

43 See previous note on the Long and Marquis analysis.

44 Other sources of data were also used. For example, charges per inpatient day for privately insured patients compared with self-pay or no-charge patients were derived from AHCPR's Hospital Cost and Utilization Project, adjusted by data on days per discharge from the 1990 National Hospital Discharge Survey (9 I).

45 Adding baseline expenditures to the increment] costs of covering uninsured people for physician and hospital services would result in total spending on physician and hospital services of $67.0 billion (in 1994 dollars). As an example of what gross premium costs might be, Long and Marquis assumed that "other professional" services and prescription drugs might be covered under a universal coverage proposal, and that adding those services, adjusting for coinsurance (which would decrease premium costs), and adjusting for "administrative load" on the insurance premiums (which would increase premium costs at about the same amount that patient cost-sharing would decrease, according to Long and Marquis) could result in gross premium costs of $77.0 billion in 1994 dollars (table 4-3).

46 OTA calculations based on table 1 in AHCPR's report (198).

ditures an average $401 per user, a 44 percent increase on average.[47]

Findings and Policy Implications

Findings

Tables 4-3 and 4-5 earlier in this chapter present analysts' estimates of incremental or total health spending for newly insured people under universal coverage proposals, alongside results from empirical research on the same topic,[48] Table 4-4 presented key assumptions used by the analysts and the researchers.

These summary tables highlight three issues:

- Many analyses do not report dollar estimates of the incremental or total costs of covering newly insured people but some estimates are available (e.g., Lewin-VHI (89); CBO (165)).
- While the available estimates are all similar in direction (i.e., covering uninsured people will add to national health expenditures under reform), they appear to vary a great deal from each other in magnitude, even for the same proposal (from $28.4 billion (89) to $83.6 billion (Clinton Administration, based on OTA's calculation) (both figures are in 1994 dollars, as calculated by OTA). The greatest difference between these estimates can probably be explained, at least in part, if one knows that the Clinton Administration included part of the costs of previously uncompensated (i.e., cost-shifted) care in their estimate of new spending for previously uninsured people, while the other analyst included an estimate of cost-shifted care in their estimates of *baseline* spending by uninsured people.[49] Both analysts subtracted some of the cost-shifting elsewhere in their NHE analyses. Other differences between analysts' estimates appear to stem primarily from the type and scope of insurance coverage that is assumed under reform,[50] and policy parameters for patient cost-sharing requirements.
- Research studies support analysts' conclusions that adding new people to the insurance rolls will increase national health expenditures, but the two available studies also vary from each other ($17.6 billion to $41.4 billion in incremental costs (in 1994 dollars, as calculated by OTA)). The two research estimates would naturally tend to be lower than estimates associated with reform proposals because the research estimates generally apply to a smaller portion of personal health and national health expenditures.

Without access to the analysts' models or documentation, it is only possible to explain differences among analysts' estimates qualitatively; it is not possible to reconcile them.

In summary, all available evidence suggests that providing coverage to uninsured people is likely to increase national health expenditures under reform. Some of the differences among estimates can be explained, at least in part, through a relatively close examination of the assumptions underlying the analysts' and researchers' estimates. However, it is not possible for OTA to select or calculate a specific dollar figure as the correct incremental (or total) cost of covering previously uninsured people under reform.

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47 Not all Uninsured people use services. According to AHCPR'S analysis of the NMES, 63.7 percent of uninsured people and 87.3 percent of privately insured people used services in 1 987. *(Uninsured* was defined as uninsured all year).

48 As discussed in chapter 1, OTA uses the terms *analyst* and *analyses* in relation to estimates of specific proposals for health reform. Empirical research studies are estimates of the costs of covering uninsured people, having no specific reform proposal in mind.

49 CBO does not provide separate dollar figures on costs of covering uninsured people, but, as discussed above, it appears to have included uncompensated care and public spending m its base figures for the Health Security Act (172).

50 For example, Lewin-VHI assumes an extrapolation" of current coverage (89), and the Clinton Administration (and CBO (172)) assume the expanded benefit package under the Health Security Act.

Policy Implications

As noted above, analysts predicting the impact of reform on NHE do not always report information about the component of the change in NHE that derives from the potential cost of covering uninsured people. Analytical groups may require clear guidance from Congress about whether Congress requires such discrete estimates.

If Congress is interested in having analysts report separately projections of the potential costs of covering uninsured people, it will likely have to determine the types of information that it will find most useful. Are estimates of the cost of covering uninsured people under assumptions of current policy (i.e., with no other aspects of reform embedded) sufficient? Or do policy decisions require analysts to integrate into their estimates of costs of covering uninsured people the potential effect of other aspects of reform, such as the proposed benefit package? How should current cost-shifting be treated?

Effects of Administrative Changes Under Reform

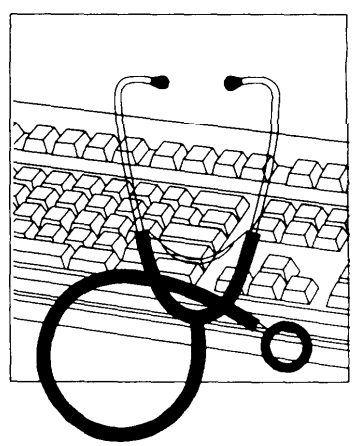
5

Proponents of many health reform proposals in the 103d Congress claim that their bill will generate administrative savings. Examples include:

- The American Health Security Act of 1993 (S. 491) "would simplify and streamline the administration and financing of health care, and administrative costs would drop dramatically" (193).
- The Health Equity and Access Reform Today Act of 1993 (S. 1770) "establishes standardized forms and electronic information reporting and exchange requirements to eliminate bureaucratic red tape and reduce administrative costs and burdens" (194).
- The Health Security Act (S. 1757) would "lower administrative costs. . . [by] cutting through the paper jungle generated by some 1,500 insurance companies, and stripping away conflicting regulations imposed by a variety of federal, state, local and private agencies" (208).
- The Managed Competition Act of 1993 (H.R. 3222) would achieve "cost savings. . . through enhanced competition among health plans, malpractice reforms, electronic claims processing and administrative simplification" (187).

Some analysts have projected large administrative savings under certain reform proposals, further highlighting the importance of assessing the assumptions behind estimates. One analyst, for example, estimates that $113 billion in administrative savings could be achieved in reduced insurer and provider overhead if the United States adopted a Canadian-style single-payer system (107).

This chapter addresses the two policies that underlie most estimates of administrative costs under reform-adopting a single-



payer system and reforming the private insurance market. Analysts believe that a single-payer system may reduce administrative costs by replacing private insurers with a single payer (i.e., the government), and thus eliminate the overhead of private insurers and reduce the overhead of health care providers. Analysts estimate that reform of the private insurance market may reduce administrative costs by allowing small firms to purchase insurance through purchasing pools and limiting underwriting (an insurance company's determination whether and on what basis it will accept an application for insurance). However, these savings could be offset, to some extent, by administrative costs for new programs associated with pooling and related policies, such as health alliances or health plan purchasing cooperatives, and a national health board to establish a standard benefits package.

Other reforms also may affect administrative costs, such as requiring uniform paper claim forms or standardized electronic claim formats. Analysts do not feature these factors prominently in their analyses, if they consider such secondary factors at all, estimating they would produce only small savings. Accordingly, this chapter does not concentrate on these secondary factors beyond stating that there is little reliable evidence on potential savings from uniform claim forms and electronic claims processing.

Although frequent references are made to administrative waste in the current health care system, administrative spending can produce services that are viewed as valuable. Administrative costs for hospitals, for example, can be defined to include utilization review, assessments of the appropriateness of care, and patient information systems, all of which may improve the quality of care. This chapter examines administrative costs as viewed in analyses of proposals by the following organizations or individuals: the Clinton Administration (32, 202), the Economic and Social Research Institute (ES RI) (107), Grumbach et al. (50), Lewin-VHI (87,89), the Congressional Budget Office (CBO) (165,168,172), the General Accounting Office (GAO) (178), and Woolhandler and Himmelstein (212). Analysts from these organizations appear to include in their definitions of administrative costs private insurance load (usually regarded as the difference between premiums and claims paid), the costs of operating public programs related to the delivery of health services, and provider overhead (usually hospitals and physicians).[2]

What analysts include in these three specific categories differs, however, and affects their estimates of the impact of reform. For example, while other analysts regard private insurance load as the difference between premiums and claims paid (including profit), CBO excludes taxes, which it considers to be an income transfer, and thus not real administrative costs,[3] Excluding taxes lowers CBO'S estimate of administrative savings under a single-payer system. Variations in definitions of provider overhead are greater still, as outlined below, and contribute to wide ranges of estimated savings under reform.

Analysts estimate that under a single-payer system relatively large insurer and provider administrative savings could be achieved (ranging from $47 billion to $113 billion in 1991),[4] often based on comparisons with Medicare and Canada's system. Estimates of insurer administrative savings based on the experience of other single-payer systems appear reasonable, though addi-

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[1] Danzon argues that standard accounting measures of administrative costs ignore certain real social costs (24). For example, estimates of public single-payer insurance administrative costs do not include the limited choice of type of insurance coverage.

[2] Employers and individuals also incur administrative costs in the health care system. These costs, however, are not generally estimated by analysts and are not included in national health expenditures (NHE).

[3] CBO estimates these taxes at $1 billion in 1990, based on an unpublished estimate by GAO (165).

[4] The estimate of $113 billion assumes that U.S. health spending as a percentage of gross domestic product (GDP) will fall to Canadian levels. Other high estimates of savings rely on optimistic assumptions about changes in provider activities under a single-payer system.

tional administrative functions (e.g., greater utilization review) may be performed in the United States under a single-payer system. Estimates of provider savings are less certain and vary widely due to an incomplete understanding of the administrative activities of physicians and hospitals.

Analysts project that administrative savings from insurance market reform would be offset partially or completely by new administrative costs growing out of reform, for little net effect on national health expenditures. The evidence supports this conclusion, since potential savings from reduced insurer administrative costs are limited and providers would continue to be reimbursed by a multitude of payers. Several analysts cite studies that compare administrative costs for small and large firms and assume that pooling small firms and limiting underwriting will reduce administrative costs. This assumption is intuitively reasonable, but there is little empirical evidence on the impact of pooling on administrative costs to support it.

This chapter first outlines analysts' assumptions about administrative costs in estimates of reform, focusing on their treatment of proposals that would implement a single-payer system or reform the private insurance market (table 5-1). Next it analyzes the theoretical and empirical evidence related to these assumptions. The chapter concludes with an analysis of the uncertainty surrounding estimates of changes in administrative costs.

ANALYSES OF REFORM PROPOSALS

Analyses of Single-Payer Proposals

Many analysts estimate that large administrative savings could be achieved if the United States converted from the current multipayer system of private insurers and public programs (e.g., Medicare and Medicaid) to a single-payer system. Analysts assume that under such a system, private insurer marketing, eligibility determination costs, and profits would be largely eliminated, reducing insurer overhead. They would be replaced with the overhead expenses of running a single-payer system. Health care providers would deal primarily with one payer, which according to analysts would lower their overhead costs as well. In most single-payer proposals, hospitals would be given budgets, physicians would be paid according to a fee schedule, and there would be no patient cost-sharing,[5] further lowering provider overhead costs, according to analysts.

Although only CBO has analyzed the American Health Security Act (H.R. 1200/ S. 491), a single-payer proposal in the 103d Congress, other organizations have analyzed single-payer systems that have not been written into formal legislation (50,87,107,178,212). Like the American Health Security Act, the other systems analyzed are assumed to have hospital budgets, physician fee schedules, and no patient cost-sharing. CBO'S analysis of the American Health Security Act and five general analyses are presented here to highlight assumptions made about administrative costs under a single-payer system.

These examples illustrate that analysts:

- anticipate large administrative savings under single-payer proposals;
- often project savings based on comparisons with Medicare and Canada; and
- use different baselines for provider overhead under current policy.

The assumptions and conclusions of these analyses are summarized in table 5-2 and figure 5-1.

CBO'S Analysis of the American Health Security Act

CBO estimates that administrative costs would fall considerably under the American Health Security Act (170, 171). Insurer overhead would fall

[5] Patient cost-sharing is the general set of financial arrangements under which a portion of the payment to a provider of health care services is the liability of the patient (may include deductibles, copayments, and coinsurance).

TABLE 5–1: Analyses of the Impact of Health Reform Proposals on National Health Expenditures Reviewed in This Report

Proposal	Analyses[a] Applying government cost controls (chapter 2)	Encouraging managed competition (chapter 3)	Providing universal coverage to uninsured people (chapter 4)	Reducing administrative costs (chapter 5)
American Health Security Act of 1993 (H.R. 1200/S. 491)[b]	***CBO***		CBO	***CBO***
Comprehensive Health Reform Act of 1992 (H.R. 5919)[c]				***CBO***
Health Care Cost Containment and Reform Act of 1992 (H.R. 5502)[c]	CBO		CBO	***CBO***
Health Security Act (H.R. 3600/S. 1757)[b]	CBO Clinton Administration Lewin-VHI	CBO Clinton Administration Lewin-VHI	CBO Clinton Administration Lewin-VHI	***CBO*** Clinton **Administration** **Lewin-VHI**
Health Security Act (H.R. 3600/S. 1757)[b], Lewin-VHI scenario without government cost controls		Lewin-VHI		
Managed Competition Act of 1992 (H.R. 5936)[c]		CBO ESRI	CBO	**CBO**
Managed competition plan, Starr version			Sheils et al	
National health plan, full savings scenario				**ESRI**
National health plan, administrative savings scenario				**ESRI**
Single-payer plan, CBO version with patient cost-sharing			CBO	
Single-payer plan, CBO version without patient cost-sharing			***CBO***	CBO
Single-payer plan, GAO version				GAO
Single-payer plan, Grumbach et al. version				Grumbach et al.
Single-payer plan, Lewin-VHI version				**Lewin-VHI**[d]
Single-payer plan, Woolhandler and Himmelstein version				**Woolhandler and Himmelstein**
Universal Health Care Act of 1991 (H.R. 1300)[c]	**CBO**		CBO	***CBO***

KEY: CBO = U.S. Congress, Congressional Budget Office; GAO = U.S. General Accounting Office, ESRI = Economic and Social Research Institute.

aFull citations for the analyses are in appendix B.

bBill numbers are for 103d Congress.

cBill numbers are for **102d Congress.**

dAnalysis was conducted by Lewin-ICF. The company was acquired and expanded in 1992. For purposes of this report all Lewin analyses are identified as Lewln-VHI

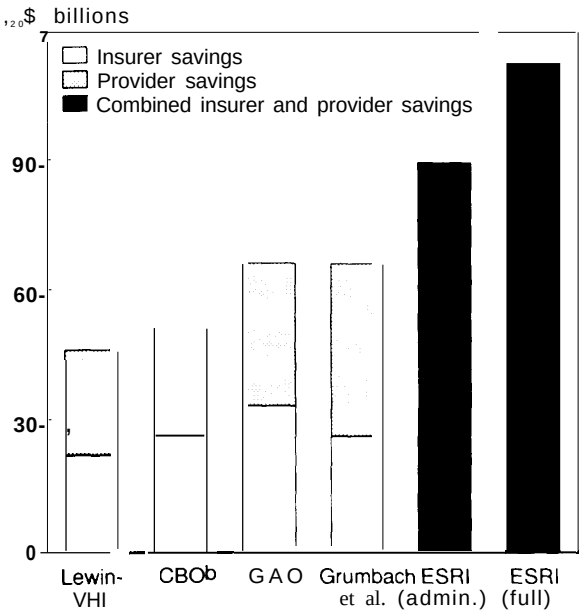
SOURCE: Office of Technology Assessment, 1994.

from the current level of about 7 percent of "covered services" to 3.5 percent and 3 percent under H.R. 1200 and S. 491, respectively.[6] CBO also estimates that provider overhead would be reduced under both bills, stating that "hospitals, physicians, home health agencies, and other health care professionals could save about 6 percent of revenues by dealing with only one payer and eliminating copayments and other billing."[7]

CBO does not explain its assumptions in its December 1993 memorandum, but in a previous general study examining the impact on administrative costs of a single-payer system with no copayments,[8] CBO assumes that insurer overhead would fall to Medicare rates ("about 1.9 percent of the cost of covered services") (165),[9] (CBO estimates total administrative savings of $52 billion in its general study of a single-payer system.) CBO does not state why administrative costs under the American Health Security Act would only approach, but not reach, the level of Medicare. CBO may assume that functions additional to those performed under Medicare would be performed under the act.

CBO defends its assumption of Medicare rates in its general study of a single-payer system. Although some have said that economies of scale in processing claims would yield lower insurer overhead rates for a national system, CBO states that these economies of scale are already fully realized under Medicare. Others have stated that a national system would have higher overhead costs than Medicare. They argue that the size of the average Medicare claim is higher than the national average, yielding low estimates of Medicare administrative costs when expressed as a percentage of total costs. CBO refutes the argument that the size of the average Medicare claim is higher than that

FIGURE 5–1: Estimates of Savings in Administrative Costs Under Six Analyses of a Single–Payer System, 1991



KEY: CBO = U S Congress, Congressional Budget Off Ice ESRI= Economic and Social Research Institute, GAO - U S Congress, General Accounting Off Ice

a Full citations for the analyses are in appendix B. Descriptlons of assumptions behind estimates are m table 5-2

b $S_{ing}l_{e\text{-}payer}$ plan, CBO version without patient cost-sharing

SOURCE Off Ice of Technology Assessment 1994

6 CBO does not state explicitly why the estimates of the two bi lls vary by a half percent, though it notes that S. 491 would prohibit coinsurance or copayments "for all items, " wh i le H.R. 1200 "would prohibit coinsurance or copayments (rely for acute care or preventive services."

7 CBO assumes that nursing homes would also save 6 percent of revenues under S. 491. The estimate of administrative savings under S.491 and its analysis is similar to CBO's **estimate** of H.R. **1300,** a single-payer bill of the 102d Congress, with the exception that administrative costs fall to 3 percent more quickly under S. 491. (168)

8 Referred to in tables 5-1 and 5-2 as *single-payer plan, CBO version without patient cost-sharing*. CBO uses the term copayment to refer to patient cost-sharing.

9 For all services except long-term care, which would be covered by a residual Medicaid program.

TABLE 5–2: Key Assumptions in Estimates of Savings in Administrative Costs Under a Single–Payer System

Proposal	Analysis[a]	Estimate year(s)	Savings in administrative costs ($ billions)	Key assumptions	
				insurer overhead assumptions	Provider overhead assumptions
American Health Security Act (HR. 1200)	CBO	1997-2003	NA	Administrative costs as a percentage of "covered services" would fall from current level of "about 7940" to 3.5% in 4 years [c]	Would fall by 6% of revenues, phased in over 2 years.
American Health Security Act (S. 491)	CBO	1997-2003	NA	Administrative costs as a percentage of "covered services" would fall from current level of "about 770" to 3% in 4 years	Would fall by 6% of revenues, phased in over 2 years
National health plan, administrative savings scenario	ESRI	1991	$90 total	Assumes overall administrative costs would fall from current levels (1 9%-24%) to Canadian levels (8%-11%) but does not assume total health spending would fall to Canadian levels	See "Insurer overhead assumptions. "
National health plan full savings scenario	ESRI	1991	**$113** total	Assumes health spending as a percentage of GDP and overall administrative costs would fall to Canadian levels. Estimates provider and insurer administrative savings together, (Assumes health spending would fall from 12.8% to 8 7% of GDP in 1991.)	See "Insurer overhead assumptions "
Single-payer plan, CBO version without patient cost-sharing	CBO	1991	$52 total ($26.8 insurers, **$25.2** providers)	" assume[s] that the single payer would have Medicare's rate of program overhead costs as a percentage of insured services. In addition, overhead costs for other public programs would continue. "d	*Physician* Assumes physician administrative costs (estimated at 8,3% of revenues) would fall to Canadian levels (2%)[e] Hospital, Assumes hospital administrative costs (estimated at 15% of revenues) would fall to Canadian levels (9%). [f]

TABLE 5–2: Key Assumptions in Estimates of Savings in Administrative Costs Under a Single–Payer System (cont'd.)

Proposal	Analysis[a]	Estimate year(s)	Savings in administrative costs ($ billions)	Key assumptions: Insurer overhead assumptions	Key assumptions: Provider overhead assumptions
Single-payer plan, GAO version	GAO	1991	$67 total ($34 insurers, $33 providers)	"We assumed that the Insurance overhead share of total health expenditures in the United States [5.8% in 1989[g]] was reduced to the proportion obtained in Canada [1.2% in 1987[h]]",	Physician: Assumes physicians would save 10% of current revenues, based on comparisons with Ontario. (Examines differences in non-physician personnel, physician time spent on insurance claims, and outside billing services.) *Hospital:* Assumes hospital administrative costs (estimated at 15.4%) would fall to Canadian level (9.0%)[l]
Single-payer plan, Grumbach et **al.** version	Grumbach et al.	1991	$67 total ($27 insurers, $40 providers)	Assumes insurer overhead (estimated at 5.9% of personal health expenditures in 1987)[j] would fall to Canadian levels (1.4%)[k]	*Physician:* Assumes physician administrative costs (estimated at 8.3%[l] of expenses) would fall to Canadian levels (2%), [m] Hospital; Assumes hospital administrative costs (estimated at 20.2% of revenues) would fall to Canadian levels (estimated at 9.0 Ye). n
Single-payer plan, Lewin-VHl version	Lewin-VHl	1991	$468 total ($22 5 Insurers, $243 providers)	Assumes Medicare per capita overhead, with adjustments for claim level and elimination of hospital billing	Examines Individual provider overhead functions (labor and services not directly related to patient care) and determines which would be reduced under a single-payer system and by how much *Physician:* Assumes physician administrative costs would fall from the current level of 31.6% of revenues to 23.5% of revenues Hospital Assumes hospital administrative costs would fall from the current level of 33.4°A of revenues to 28 7% of revenues,

(continued)

TABLE 5–2: Key Assumptions in Estimates of Savings in Administrative Costs Under a Single–Payer System (cont'd.)

Proposal	Analysis[a]	Estimate year(s)	Savings in administrative costs ($ billions)	Key assumptions	
				Insurer overhead assumptions	Provider overhead assumptions[b]
Single-payer plan, Woolhandler and Himmelstein version (method 1)	Woolhandler and Himmelstein	1987	$83.2 total ($21,7 Insurers, $61.4 providers[c])	Assumes Insurer administrative spending (estimated at 5.1% of covered spending) would fall to Canadian levels (1.2%)	*Physician:* Method 1 is based on physicians' reports of their overhead and billing expenses. Assumes physician administrative costs (estimated at 48.1% of costs) would fall to Canadian levels (34.4%). *Hospital:* Assumes hospital administrative costs (estimated at 20.2% of costs) would fall to Canadian levels (9.0%).[f]
Single-payer plan, Woolhandler and Himmelstein version (method 2)	Woolhandler and Himmelstein	1987	**$69.0 ($21.7** Insurers, $47.2 providers)	Same as method 1.	*Physician:* Method 2 is based on comparisons of clerical and managerial personnel. Assumes physician administrative costs (estimated at 25.1% of costs) would fall to Canadian levels (18.3%). Hospital: Same as method 1.
Universal Health Care Act of 1991 (H.R. 1300)	CBO	1995-2000	NA	Administrative costs as a percentage of "covered services" would fall from current level of "about 7%" to 3% in 5 years.	Would fall by 6% of revenues, phased in over 2 years,

KEY: CBO = U S Congress, Congressional Budget Off Ice, GAO = U S General Accounting Off Ice, ESRI = Economic and Social Research Institute; NA = Not available

aFull citations for the analyses are in appendix B.

bAs noted in text, all estimates Of provider overhead savings may be inpreclse due to difficulties in measuring current U S and Canadian provider overhead

cSeveral of CBO'S assumptions about administrative costs in the H.R. 1200, S. 491, and H R 1300 bills appear to be found in CBO'S April 1993 report (Sing/e-Payer and A//-Payer Health Insurance Systems *Using Medicare's Payment Rates)* It IS not clear, however, why CBO does not assume that Insurer overhead under these bills would fall to Medicare levels as it does in the April 1993 report

dAssumes residual Medicaid program for long-term care

'Physician administrative costs estimates are based on Grumbach et al s 1991 study and relate primarily to billing costs

fHospital administrative costs estimates are based on GAO's 1991 study (1 75) and relate primarily to billing and management Information systems.

9GA0 uses data from "National Health Expenditures 1988, " *Health Care Financing Review 11* (4) 47-48, summer 1990

TABLE 5–2: Key Assumptions in Estimates of Savings in Administrative Costs Under a Single–Payer System (cont'd.)

hGAO uses data from Health and Welfare Canada, National Health Expenditures in Canada 1975-1987 September 1990, pp. 184-185 The comparability of the U.S. and Canadian definitions of Insurer administrative costs is unclear

IHospital administrative costs included are "general accounting patient accounts and admittlng, medical records purchasing and stores and data processing" and are derived from American Hospital Association data for the United States and unpublished data from Health and Welfare Canada for Canada

JGrumbach et al use data from Health Care Financing Administration, "National Health Expenditures 1986 -2000," Health *Care Financing Review* 8(4) 1-36, 1987

kGrumbach et al use data from "National Health Expenditures "Ottawa, Ontario: Health and Welfare Canada, 1990.

IGrumbach et al. use data from an American Medical Association survey Includes billlng expenses only.

'Grumbach, et al use data from written communication with Ontario Medical Association offficial Includes billing expenses only

'Study does not indicate what is Included under hospital administrative costs, but estimates appear to come from the study by Woolhandler and Himmelstein.

'Expense-based estimate of physician overhead. Per capita estimates presented in report were converted by OTA to dollar estimates of total savings to providers and insurers (These numbers do not add up due to rounding) Only thls study (both method 1 and method 2) includes nursing home administrative savings ($4.1 billion of savings attributable to reduced nursing home administrative costs), inflating overall estimates of administrative savings relative to other studies.

PStudy Includes the following hospital administrative costs "hospital administration ("other"), adverting, assoclahon-membership fees, business machines, collection fees, postage, auditing and accounting fees, other professional fees, service-bureau fees, telephone and telegraph, indemnity to board members, travel and convention expenses, medical records and hospital library, and nursing administration "

qPersonnel-based estimate of physician overhead

SOURCE Office of Technology Assessment, 1994

of the population at large, arguing that "the higher costs of the Medicare population are very closely tied to higher claim rates, rather than higher amounts per claim."[10]

Although CBO does not explain its assumptions about provider overhead savings under the American Health Security Act, it appears to take them from its April 1993 analysis of a single-payer system with no copayments (165). In that study, CBO assumes that hospital administrative costs (mostly billing and management information systems) would fall from the estimated current level of 15 percent of revenues to the Canadian level of 9 percent,[11] and that physician billing costs would fall from the estimated current level of 8.3 percent of revenues to the Canadian level of 2 percent. '2

Lewin-VHI's Analysis of a Single-Payer System

In its analysis of a single-payer system,[13] Lewin-VHI estimates that administrative costs would decrease by $47 billion (1991), with the savings coming almost evenly from reduced insurer and provider overhead (87, 147). For insurer overhead, Lewin-VHI assumes that a national system would operate with per capita administrative costs just below the levels of the Medicare program. It estimates administrative costs slightly below Medicare levels because it assumes utilization levels of the Nation population would be lower than those of the population currently covered by Medicare. Also, Lewin-VHI assumes that hospital budgeting would reduce insurer administrative costs of processing hospital claims.

For provider overhead, Lewin-VHI does not make comparisons with Canada, but instead estimates the extent to which individual physician and hospital administrative activities would decrease under a single-payer system. Lewin-VHI appears to base these estimates on its analysts' judgments rather than data. Lewin-VHI defines provider overhead broadly to include all activities other than those directly related to patient care (unlike CBO, which focuses on billing and collection costs). Lewin-VHI estimates that physician overhead would fall from the current level of 31.6 percent of revenues to 23.5 percent, savings of 8.1 percent of revenues. Hospital overhead would fall from 33.4 percent of revenues to 28.7 percent, savings of 4.7 percent of revenues.

Although Lewin-VHI avoids the difficulties in assuming that U.S. provider overhead under a single-payer system would fall to Canadian provider levels, it may add new uncertainty with its judgments about how individual provider functions would change under a single-payer system (which are not based on data). In addition, Lewin-VHI acknowledges the difficulties of determining current administrative costs, pointing to the lack of comprehensive data on provider administrative activities. For estimates of baseline hospital overhead, Lewin-VHI relies on California hospital data. Estimating physician overhead is more problematic still, according to Lewin-VHI, since ''[c]omprehensive data on physician overhead and administrative costs are largely unavailable" (87).

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10 CBO reports that its examination of the National Medical Expenditure Survey for 1987 indicates that average health expenditures per person per year for the aged are 2.8 times higher than the national average, and claim rates (number of claims per person per year) for the aged are 2.5 times higher than the national average.

11 CBO uses GAO estimates of hospital overhead for the two countries (175). This assumption appears to conflict with CBO's critique of the GAO report found in the appendix, however, which states, "... [O]nly about half of the savings estimated by GAO is the result of billing costs for hospitals in the United States that do not exist for Canadian hospitals. The rest might be obtained only if U.S. hospitals discarded the more detailed management systems they currently maintain, and this development seems unlikely."

12 CBO bases these estimates on a study by Grumbach et al. (50).

13 Refereed t. in tables 5.1 and 5-2 as *single-payer plan, Lewin-VHI version.*

Economic and Social Research Institute's Analysis of a Single-Payer System

A study of a single-payer system by the Economic and Social Research Institute (ES RI) predicts that administrative savings could reach $113 billion in the first year of reform, 1991 ("Full Savings Scenario") (107). [14] To arrive at this estimate, ESRI first assumes that health spending as a percentage of gross domestic product (GDP) (12.8 percent in the U.S. in 1991) would fall to Canada's level (8.7 percent), for total savings of $241 billion in 1991. Next, ESRI assumes that administrative costs as a percentage of health care spending would fall from the U.S. level, which it estimates is 19 to 24 percent, to the Canadian level of 8 to 11 percent.[15]

The assumption of this estimate that total U.S. health spending as a percentage of GDP would fall to Canadian levels appears unlikely, and is made by no other analyst. It is one of the key reasons why ESRI estimates very high administrative savings under a single-payer system. Furthermore, ESRI'S estimate of the difference in administrative spending as a percentage of health care spending between the United States and Canada is high and appears to rely on optimistic predictions of how provider behavior would change under a single-payer system.

Under a second single-payer scenario ("Administrative Savings Scenario") that does not assume that total U.S. health spending as a percentage of GDP will fall to Canadian levels,[16] ESRI estimates that $90 billion in 1991 in administrative savings would be achieved. While lower than under the previous scenario, this estimate remains high relative to other studies.[17] ESRI assumes that a single-payer system would operate at Canadian overhead rates, which are lower than Medicare rates, and that all provider activities not directly related to patient care currently performed in the United States but not in Canada would be eliminated.

Woolhandler and Himmelstein's Analysis of a Single-Payer System

Woolhandler and Himmelstein estimate administrateive savings ranging from $69.0 billion to $83.2 billion in 1987 if the United States were to adopt a single-payer system (212).[18] Estimates of insurer savings are based on comparisons of administrative costs for the United States and Canada.

Estimates of hospital overhead savings are also based on comparisons with Canada, using California data for U.S. estimates, Woolhandler and Himmelstein define hospital administrative costs broadly, including such expenses as advertising, medical records, and travel and convention expenses.

In estimating physician administrative savings, Woolhandler and Himmelstein note, "Only indirect or incomplete information is available on the billing costs of Canadian and U.S. physicians. We therefore used two different methods. . ." Their first approach compares U.S. and Canadian physicians reports of professional expenses devoted to administrative activities and contributes to their estimate of $83.2 billion in total administrative

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14 Referred to in tables 5-] and 5-2 as *national health plan, full savings scenario.*

15 These estimates include private insurance, public program, and provider administrative expenses. The source cited for these percentages, "Himmelstein and Woolhandler, 1991 ," is not listed in the report's bibliography. but appears to come from "The Deteriorating Efficiency of the U.S. Health Care System," Woolhandler and Himmelstein.

16 Referred to in tables 5. 1 and 5-2 as *national health plan, administrative saving Y scenario.*

17 ESRI estimates administrative costs as a percentage of NHE would fall approximately 12 percent. Other studies estimate decreased administrative costs as a percentage of NHE at 9.5 percent (50), 9.1 percent (175), 7. I percent (165), and 6.4 percent (147), Percentages (except ESRI) as reported in a CBO April 1993 report (165).

18 W/oolhandler and Himmelstein estimate savings based on comparisons of per capita administrative costs for the United States and Canada. This approach fails to control for differences in the level of spending on health services and may overstate savings (24). Woolhandler and Himmelstein's estimates are also inflated by the inclusion of nursing home administrative savings of $4. I billion. (No other analyst includes nursing home savings.)

savings.[19] Their second approach compares the number of clerical and managerial personnel employed in physicians' offices in the United States and Canada and contributes to their estimate of $69.0 billion in total savings.[20]

Grumbach et al. 's Analysis of a Single-Payer System

Grumbach et al. estimate $67 billion in savings in administrative costs in 1991 (50).[21] They assume that insurer overhead expenses would fall to Canadian levels. For hospital administrative savings, Grumbach et al., like Woolhandler and Himmelstein, use California hospital data and make comparisons with Canada. For physician administrative savings, Grumbach et al. compare billing costs only for the United States and Canada, using a survey of the American Medical Association for U.S. estimates.

GAO's Analysis of a Single-Payer System

GAO estimates $67 billion in 1991 in insurer and provider administrative savings under a single-payer system based on comparisons with Canada (178).22 GAO assumes insurer overhead as a percentage of NHE will fall to the levels of Canada's system.

GAO estimates provider savings based on data it analyzed on U.S. and Canadian hospital and physician administrative costs. For hospital overhead savings, it assumes billing and management information system costs would fall to Canadian levels. For physician overhead savings, it assumes that time spent by physicians in billing, expenses for outside billing services, and nonphysician personnel levels would fall to Canadian levels.

Analyses of Proposals That Reform the Private Insurance Market

Analysts have estimated that reforming the private insurance market by pooling firms into large purchasing blocs and limiting underwriting would generate administrative savings (88,89, 168,21 4). The pooling of firms is assumed to lower administrative costs by reducing sales expenses and facilitating economies of scale in providing insurance to small employers. Limiting underwriting is assumed to lower administrative costs by reducing insurers' expenses in determining the health status of insurance applicants. If reforms stabilize the insurance market, employers may change insurers less frequently, thereby lowering enrollment expenses. Some analysts conclude, however, that certain new administrative costs would be incurred underinsurance market reform, such as for forming health alliances or health plan purchasing cooperatives.

Three organizations' analyses of the Health Security Act are presented here as examples of assumptions about the effect of insurance market reform on administrative costs.[23] The examples illustrate that analysts:

- may estimate savings from pooling and 1imiting underwriting, although these savings are partially or completely offset by new administrative costs, yielding a small net change; and
- are sometimes unclear in their assumptions about administrative costs.

Lewin-VHI's Analysis of the Health Security Act

Lewin-VHI estimates that changes in administrative costs under the Health Security Act would

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19 Referred to in table 5.2 as *single-payer plan, Woolhandler and Himmelstein version* (method 1).

20 Referred to in table 5-2 as *single-payer plan, Woolhandler and Himmelstein version* (method 2).

21 Referred to in tables 5-1 and 5-2 as single-payer *plan, Grumbach et* a/. *version.*

22 Referred to in tables 5- I and 5-2 as *sing/e-payer plan, GAO version.*

23 For general discussion of how administrative **costs may change under reform, see GAO's May 1994** report (GAO/HEHS-94-158), "Health Care Reform: Most Proposals Have Potential to Reduce Administrative Costs," and the American Academy of Actuaries' May 1994 issue paper, "Administrative Costs for Regional Alliances and Health Plans Under the Health Security Act."

have relatively little impact on total health spending. According to its analysis, administrative costs under the Health Security Act would increase by $6.9 billion in 1998, or just 0.5 percent of what Lewin-VHI estimates total health spending will be then.

Lewin-VHI assumes the Health Security Act would reduce insurer administrative costs by "1) reducing the practice of medical underwriting; 2) restricting pre-existing condition limitations; and 3) reducing large premium variations across insurers that often lead to frequent changes in coverage" through pooling (89). It estimates that small-firm insurance load would approach the average load of large firms, using as its baseline a Hay/Huggins study comparing administrative costs for small and large firms under current policy. Lewin-VHI projects that insurance load spending by employers would decrease by 30 percent.[24] It also estimates small provider administrative savings due to standardized insurance benefits and reduced physician adjudication expenses.

Lewin-VHI estimates that insurer and provider administrative savings would be offset by the costs of alliances and new federal administrative costs. To estimate alliance administration costs, it assumes that there would be, on average, one alliance per one million people, or approximately 255 alliances. Each alliance would have a staff of 200 persons at a cost of $100,000 per person, or $20 million per alliance. Lewin-VHI does not explain how these assumptions were developed. For new federal administrative costs, Lewin-VHI uses estimates by the Administration.[25]

Clinton Administration's Analysis of the Health Security Act

The Administration does not appear to estimate administrative costs separately under the Health Security Act. Instead, it projects NHE based on legislated or expected growth rates of insurance premiums, expenditures in government programs, and other expenditures. The act, however, makes two specific references to administrative costs. The first is that health alliance administrative costs are limited to 2.5 percent of premiums.[26] The second is that for the first year up to 15 percent would be added to the calculated cost of the standard benefit package for the administration of health plans and health alliances and for state premium taxes .27

In estimates of federal spending under the Health Security Act, Administration officials have included small increases in spending for new federal administrative costs (32).[28] (It is not clear, however, what federal administrative costs the Administration includes in its estimates.)

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24 Specific administrative costs examined were claims administration, general administration, interest credit, risk and profit, commissions, and premium taxes. Lewin-VHI estimated administrative costs savings using a similar approach in its 1992 study of the "Bush plan." In that study, Lewin-VHI estimated that insurance overhead as a percentage of claims for firms with one to four employers would fall from 40 percent under current policy to 18.9 percent under the Bush plan (versus 12.5 percent under the Health Security Act). Although Lewin-VHI estimates greater administrative savings to small firms under the Health Security Act than under the Bush plan, its description of its assumptions for both estimates are very similar. Lewin-VHI writes of the Bush plan, "The Bush plan would reduce administrative costs by: I) reducing the practice of medical underwriting; 2) restricting pre-existing condition limitations; and 3) reducing large premium variations across insurers that often lead to frequent changes in coverage" (88). It is unclear why Lewin-VHI's estimates of administrative savings under the two proposals differ despite apparently very similar assumptions about both proposals' impacts on the insurance market.

25 New federal program administration costs were estimated at $1.7 billion in 1998. (89).

26 "In no case shall a [regional alliance] administrative percentage exceed 2.5 percent." (section 1352 (c))

27 The calculated average benefit "shall be increased by an estimated percentage (determined by the Board, but no more than 15 percent) that reflects the proportion of premiums that are required for health plans and regional alliance administration. . . and for state premium taxes." (section 6002 (b) (2) (D)) This 15 percent figure is an allowance for the first year, not a limit on the administrative costs of health plans.

28 "New Federal Administrative and Start-Up Costs" are estimated at $1.8 billion *in* 1998. (32)

Administration officials may believe that under the Health Security Act insurer overhead would decrease through pooling and limited underwriting, and that provider overhead would decline in response to uniform benefits packages and electronic claims processing. Administration analysts, however, do not estimate these savings separately (202).

CBO'S Analysis of the Health Security Act

CBO'S analysis of the Health Security Act contains little discussion of administrative costs (172). Its approach may be similar to the Administration's approach. It is unclear whether CBO believes the bill would increase or decrease total administrative costs, and whether CBO believes that pooling of small firms would reduce their insurance load.

Although CBO makes no specific estimates of costs for the alliances, it indicates that they would perform such tasks as "collecting, maintaining, and updating large amounts of information on individuals, employers, and health plans." CBO does not say whether these functions could be performed within the capped allocation of 2.5 percent of premiums. It makes small estimates of "other administrative and start-up costs," although it is not clear what costs it includes.

CBO'S Analysis of Private Insurance Market Reform Proposals of the 102d Congress

CBO estimates the effects on national health expenditures of three proposals from the 102d Congress that would reform the private insurance market. In its analysis of the Managed Competition Act of 1992 (H.R. 5936), CBO assumes that pooling small firms through health plan purchasing cooperatives would reduce administrative costs.[29] CBO writes, "The health plan purchasing cooperatives created by H.R. 5936 would reap some economies of scale in providing insurance to individuals and small groups." CBO, though, estimates no administrative savings for the Comprehensive Health Reform Act of 1992 (H.R. 591 9), which would allow pooling but not mandate membership by small employers in health plan purchasing cooperatives, or for the Health Care Cost Containment and Reform Act of 1992 (H.R. 5502), which would limit underwriting with no pooling. CBO writes about these two bills, that "incremental changes in administrative practices would not reduce either insurers' or providers' administrative costs" (168). CBO does not define what it views as "incremental changes in administrative practices," and it is unclear from these analyses of bills from the 102d Congress how CBO would estimate the impact on administrative costs of other proposals that would reform the insurance market.

REVIEW OF THE EVIDENCE

Following is a review of the empirical evidence on potential administrative savings under reform. Included are baseline numbers on administrative costs, evidence on insurer and provider overhead under a single-payer system, and evidence on administrative costs under private insurance market reform.

The Baseline Numbers

In 1991, private insurance overhead and public program administration costs were estimated at $43.9 billion by HCFA in the widely used national health accounts (86). This amounted to 5.8 percent of national health expenditures or 6.2 percent of personal health expenditures.[30] Private insurance overhead was estimated at $35.1 billion, or 4.7 percent of NHE, and the cost of administering

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29 The Managed Competition Act of 1992 would make membership in health care purchasing cooperatives mandatory for firms with fewer than 100 employees (but would not mandate purchase of insurance through the health care purchasing cooperatives).

30 Personal health expenditures are services and products associated with individual health care, such as hospital services, physician services, drugs, and nursing home care. Excluded is research and construction, public health, and administrative costs.

state and federal public programs was estimated at $8.1 billion, or 1.1 percent of NHE (86).[31] Provider administrative costs are also counted in estimates of NHE. They are not estimated separately, however, but instead are included with total physician expenditures.[32]

Evidence on Administrative Costs Under a Single-Payer System

Many analysts estimate that large administrative savings could be achieved if the United States adopted a single-payer system, based on comparisons with Medicare and the Canadian health care system (see table 5-2 and figure 5-1).[33] To assess these estimates, two questions must be answered: 1) Are there differences in administrative spending between the current U.S. multipayer system and a single-payer system? 2) Would these differences be captured if the United States converted to a single-payer system?

Two elements make up analysts' estimates of reduced administrative costs under a single-payer system, insurer savings and provider savings. For insurer savings, analysts assume that a single-payer system in the United States would operate at Medicare[34] or Canadian[35] overhead rates. To understand if there are real differences in insurer overhead for these systems and the U.S. system, this section compares estimates of insurer overhead for the various systems and addresses issues of comparability of public and private insurance systems.

Insurer Administrative Costs

Total insurance overhead in the United States was estimated to be 6.2 percent of personal health expenditures in 1991 .[36] Private insurance load specifically was estimated at 14.4 percent of private health insurance expenditures (86). The Health Care Financing Administration (HCFA) estimates private insurance load using a variety of data sources, which makes an assessment of its estimate difficult.[37]

Medicare overhead was estimated to be 2.1 percent of expenditures in 1991. Estimates of Medicare overhead represent administrative spending as a percentage of total program costs, which HCFA calculates by using expense reports from Medicare and the Department of Treasury. In addition to direct expenses of HCFA,[38] this estimate includes expenses to the Department of Treasury, the Social Security Administration, and the Public Health Service incurred in the provision of Medicare services.[39]

Canadian overhead was estimated to be 1.4 percent of personal health expenditures in 1990

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[31] Administrative costs of private philanthropic programs were estimated at $0.6 billion.

[32] Administrative costs incurred by employers and individuals in the health care system, though, are not included in NHE.

[33] Analysts presumably do not make comparisons with Medicaid because its eligibility determination expenses may be higher than those of a national program.

[34] CBO assumes Medicare overhead as a percentage of claims would apply (excluding residual Medicaid program for long-term care) ([65); Lewin assumes Medicare per capita overhead (with adjustments for claim level and no hospital billing) would apply (147).

[35] ESRI (107) GAO (178) and Grumbach et al. (50), and Woolhandler and Himmelstein (212).

[36] Personal health expenditures rather than NHE, is used here to be consistent with analysts' treatment of administrative costs and to facilitate comparisons with Medicare and Canadian administrative costs estimates.

[37] The sources HCFA uses include the Health Insurance Association of America, National Underwriter Company, Blue Cross Blue Shield Association, Group Health Insurance Association of America, HCFA survey of self-insured and prepaid health plans, Department of Labor Consumer Expenditure Survey, and Visiting Nurse Association (6 I).

[38] Administers Medicare program. Part of the Department of Health and Human Services.

[39] Included as part of Medicare administrative expenses are "Treasury administrative expenses," "salaries and expenses, SSA," "salaries and expenses, HCFA, [includes intermediaries], "salaries and expenses, Office of Secretary," "construction, "1%) fessi(mal Standards Review Organization," "Payment Assessment Committee," "policy and research," "public Health Service, " "Office of Personnel Management expenses," and "physicians payment review." (15, 186).

(50). **The** Canadian government derives estimates by compiling provincial reports on administrative spending.[41] Included in estimates are provincial governments' administrative costs for providing insured services, federal government expenses, and private insurance load for supplemental insurance (178). Although the broad categories of administrative costs appear to be the same as those included in U.S. estimates, the numbers are not entirely comparable due to differing accounting methods for certain specific items (47,121,125). Other comparability issues that arise when estimating savings based on comparisons of private and public insurers include:

- Private insurance overhead includes premium taxes, which is an income transfer rather than a real expense, but public programs do not include premium taxes. Savings will be overstated if taxes are not subtracted from private overhead.[42]
- The private insurance market is said to experience a 6-year cycle of fluctuating profitability,[43] affecting insurance load for any given year (42). Savings will be overstated or understated if private insurance overhead (premiums minus claims) is estimated on the basis of a single year.[44]

Even in light of the comparability problems highlighted above, however, the administrative expenses of the Canadian system and Medicare appear to be lower than those of the entire U.S. system. Private insurers have certain administrative costs that public insurers do not, such as marketing, profits, and costs for determining eligibility. Adopting a single-payer system will likely yield administrative savings as these private insurer costs are eliminated. Precisely estimating savings is difficult, however, and there are several reasons why assumptions that overhead rates would fall to Canadian levels (ESRI, GAO, Grumbach et al., Woolhandler and Himmelstein) or to Medicare levels (CB0,[45] Lewin-VHI[46]) may be incorrect:

- The United States may not administer a nationwide single-payer system with the same efficiency as Canada or Medicare.
- Functions additional to those of the Canadian system or Medicare may be performed, such as greater utilization review or more extensive data collection.
- Average claim size may differ in the United States from those in Canada and those under Medicare, increasing or decreasing administrative costs as a percentage of claims. Lower average claim size in a national U.S. system (due to different benefits or utilization), for example, would lead to higher administrative costs as a percentage of claims.
- The Medicare program covers a limited set of benefits to a subset of the population, whereas a nationwide single-payer system may have broader benefits that would be available to the entire population.

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40 Grumbach et al. Cite "National Health Expenditures," Ottawa, Ontario: Health and Welfare Canada, 1990.

41 Canadian officials report that what individual provinces include as administrative costs varies somewhat. Reports from provinces are not detailed enough for Health Canada, the organization that estimates total Canadian health spending, to completely adjust for variance in accounting methods (121).

42 CBO recognizes this.

43 Gabel reports that health insurers typically experience 3 consecutive years of underwriting gains followed by 3 consecutive years of losses. Premiums charged by insurers tend to reflect this cycle of losses and gains (Gabel, et. al, "Tracing," 1991),

44 CBO and Lewin-VHI recognize this.

45 CBO assumes Medicare overhead rates in its analysis of a general single-payer proposal (excluding residual Medicaid program for long-term care) (165). In its estimate of H.R. 1200 and S. 491, however, CBO estimates that insurance overhead will be higher than the Medicare overhead rate (170,171).

46 Lewin-VHI adjusts Medicare rates for claim size and the elimination of hospital billing.

Provider Administrative Costs

Analysts' estimates of provider savings under a single-payer system have been as high as $61.4 billion in 1987 (212).[47] By comparison, the highest estimate of insurer administrative savings is $34 billion in 1991 (table 5-2) (178). Estimates of savings from reduced provider overhead appear less certain than estimates of insurer savings. Intuition indicates having physicians reimbursed by a single-payer rather than a multitude of insurers and eliminating hospital billing through hospital budgets would reduce provider administrative costs. Estimating precise provider savings is difficult, however, since estimates of provider overhead under the current U.S. system are uncertain, and there is little empirical evidence of how much U.S. providers would save under a single-payer system.

Current provider administrative costs

Definitions of what constitutes provider administrative costs vary by analyst, contributing to widely differing estimates of savings under a single-payer system. For example, one analyst defines hospital administrative costs to include expenses for billing and management information systems (178),48 while another defines hospital administration more broadly, including expenses for such functions as utilization review, medical records, and libraries (213).49 The narrower definition resulted in an estimate of hospital administrative savings of $18.2 billion in 1991, while the broader definition resulted in an estimate of hospital savings of "about $50 billion" in 1990.

There is no standard or widely accepted definition of provider overhead. Although HCFA estimates private insurance and Medicare overhead annually, no comparable benchmark of provider overhead exists.

Varying data sources contribute to the wide range of estimates of provider overhead. For example, analysts estimate hospital overhead using California data (50,87,2 12), nationwide data from the American Hospital Association (178), and nationwide data from Medicare reports (21 3). Furthermore, analysts acknowledge difficulties in estimating provider overhead because of the inadequacy of data.[50]

Varying definitions, coupled with varying data sources, produce estimates of U.S. hospital administrative costs that range from 15.4 percent (178) to 33.4 percent (87) of revenues (table 5-2).

Estimates of physician overhead range from 8.3 percent (165)[51] to 48.1 percent of revenues (21 2). Here too, the use of different data sources and definitions may lead to different estimates.

Estimates of physician overhead are based on data from the American Medical Association (50,178,21 2), the Medical Group Management Association (87), and the Census Bureau's Cur-

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47 Office of Technology Assessment calculation based on study's per capita estimates. Study includes savings in nUrSing administrative costs ($4. I billion), which is not included in other studies.

48 GAO includes "genera] accounting, patient records, patient accounts and admitting, medical records, purchasing and stores, and data processing," and estimates overhead at 15.4 percent of total hospital expenses in 1988.

49 Woolhandler, Himmelstein, and Lewontin's 1993 analysis of hospital administrative costs only under a single-payeI' system. (This analysis differs from Woolhandler and Himmelstein's study of insurer, physician, and hospital administrative costs under a single-payer system referred to in tables 5-1 and 5-2 as *single-payer plan, Woolhandler and Himmelstein version.*) Categories of administrative costs included in the hospital administrative costs analysis are "administrative and general," "nursing administration," "central services and supply," "medical records and library,"" employee benefits department (salary costs only)," "administrative and general—home health," and "skill led-nursing-facility utilization review."

50 Lewin-VHI notes, for example, that "comprehensive, nationwide data on administrative costs in U.S. hospitals do not exist. ''(Sheiks, Young, and Rubin, "0 Canada," 1992) On physician administrative costs, Woolhandler and Himmelstein write, as noted above, "Only indirect or incomplete information is available on the billing costs of Canadian and U.S. physicians." (Woolhandler and Himmelstein, "Deteriorating" May 5, 1991).

51 Primarily billing costs.

rent Population Survey (212). Two analysts estimate physician overhead using an American Medical Association survey of billing services costs and time spent by physicians in billing (50,178). Specifically, this survey asked physicians how much time they spent per month on activities related to billing Medicare and Blue Shield (5).

Estimates of physician overhead based on surveys such as this may increase levels of uncertainty, since physicians may have difficulty estimating the time they spend on administrative activities accurately (84). Directly observing physicians and recording time spent on administrative activities may yield better estimates of overhead costs (47).

Provider administrative savings under a single-payer system

Estimates of provider administrative savings vary because of uncertainty about provider administrative activities under a single-payer system. No empirical evidence documents how U.S. providers would behave under a single-payer system. (Provider expenses related to Medicare have not been isolated.) As a result, most analysts must rely instead on comparisons with Canada, and assume that under a single-payer system administrative expenses of U.S. hospitals and physicians would fall to Canadian provider levels.

Comparisons with Canada are problematic, however, because Canadian estimates may not be comparable with U.S. estimates. Furthermore, it is difficult to scrutinize estimates of Canadian provider overhead because they are based on unpublished information.[52]

Finally, it may be unreasonable to assume that U.S. provider overhead would drop to Canadian levels. Certain functions (such as utilization review) that are currently performed in the United States may continue even if hospitals were paid through budgets and physicians were reimbursed by the government at a set rate for services performed. As noted in the previous section and in table 5-2, GAO assumes that nonphysician personnel would be reduced to Canadian levels, though it is unclear that current differences stem solely from the two countries' health financing systems. CBO, which assumes Canadian provider overhead rates would apply to the United States, attempts to avoid overstating savings by comparing only those functions that relate to the ways that health care is financed, particularly billing and collection expenses. Lewin-VHI avoids comparisons with Canada and instead estimates which individual administrative functions of the current system would be reduced, and to what extent. Although Lewin-VHI's approach recognizes that administrative activities of U.S. providers may be unique, it is not based on data and may yield somewhat arbitrary estimates of savings.

Evidence on Administrative Costs Under Private Insurance Market Reform

Many proposals would reform the insurance market by limiting underwriting and permitting or requiring small firms[53] to purchase insurance through purchasing cooperatives. As discussed earlier, analysts appear to assume that health alliances or health plan purchasing cooperatives for small firms would reduce insurance administrative costs, but that these savings would be offset somewhat--or completely—by new administrative costs associated with insurance market reform.

In estimating savings from pooling, several analysts assume that there are differences in administrative load for large and small firms and that

[52] GAO estimates Canadian physician overhead using "unpublished information provided by the Ontario Medical Association" and hospital overhead using unpublished data from Health and Welfare Canada (178). Grumbach et al. estimate Canadian physician overhead through data collected by written communication with D. Peachy, MD, Ontario Medical Association and hospital overhead through data collected by written communication with L. Raymer, Health and Welfare Canada (50).

[53] The term *firm* refers to employers or groups, not insurance companies.

the load for small firms could be reduced by reforming the insurance market. This assumption raises two questions: does insurance load actually differ for small and large firms, and will proposals that would reform the insurance market reduce this small-firm load?

Theoretically, large firms may have lower administrative costs than small firms because:

- *Fixed costs are distributed over a larger number of individuals.* Enrollment (commissions, marketing) and underwriting costs may be a fixed amount per employer group. For larger firms, these costs are spread across more members, resulting in lower administrative costs per claim.
- *Turnover is lower.* Small firms may have higher administrative costs because they change insurers more frequently than large firms .54 Large firms, which change insurers less frequently, may have lower costs for commissions, marketing, general administration, and underwriting (157).
- *Economies of scale are greater.* Certain functions, such as processing claims, may be performed at a lower cost per claim for larger groups.
- *Risk margins are lower.* Insurers retain a portion of premiums as reserves or risk margins. Risk margins may be lower for large firms because total claims are more predictable (185).
- *Administrative support needs are lower.* Large firms may be more likely to have benefits managers to perform such services as communicating with members, which insurers themselves perform for small firms. These services may be reflected in higher administrative costs for small firms (1 85).

Empirical evidence appears to support the assumption that administrative costs for large firms are lower than for small firms. A study by Hay/Huggins found that administrative expenses of small firms (1 to 4 employees) are 40 percent of claims (28.6 percent of premiums), while those of large firms (10,000 or more employees) are 5.5 percent of claims (5.2 percent of premiums) (183).[55] An unpublished study by the Health Insurance Association of America (HIAA) concludes that administrative expenses of small firms (fewer than 25 employees) are 33 percent of claims (25 percent of premiums), while those of large firms (2,500 or more employees) are 6.4 percent of claims (6 percent of premiums) (58).

However, these studies have some limitations. Neither study has a published methodology, making a critical evaluation of their methods difficult. Further, both studies are based on a small number of insurers whose experiences may not be applicable to the market as a whole.[56]

Data sources for both studies are problematic as well. Private insurer expense reports are not traditionally broken down by firm size, making a comparison of administrative costs difficult (9). Both studies attempt to divide administrative expenses into specific categories, such as claims administration and commissions, even though insurers do not normally track or post administrative costs in those categories.[57] HIAA reports that there is "little consistency among insurers when looking

54 Underwriting Practices of insurers t. screen out small firms with health risks may lead to rapidly rising rates and high turnover.

55 The Hay/Huggins study was based on insurer rating manuals, rather than insurer cost data on administrative costs. Rating manuals contain formulae which are used to charge administrative expenses to various sized firms, based on such factors as claim amounts as well as certain fixed costs. Rating manuals are based on the experience of insurers in providing administrative services to firms, though it is unclear if administrative charges generated by them precisely match actual administrative costs incurred by firms. If the difference between administrative charges and actual costs were great, however, other insurers would presumably enter the market with administrative charges closer to firms' actual costs.

56 The Hay/Huggins study was based on three insurers (18); the HIAA study was based on five insurers (HIAA members) (57).

57 Categories of administrative costs in the Hay Huggins study, for example, are "claims administration, general administration, interest credit, risk and profit, commissions and premium taxes. " Lewin-VHI uses this detailed breakdown as its baseline in estimating savings under reform. (88,89)

at expenses across group size" (58). It notes difficulties in dividing insurers' aggregate expenses by group size and into finer categories such as claims processing expenses.[58]

Although both the Hay/Huggins and HIAA studies conclude that large firms have lower administrative costs under current policy; neither offers evidence to indicate insurance market reform would actually lower the administrative costs of small firms. Very little evidence exists on the effect of pooling or limiting underwriting on administrative costs. No published study has compared administrative costs of firms before and after the implementation of insurance market reform. Several states, however, have established health care purchasing cooperatives for small firms, which may provide evidence on the effect of pooling in the future.

Even if it could be stated conclusively that pooling and limiting underwriting reduce administrative costs, potential savings appear to be relatively small. Total private insurance overhead in 1991 was estimated at $35.1 billion, or 4.7 percent of NHE (86). If private insurance overhead, estimated at 16.8 percent of claims (14.4 percent of premiums) in 1991, fell to the levels of large firms as estimated by Hay/Huggins, total savings would be $23.6 billion (3.1 percent of NHE).[59] These savings would be achieved only if differences in insurer administrative costs for small and large firms were completely eliminated (an assumption no analyst reviewed makes[60]). Any savings from reduced provider administrative costs would likely be limited under reform plans that maintain the private insurance market because physicians and hospitals would continue to be reimbursed by a multitude of payers.

Any savings from reduced overhead for small firms may be offset partially or completely by new administrative costs. Under several proposals, new administrative organizations would be created such as health plan purchasing cooperatives and health boards, that would, among other things, negotiate with and monitor plans and update benefits packages. Several reform proposals include programs with new data gathering and reporting requirements to measure the quality of health care. The costs of operating quasi-public or private health plan purchasing cooperatives and federal programs related to pooling and limiting underwriting would depend on the functions performed and the personnel and materials needed to perform them.[61] Administrative costs may increase if health plan purchasing cooperatives assume tasks currently performed by employers, such as negotiating rates with insurers.[62]

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58 Anthony Hammond, policy research actuary, HIAA, who supervised the study, supplied OTA with a copy of a memorandum that briefly outlines the report's methodology.

59 OTA calculation. Hay Huggins estimates administrative costs of large firms at 5.5 percent of claims. If all private insurance expenditures had administrative costs equal to 5.5 percent of claims, total administrative costs would have been $11.5 billion. (.055= x/209.3; x -11 .5.) Savings is $35.1 -11.5-$23.6 billion.

60 For example, Lewin-VHI assumes, in its analysis of the Health Security Act that small-firm (one to four employees) overhead would fall to 12.5 percent of claims, not to 5.5 percent, the overhead level of large firms.

61 The California Public Employees' Retirement System (CalPERS) has charged employers five tenths of a percent of premiums to cover CalPERS' operating expenses (182). Costs Of administering the FEHBP program (Federal Employees Health Benefits Program) in 1988 was $10 million, or approximately one tenth Of a percent of premiums (177). These figures do not include the administrative costs of the health plans. Unlike alliances or health plan purchasing cooperatives outlined in reform proposals which would primarily assist private firms in purchasing insurance, CalPERS and FEHBP serve public employees. For more discussion of state health plan purchasing cooperatives, see GAO's May 1994 report, "Access to Health Insurance: Public and Private Employers' Experience With Purchasing Cooperatives" (GAO/HEHS-94-142).

62 Administrative costs, as defined in the HCFA'S national health accounts, do not include costs incurred by employers in Contracting for and administering health insurance to employees. These functions, if performed by health care purchasing cooperatives, would be included by analysts in their estimates of administrative costs under reform.

The complexity of private insurance market reform adds uncertainty to estimates of administrative costs under specific proposals. The potential impact of specific policies remains unclear. For example:

- Administrative costs may increase under a system of health care purchasing cooperatives as employer transactions with insurers are replaced with a greater number of individual transactions (36,1 58). Costs also may decrease as cooperatives communicate with insurers on behalf of many firms, reducing marketing costs.
- Frequent changing of insurers, which may cause higher administrative expenses, may decrease if premiums become more predictable, or increase if annual open enrollment is permitted.
- Profits of insurers may decrease in response to greater competition, or increase as a result of insurers greater market clout with providers.
- Savings from eliminating underwriting may be offset by new costs to health alliances of making risk adjustments to health plans.
- Proposals may shift individuals from fee-for-service plans to managed care plans, which may have differing administrative costs.

In summary, reform proposals that would maintain the current private insurance market appear unlikely to generate large administrative savings. Lack of evidence on the impact of pooling and limiting underwriting and the difficulty of estimating potential new costs related to insurance market reform make precise estimates of administrative costs under reform uncertain.

FINDINGS AND POLICY IMPLICATIONS

In 1991, administrative costs of private and public insurance programs (i.e., insurer overhead) under the current system were estimated at $43.9 billion (86). This represents the maximum savings that could have been achieved by reducing insurer overhead under any of the reform proposals in 1991. Physician and hospital overhead (i.e., provider overhead) is not measured separately in the national health accounts and other estimates have limitations. Using the most conservative estimates of provider overhead generates an estimated overhead of $55.1 billion in 1991.[63] Thus, completely eliminating insurer and provider administrative costs (as estimated using these data sources) would save $98.9 billion, or 13.2 percent of national health expenditures in 1991, Of course, under no system would administrative costs be completely eliminated, but this provides a boundary for assessing estimates. Savings beyond this level are probably unrealistic.

The significance of administrative costs to estimates of changes in NHE varies by type of proposal. Predictions of administrative savings under single-payer proposals are relatively large, ranging from $47 billion (1991 dollars) (87) to $113 billion (1991 dollars) (108).[64] (The high estimate unrealistically assumes that total U.S. health spending would fall to Canadian levels.) Estimates of savings in insurer administrative costs under a single-payer system range from $21.7 billion (1987 dollars) (21 2) to $34 billion (1991 dollars) (178).65 Predictions of savings appear plausible since administrative expenses of private insurers (including marketing, profits, and enroll-

63 of ffice of Technology Assessment calculation. Grumbach et al. 's estimate of physician billing costs of 8.3 percent of physician revenues was used (50); GAO's estimate of hospital administrative costs of 15.4 percent was used (178). These estimates were multiplied by HCFA national health accounts estimates of hospital and physician expenditures for 1991. (86) (8.3 percent ($ I 42.0) + 15.4 percent ($288.6) -$56.2 bill ion.)

64 Only CBO has estimated [he specific sing] e-payer proposals of the 103d Congress, H.R.1200 or S. 491 (but does not include specific dollar estimates of administrative savings). Studies that included specific estimates of administrative savings referred to here are those that studied the impacts of a single-payer system in the United States with no patient copayments, global budgets for hospitals, and negotiated fee schedules for physicians.

65 ESRI Which generated the estimate of $ 113-billion total savings, does not break this estimate down into insurer and provider savings.

ment costs) would be replaced with the lower costs of a public single-payer. Estimates of reduced insurer administrative costs are informed by the experience of the Canadian system and Medicare and fall into a fairly narrow range. It is possible, however, that functions additional to those performed in Canada and under Medicare would be performed under a national U.S. single-payer system. Hence, actual insurer administrative savings may be less than analysts predict.

Estimates of reduced provider administrative costs under a single-payer system range from $24.3 billion (1991 dollars) (87) to $61.4 billion (1987 dollars) (21 2). It appears intuitively reasonable that physician and hospital costs incurred in billing would be reduced as the current system of multiple payers and billing requirements is replaced by a single-payer. Estimates of provider administrative savings are more uncertain than estimates of insurer administrative savings, however, due to varying definitions of provider overhead and an incomplete understanding of the administrative activities of physicians and hospitals. In addition, although Canada provides a model of provider administrative costs under a single-payer system, it is unclear how the functions performed by U.S. providers would change under reform.

Analysts estimate that administrative costs will change very little under proposals to reform the current private insurance market. This judgment appears reasonable, since the multipayer insurance system would be maintained, with providers continuing to be reimbursed by many parties. Analysts estimate some administrative savings if small firms were to purchase health insurance through cooperatives. Although this assumption appears plausible as purchasing pools and limits on underwriting may lead to economies of scale and reduced turnover, no studies have documented the impact of pooling on the administrative costs of small firms. Analysts estimate these savings will be offset, partially or completely, by new administrative costs associated with the reforms, such as the costs of running the purchasing cooperatives. Estimates of these new administrative costs are uncertain because it is difficult to determine exactly what administrative functions would be performed, and at what cost.

Appendix: Acknowledgments A

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B Appendix: Method of the Study

This report, Understanding Estimates of National Health Expenditures Under Health Reform, is published as part of the Office of Technology Assessment's (OTA) study, *Understanding the Estimates Under Health Reform.* This report evaluates analyses of the impact of various health reform proposals on national health expenditures (NHE) by comparing analysts' assumptions about key policies in proposals with the available empirical research on these policies.

To summarize the method used for this report, this appendix divides the report's development into four sections: focus of the study, research, analysis, and review. These sections overlap to some extent and are not strictly chronological. This appendix also contains complete references of analyses reviewed in this report (table B-l).

FOCUS OF THE STUDY

This report was requested in August 1993 by OTA's Technology Assessment Board and Senator Ted Stevens in response to findings in the OTA report *An Inconsistent Picture: A Compilation of Analyses of Economic Impacts of Competing Approaches to Health Care Reform by Experts and Stakeholders* published in June 1993. The Technology Assessment Board members and Senator Stevens expressed concern at the wide array of predictions of changes in NHE outlined in *An Inconsistent Picture,* and requested that OTA do a followup study to assist policy makers in understanding why predictions might be so variable. The Technology Assessment Board approved the study in July 1993, and OTA staff began working on the project in August 1993.

TABLE B–1: Analyses Examined by OTA

Proposal	Analysis	Reference citation
American Health Security Act of 1993 (H.R. 1200/ S.491)[a]	CBO	U.S. Congress, Congressional Budget Off Ice, "H. R 1200, American Health Security Act of 1993, " Washington, DC, December 1993, U.S. Congress, Congressional Budget Off Ice, "S 491, American Health Security Act of 1993, " Washington, DC, December 1993
Comprehensive Health Reform Act of 1992 (H.R. 5919)[b]	CBO	U.S. Congress, Congressional Budget Office, *Estimates of Health Care Proposals From the* **102d Congress,** Washington, DC, July 1993
Health Care Cost Containment and Reform Act of 1992 (H.R. 5502)[b]	CBO	U.S. Congress, Congressional Budget Off Ice, *Estimates of Health Care Proposals From the 102d Congress,* Washington, DC, July 1993
Health Security Act (H.R. 3600/S 1757)a	CBO	U S Congress. Congressional Budget Off Ice, *An Analysis of the Administration's Health Proposal,* Feb. 8, 1994
	Clinton Administration	U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation, Washington, DC, unpublished table, Apr. 7, 1994, U S Department of Health and Human Services, Off Ice of Assistant Secretary for Planning and Evaluation, "The Health Security Act A Financial and Distributional Analysis," Washington, DC, January 1994
	Lewin-VHl	Lewin-VHl, Inc., *The Financial Impact of the Health Security Act,* (Washington, DC; Dec. 9, 1993)
Health Security Act (H R 3600/S. 1757),a Lewin-VHl scenario without government cost controls	Lewin-VHl	Lewin-VHl, Inc., *The Fmancial Impact of the Health Security Act,* (Washington, DC: Dec. 9, 1993)
Managed Competition Act of 1992 (HR. 5936)[b]	CBO	U.S. Congress, Congressional Budget Off Ice, *Estimates of Health Care Proposals From the 102d Congress,* Washington, DC, July 1993.
	ESRI	Meyer, J A , Snow-Carroll, S , and Wicks, E , "Managed Competition in Health Care: Can It Work?', Economic and Social Research Institute, Washington, DC, May 1993,
Managed competition plan, Starr version	Sheils et al	Sheils, J.F, Lewn, L.S., and Haught, R A "Potential Public Expenditures Under Managed Competition, " *Health Affairs 12* (suppl.): 229-242, 1993
National health plan, full savings scenario	ESRI	Meyer, J.A., Silow-Carroll, S., and Sullivan, S., *A National Health Plan in the U.S. The Long-Term Impact on Business and the Economy,* (Washington, DC Economic and Social Research Institute, 1991)
National health plan, adminlstrative savings scenario	ESRI	Meyer, J A, Snow-Carroll, S , and Sullivan, S , A National Health Plan in the U. S.. The Long-Term Impact on Business and the Economy, (Washington, DC Economic and Social Research Institute, 1991)

TABLE B–1: Analyses Examined by OTA (cont'd.)

Proposal	Analysis	Reference citation
Single-payer plan, CBO version with patient cost-sharing	CBO	U.S. Congress, Congressional Budget Office, Sing/e-*Payer and A//-Payer Health Insurance Systems Using Medicare's Payment Rates,* CBO staff memorandum, Washington, DC, April 1993.
Single-payer plan, CBO version without patient cost-sharing	CBO	U S Congress, Congressional Budget Off Ice, *Sing/e-Payer and All-Payer Health Insurance Systems Using Medicare's Payment* Rates, CBO staff memorandum, Washington, DC, April 1993.
Single-payer plan, GAO version	GAO	U.S. Congress, General Accounting Off Ice, *Canadian Health Insurance: Estimating Costs and Savings for the United States, GAO/HRD-92-83* (Washington, DC: U.S. Government Printing Office, April 1992).
Single-payer plan, Grumbach et al. version	Grumbach et al.	Grumbach, K., Bodenheimer, T., Himmelstein, D., et al., "Liberal Benefits, Conservative Spending The Physicians for a National Health Program Proposal, " *Journal of the American Medical Association 265(19) 2549-54, 1991.*
Single-payer plan, Lewin-VHl version	Lewin-VHI [c]	Lewin-lCF, *National Health Spending Under a Single-Payor System: The Canadian Approach* (staff working paper prepared by J.F. Sheils and G.J. Young) (Fairfax, VA 1992),
Single-payer plan, Woolhandler and Himmelstein version	Woolhandler and Himmelstein	Woolhandler, S., and Himmelstein, D., "The Deteriorating Administrative Efficiency of the US, Health Care System, " New *England Journal of Medicine 324(18):1253-1258, 1991.*
Universal Health Care Coverage Act of 1991 (H R 1300)[b]	CBO	U.S. Congress, Congressional Budget Office, *Estimates of Health Care Proposals From the 102d Congress,* Washington, DC, July 1993

KEY: CBO = U S Congress, Congressional Budget Off Ice, ESRI = Economic and Social Research Institute; GAO = U S General Accounting Off Ice

[a]Bill numbers are for 103d Congress.

bBill numbers are for 102d Congress.

cAnalysis was conducted by Lewin - ICF. The company was acquired and expanded in 1992 For purposes of this report all Lewin studies are Identified as Lewin-VHl.

SOURCE Off Ice of Technology Assessment, 1994

OTA assembled an advisory panel to assist it in determining what issues and materials to consider in examining estimates of NHE under health reform. The 14 individuals who agreed to serve on the panel represented a variety of perspectives and had expertise in health policy, health economics, quantitative analysis, economic models, macroeconomics, health care delivery, and health systems of foreign countries (see listing at the front of this report). Joseph Newhouse, Professor at Harvard University, Division of Health Policy Research and Education, chaired the panel.

The advisory panel first met September 8, 1993. At that meeting, the panel discussed the purpose and possible methods of the study. The panel agreed that OTA should study the key assumptions made by analysts that drive analysts' estimates of changes in NHE under reform. The panel also encouraged OTA to study analysts' methods for estimating the federal budget effects of reform.

At a second meeting of the advisory panel held December 22, 1993, OTA staff updated panel members on the progress of the report and asked whether the panel felt that the assumptions that OTA staff were examining were important ones. Members of the panel who attended the meeting agreed that most of the assumptions being examined by OTA were key to projections of NHE under reform, and provided further direction for the study. OTA was not able to examine evidence on every key assumption that goes into every estimate of NHE under reform.

In order to determine which assumptions were critical to projections of the impact of reform, OTA carefully examined documentation of available analyses. OTA studied estimates of specific health reform proposals from the 102d and 103d Congress as well as analyses of general health reform approaches not introduced as formal legislation. OTA also spoke to analysts, attended briefings, attended relevant hearings in Congress, and attended conferences related to health reform to understand which assumptions would be most important in estimating NHE under reform proposals.

RESEARCH

OTA'S research for this study took two approaches: 1) understanding analysts' methods of estimating the effects of key policies on NHE under health reform, and 2) reviewing the available empirical research literature on the assumptions used to make these estimates. OTA examined available written documentation on analyses of health reform proposals, and contacted analysts for further clarification and explanation.

OTA staff members met with representatives from the Agency for Health Care Policy and Research,[2] the Congressional Budget Office, Department of the Treasury, the General Accounting Office, Hewitt Associates, Lewin-VHI, Mathematical Policy Research, Inc., the Office of Management and Budget, the Office of the Assistant Secretary for Planning and Evaluation,[3] the Urban Institute, American Academy of Actuaries, and the Wyatt Company. OTA staff spoke with representatives from the Health Care Financing Administration,[4] the Economic and Social Research Institute, and the Economic Policy Institute.

OTA's review of the empirical evidence included studies in published research literature on topics relevant to policy assumptions made by analysts. OTA examined the methods and findings of key studies.

OTA also commissioned contractor papers to assist in analyzing relevant empirical evidence. OTA convened a workshop of the contractors on October 1, 1993 to discuss the relation of the various contractor papers to the report as a whole. Many of the contractor papers were reviewed externally; some will be available from the National Technical Information Service (NTIS). For a list of contractor papers, see table B-2.

ANALYSIS

OTA compared its findings from its review of the empirical research literature with assumptions made by analysts in estimates of NHE under health reform. OTA attempted to assess the reasonableness of assumptions made in analyses and whether other equally plausible assumptions could be made.

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[1] For example, advisory panel members and OTA staff agreed that the cost of the benefit package under alternative reforms would be a critical determinant of NHE and that it could be useful to examine how benefit packages are "priced" by different entities. However, the panel also agreed with OTA staff that this question was of such magnitude and complexity than an analysis of it could not be completed by the deadline for this report.

[2] Within the Department of Health and Human Services.

[3] Ibid.

[4] Ibid.

TABLE B–2: Contract Papers Prepared for the Understanding Estimates of National Health Expenditures Under Health Reform Report

Jon B. Christianson, Ph. D., Bryan Dowd, Ph. D., John Kralewski, Ph. D., University of Minnesota, Minneapolis, Minnesota, and Catherine Wisner, Health Care Consultant, Minneapolis, Minnesota, "Minnesota as a Model of Managed Competition, " forthcoming.

Baruch Fischhoff, Ph. D., Carnegie Mellon University, Pittsburgh, Pennsylvania, "Assessing the Assumptions Behind Projections of Individual Consumer Decisions in Health Care Reform, " in preparation.

Kathryn Langwell, Ph. D., KPMG Peat Marwick, Washington, DC, "Employment Effects of Health Reform, "in preparation.

'Robert Miller, Ph. D., and Harold Luft, Ph. D., University of California at San Francisco, San Francisco, California, "Assessing the Assumptions Behind Health Reform Projections: Cost-Savings Due to HMOS," January 1994.

Lynn C. Paringer, Ph. D., California State University at Hayward, Hayward, California, "Assessing the Assumptions Behind Definitions, Projections, and Uses of Baseline National Health Expenditures, " in preparation.

● **John A. Rizzo, Ph. D.,** Yale University, New Haven, Connecticut, "Physician Volume Responses to Fee Changes, " December 1993.

● **Dennis Scanlon, M. A., and Mark Kamlet, Ph. D.,** Carnegie Mellon University, Pittsburgh, Pennsylvania, "Assessing the Assumptions Behind Consumers' Choice of Health Insurance Plans and the Implications of Such Choices for Projecting Economic Impacts of Differing Approaches to Health Reform, " April 1994.

Cynthia Sullivan, Ph. D., Sullivan Research Services, Chicago, Illinois, "Strengths and Weaknesses of Employer Health Benefits Surveys as Inputs to Microsimulation Modeling of the Effects of Health Reform on National Health Expenditures," December 1993.

NOTE. Asterisks Indicate those papersavailable from National Technical Information Service, Springfield, VA, (703) 487-4600

In its report OTA discussed evidence that supported specific assumptions and also highlighted gaps in the knowledge base that contributed to the uncertainty of estimates. OTA attempted to examine how altering assumptions surrounded by uncertainty affected estimates of NHE. Performing this type of sensitivity analysis was not always possible, however, because OTA's access to models used by analysts was limited.

REVIEW

Before sending a draft of this entire report for external review, OTA asked analysts to review preliminary drafts of sections of the report related to their analyses. Not every analyst had time to review the document at this stage.

OTA next sent a draft of the full report to the project's advisory panel and to relevant outside experts (see appendix A). Reviewers included members of organizations whose analyses were examined in this report, as well as individuals from academia (health economics, health services research, and health law), think tanks, private consulting firms, public interest groups, philanthropic organizations, the health insurance industry, health law, state and local governments, congressional support agencies, and the executive branch. Reviewers' comments and critiques were incorporated where appropriate.

The OTA staff who wrote this report received assistance in their analysis from other staff members of OTA. Meetings were held with a "shadow panel" consisting of OTA staff from other programs with particular expertise and interest in methods and approaches to estimating the economic impacts of health reform. Members of this panel assisted in identifying overarching themes from across the individual chapters of the report and in developing general critiques of the analytical process. Further meetings with other OTA staff sharpened the report's conclusions and policy implications outlined in the first chapter. The final draft of the report was sent to the Technology Assessment Board March 25, 1994.

Appendix: Implications of Uncertainty in Selected Estimates of NHE Under Health Reform

C

Chapter 1 of this report presented examples of how changing certain plausible alternative assumptions can affect estimates of national health expenditures (NHE) and possible policy implications drawn from those estimates. This appendix provides more detail on how sensitivity analyses summarized in chapter 1 were calculated.

The first sensitivity analysis is based largely on Congressional Budget Office (CBO) publications. The other two examples were calculated by OTA using the original analytic framework but substituting one different assumption. In both examples, the alternative assumptions are plausible in the sense that they appear to be equally well supported by the empirical literature. OTA only had enough information about the analytic approaches to perform these calculations for some of the analyses.

CBO'S ANALYSIS OF THE AMERICAN HEALTH SECURITY ACT AND THE HEALTH SECURITY ACT

According to CBO,

> . . . its approach to estimating the potential impact of limits on expenditures in legislative proposals [that have provisions for such limits] is to examine the proposal with respect to both the stringency of the limits and the specified enforcement mechanisms. Based on its best judgment, CBO then assigns a rating of effectiveness (168).

CBO notes that the ratings are "difficult and imprecise." This example shows how this imprecision might influence the relative ranking of two plans.

To estimate NHE under the American Health Security Act of 1993 (H.R. 1200), CBO assumed that the spending controls in the American Health Security Act would only be "75 percent effec-

tive" (171). Under this assumption, CBO predicted that NHE would be $1,429 billion in 1998. However, CBO also presented an estimate under the alternative assumption that the spending limits in the American Health Security Act would be "100 percent effective,*' as opposed to 75 percent effective. Under an assumption of 100 percent "effectiveness," CBO predicted that NHE would be $1,372 billion in 1998.

Changing the assumptions about the effectiveness of the spending limits could alter how the American Health Security Act is viewed in relation to another proposal later examined by CBO, the Health Security Act (H.R. 3600/S. 1757) (172). For example, CBO estimated that under the Health Security Act, NHE would be $1,411 billion in 1998. Thus, according to CBO, the American Health Security Act would leave NHE $18 billion higher in 1998 than the Health Security Act. However, under the assumption that the spending limits in the American Health Security Act were "100 percent effective," also presented by CBO, the American Health Security Act would leave NHE $39 billion lower than the Health Security Act. By changing the assumption about effectiveness, the ranking of the two bills would switch. Thus, the key determinant of which bill would save more money in 1998 is the analyst's educated guess about the effectiveness of the cost containment mechanisms in the two bills. A more detailed explanation of CBO's justification for the 75-percent effectiveness rating, and the possible reasons why some might disagree with the 75-percent rating are discussed in box C-1.

GAO'S ANALYSIS OF A "CANADIAN-STYLE SYSTEM"

Altering key assumptions in certain analyses can yield different predictions about the direction of change in national health spending. For example, varying the General Accounting Office's (GAO) assumptions about administrative costs under a single-payer system would change GAO's conclusion that a "Canadian-style system" would decrease NHE in year 1991 (relative to baseline), to the conclusion that it would increase NHE in that year (relative to baseline).

GAO estimated that under a "Canadian-style system" overall health spending would fall $3 billion from baseline. To make this estimate, GAO determined that a "Canadian-style system" would have lower administrative overhead, but would add additional costs by providing coverage to the uninsured and eliminating patient cost-sharing. GAO's overall estimate represents the sum of administrative savings and additional costs from expanded and enhanced insurance coverage. For administrative savings, GAO assumed that insurer overhead would fall to Canadian levels. An alternative assumption is that insurer overhead would fall only to the Medicare rate (an assumption CBO has used to estimate the impact of single-payer plans). [1]Under the assumption of insurer overhead at the Medicare rate, OTA calculated that the "Canadian-style system" would be predicted to *increase* national health spending by $3.6 billion in 1991 (table C-1).

LEWIN-VHI'S ANALYSIS OF THE HEALTH SECURITY ACT

Another example of the implications of changing an assumption can be constructed using Lewin-VHI'S analysis of the Health Security Act (H.R. 3600/S. 1757), and substituting a CBO assumption about managed care savings. Lewin-VHI estimated that under the Health Security Act (H.R. 3600/S. 1757), savings from increasing enrollment in HMOS might equal $14.9 billion (89).

Lewin-VHI's estimate of savings from managed care is summarized in table C-2 (column 5). Lewin-VHI based its estimate in part on an assumption that group- and staff-model HMOS reduce inpatient expenditures by 11.7 percent and increase outpatient expenditures by 8.4 percent.

[1]See chapter 5 in this report for a full discussion of alternative assumptions and estimates of administrative costs under current proposals.

BOX C-1: Effectiveness Rating for the American Health Security Act of 1993

The American Health Security Act of 1993 would create a single-payer program of national health insurance modeled after the Canadian system. All legal U.S. residents would be eligible for comprehensive health benefits. The national health insurance program would be financed largely by the federal government although states would administer the program and pay all providers in the state. To receive federal funding, states would have to set up a program approved by the Federal Health Board created by the act. Each program would have to meet the requirements of the act, such as benefits offered, quality standards, enrollment procedures, portability of benefits, adequate administration, provider payment methodologies, and so forth. The act would supersede Medicare and Medicaid, the Federal Employees Health Benefits Program, and benefits for military personnel under the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS). The Department of Veterans Affairs' health care system and the Indian Health Service would continue. H.R. 1200 would limit the rate of growth of spending for the national health insurance program to the rate of increase of gross domestic product (GDP) for the previous year plus population growth.

States would receive federal grants averaging 86 percent of the state's approved budget for covered health services. The other 14 percent of the approved state budget for covered health services would be funded from state sources. Because approved state budgets would be allowed to increase, on average, at the rate of GDP growth for the previous year plus population growth (the national budget limit), the federal government's share of spending on covered health services would also increase at this rate. However, states would be allowed to spend more on covered health services than their approved budget. If a state exceeds its approved budget in a given year, it must continue to fund covered services from its own revenues. The bill contains no penalties to limit excess state spending. If a state provides all covered health services for less than the budgeted amount, it may retain the full federal payment. Therefore, while the federal share of state budgets would increase by a maximum of the national budget limit, states' shares may grow faster than, slower than, or equal to that rate. In addition, states may provide benefits to residents of the state in addition to the covered services at the expense of the state. CBO's effectiveness rating for the American Health Security Act referred to H.R. 1200's statutory limit on the rate of growth of spending for the national health insurance program.[1]

In applying a 75-percent effectiveness rating, CBO assumed that the open-ended nature of state budget shares would likely cause 25 percent of the potential savings from a fully effective limit to go unrealized. CBO appears to have based its 75-percent effectiveness rating primarily on the lack of penalties to states for failing to live within the budget (171). However, it may be just as plausible to assume that since states must fund any excess spending from their own revenues by running a deficit or raising taxes, states would have a strong incentive to stay within their share of the national health budget and the national budget limits would be 100 percent effective. Alternatively, state spending could cause 50 percent of potential savings from a fully effective limit to go unrealized if states faced strong political pressure to fund more services. How states will behave under the proposed budgeting mechanism does not seem answerable through empirical evidence. CBO's report on NHE under H.R. 1200 in fact provides spending calculations under alternative scenarios of 100-percent, 50-percent, 25-percent, and 0-percent effectiveness because it says the "assumption about the effectiveness of the spending limit in the bill is highly uncertain" (171).

[1] See chapter 2 in this report for an explanation and discussion of CBO's rating of effectiveness of statutory limits

SOURCE: Office of Technology Assessment, 1994

TABLE C–1: Changes in Estimates of NHE Using GAO's Model With Alternate Administrative Costs Assumptions ($ billions)

	GAO's assumption (Insurer overhead at Canadian level)	Alternate assumption (insurer overhead at Medicare level)
Administrative savings	($66.9)	($60.3)
Increased utilization	$63,9	$63.9
Net change in NHE	**($3.0)**	**$3.6**

KEY GAO = U S General Accounting Off Ice, NHE = national health expenditures

SOURCE Off Ice of Technology Assessment, 1994, based on assumptions from CBO (165) and GAO (178). Full citations are in appendix B and at the end of this report

Lewin-VHI's analysis further assumed that independent practice associations (IPAs)[2] *reduce* inpatient expenditures by 6.9 percent and *increase* outpatient expenditures by 9.9 percent.

Further, Lewin-VHI assumed that under the Health Security Act individuals in metropolitan areas would enroll in group- and staff-model HMOS (or in plans with equivalent savings) and that individuals in nonmetropolitan areas would enroll in IPAs (or in plans with equivalent savings). Lewin-VHI's analysis made additional assumptions regarding managed care savings for people 65 and older and for prescription drug expenditures under managed care. Lewin-VHI's analysis assumed that prescription drug expenditures would be reduced in proportion to overall managed care savings. It also made assumptions about the change in utilization for people 65 and older based on Medicare TEFRA[3] evaluation results.

In contrast, CBO has assumed in past reports that staff- and group-model HMOS can reduce expenditures by 15 percent (table C-2, column 4) (163). CBO has stated that there is no evidence that IPAs can reduce expenditures and therefore it has made the conservative assumption that no savings can be achieved by increasing enrollment in IPAs.[4] Given the extreme difficulty in trying to synthesize the diverse literature on HMO savings, and the questions that are left unanswered by this literature (e.g., do HMOS have higher administrative costs?), CBO'S assumptions seem as plausible as those used by Lewin-VHI.[5]

OTA calculated what might happen if Lewin-VHI'S managed care savings estimates were replaced with CBO'S assumptions that 1) group- and staff-model HMOS reduce expenditures 15 percent below fee-for-service plans, and 2) IPAs have expenditures equivalent to fee-for-service plans. OTA's calculation suggests that total estimated savings from managed care would be increased in the Lewin-VHI analysis from $14.9 billion to approximately $48.8 billion (table C-2).

[2] As discussed in chapter 3 in this report, IPAs are one type of managed care organization.

[3] TEFRA is the Tax Equity and Fiscal Responsibility Act of 1982 (Public Law 97-248). The act included provisions for a "Medicare risk program" that was intended to be a means of reducing costs to Medicare by encouraging enrollment of individuals with Medicare coverage in HMOs (105).

[4] CBO has just revised its assumptions about the effects of managed care (173).

[5] The research literature on cost savings from managed care is reviewed in chapter 3 of this report.

TABLE C–2: Implication of Substituting CBO's Plausible Assumption Regarding Managed Care Savings for Lewin–VHI's Plausible Assumption in Lewin–VHI's Analysis of HMO Savings Under the Health Security Act

Population or service affected	Baseline Expenditures for those not now in HMOS ($ billions)	Percentage change in expenditures for those not now enrolled in HMOS: Percent change under Lewin-VHI analysis	Percentage change in expenditures for those not now enrolled in HMOS: Percent change under "CBO and Lewin-VHI's assumptions"	Dollar change in expenditures for those not now enrolled in HMOS: Dollar change under Lewin-VHI analysis ($ billions)	Dollar change in expenditures for those not now enrolled in HMOS: Dollar change under "CBO and Lewin-VHI's assumptions" ($ billions)
People under age 65, by area of residence and setting for care					
Metropolitan areas					
inpatient care	$1889	-11.770	- 155zoa	($22.1)	($28.3)
Outpatient care	$1201	8.4%	- 15Yoa	$100	**($18.0)**
Nonmetropolitan areas					
inpatient care	$81,2	-6.9%	O[a]	($5 6)	o
Outpatient care	$516	9.9%	O[a]	$51	0
People 65 and eider, metro and nonmetropolitan areas combined, by setting					
inpatient care	$137	-16.0%	-16.0%	($2.2)	($2 .2)
Outpatient care	**$71**	**13.0%**	**13.0'XO**	$0.9	$0.9
Prescription drugs	$37,2	-3.1%	-3.1%	($1.2)	($1 .2)
Total	$499.9	-3.3%	-10.9%	($149)	($48.8)

KEY: CBO = U.S. Congress, Congressional Budget Office, HMO = health maintenance organization

aCBO assumption

SOURCE Off Ice of Technology Assessment, 1994, based in part on Lewin-VHI (89) and CBO (163) Full citations are in appendix B and at the end of this report

D Appendix: Abbreviations and Glossary

ABBREVIATIONS

AHCPR	Agency for Health Care Policy and Research (PHS)
AHP	Accountable Health Plan
AHSIM	Agency for Health Care Policy and Research's Simulation Model
ASPE	Office of the Assistant Secretary for Planning and Evaluation (DHHS)
BLS	Bureau of Labor Statistics (Department of Labor)
CalPERS	California Public Employees' Retirement System
CBO	Congressional Budget Office (U.S. Congress)
CES	Consumer Expenditure Survey
CHAMPUS	Civilian Health and Medical Program of the Uniformed Services (Department of Defense)
CHAMPVA	Civilian Health and Medical Program of the Veterans Administration
CHSOS	comprehensive health service organizations
CON	Certificate-of-Need
CPI	consumer price index
CPS	Current Population Survey
CRS	Congressional Research Service (Library of Congress)
DHHS	Department of Health and Human Services
DRG	diagnosis-related group
ESP	Economic Stabilization Program
ESRI	Economic and Social Research Institute
FEHBP	Federal Employees Health Benefits Program
FFS	fee-for-service
GAO	General Accounting Office (U.S. Congress)
GDP	gross domestic product
GHAA	Group Health Association of America
GP	general practitioner
HCFA	Health Care Financing Administration (DHHS)
HEP	Hospital Experimental Payments program
HIAA	Health Insurance Association of America
HIE	Health Insurance Experiment (Rand)
HIS	Health Interview Survey

HMO	health maintenance organization
HPPC	health plan purchasing cooperative
IPA	individual practice association
MFS	Medicare fee schedule
NHA	National Health Accounts
NHB	National Health Board
NHE	national health expenditures
NMCUES	National Medical Care Utilization and Expenditure Survey
NMES	National Medical Expenditure Survey
OBRA-1989	Omnibus Budget Reconciliation Act of 1989
OECD	Organisation for Economic Cooperation and Development
OMB	Office of Management and Budget (U.S. Executive Office of the President)
OTA	Office of Technology Assessment (U.S. Congress)
PHS	Public Health Service (DHHS)
PPO	preferred provider organization
PPS	prospective payment system (Medicare)
RCT	randomized clinical trial
SIPP	Survey of Income and Program Participation
SP1	Single payer 1 (CBO)
SP2	Single payer 2 (CBO)
SSA	Social Security Administration (DHHS)
TAB	Technology Assessment Board (OTA)
TEFRA	Tax Equity and Fiscal Responsibility Act of 1982
VPS	Volume Performance Standards (Medicare)

GLOSSARY

Accountable Health Plan (AHP)
Under the Managed Competition Act, the term accountable health plan means a health plan registered with the National Health Board that meets standards established by the National Health Board.

Acute care
Medical services offered within a hospital setting over a short period of time designed to treat patients for acute episodes of illness, injuries, and post-surgery.

Administrative costs
Expenses related to the management or supervision of the provision of health care coverage and/or services. Analyses of reform approaches, proposals, or plans frequently do not share a common definition of what components constitute administrative costs, but most commonly refer to insurer (including government programs and private plans) and provider (including hospital and physician) administrative costs.

Administrative load
With private health insurance, the difference between premiums and claims paid, including profit.

Adverse selection
In health insurance, the tendency of persons with poorer than average health expectations to apply for, or continue, insurance to a greater extent than persons with average or better heath expectations.

Affordable Health Care Now Act of 1993 (H.R. 3080/S. 1533)
A health reform proposal sponsored primarily by Rep. Robert Michel and Sen. Trent Lott in the 103d Congress that would require employers to offer, but not pay for, a basic health benefit plan. The proposal includes regulation of underwriting and rating practices in the small group market and requirements that insurers offer three different health plans and portability of coverage. It also includes measures to encourage development of multiple employer purchasing groups.

Aging
Temporal extrapolation to actualize or further forecast a sample.

All-payer system
A payment system in which services are covered and paid for by multiple payers, but where all payers adopt the same payment methods and rates. Compare *singlc-payer system.*

Ambulatory encounters
Ambulatory encounters can include phone calls or visits to physicians' or other providers' offices, or visits to hospital outpatient departments. Surveys do not always distinguish among these types of encounters and settings for encounters, and studies using surveys do not always define their terms clearly. In the health services literature, *ambulatory* means other than on an inpatient basis.

American Health Security Act of 1993 (H.R. 1200/S. 491)
A health reform proposal sponsored by Rep. Jim McDermott and Sen. Paul Wellstone in the 103d Congress that would establish a single-payer national health insurance program, federally mandated and administered by the States. This program would replace private health insurance and public program coverage. The program would provide coverage of comprehensive health and long-term care benefits. A national board would establish a national health budget that would be distributed among the States, based on the national average per capita cost of covered services, adjusted for differences among the States in costs and the health status of their populations.

Analysis
In this report, an estimate of the impact of a health reform proposal.

Analysts
In this report, those individuals and organizations using analytical tools and methods for simulation of national health expenditures, redistributive, and macroeconomic effects of changes in policy.

Assumption
The supposition that something is true. In this report, assumption refers to the parameters used to estimate national health expenditures under reform.

Balance billing
In the Medicare program, the practice of billing a Medicare beneficiary in excess of Medicare's allowed charge. The *balance billing* amount would be the difference between Medicare's allowed charge and the physician's (or other qualifying provider's) fee.

Baseline
Baselines are projections of expenditures assuming no reform (e.g., assuming the continuation of current policies).

Baseline national health expenditures
See *baseline* and *national health expenditures.*

Behavioral assumptions
Assumptions concerning behavioral responses to a change in policy, that is, changes in behavior of an individual decision unit, such as a family, employer, or hospital. In turn, behavioral responses have feedback effects on program costs and recipients.

Benefit package
The package of health care services covered by a particular insurer.

Billings
The physician's (or provider's) actual (billed) charge for a service.

Budgets
A financial plan for allocating resources.

Cavitation (or per capita) payment
A method of payment for services in which a service provider (e.g., a physician, hospital, or other agency or individual) is paid a fixed amount for each person served regardless of the actual cost of services provided for the person.

Case mix index
A measure of the type of cases being treated by a particular health care provider that is intended to reflect the patients' different needs for resources.

Certificate-of-Need (CON)
A regulatory planning mechanism required (in order to receive certain federal funds) by the National Health Planning and Resources Development Act of 1974 (Public Law 93-641) to control expenditures for and distribution of expensive medical care facilities and equipment. Each State was required to enact a CON law with specific characteristics, such as expenditure thresholds. Compliance with this federal planning requirement has not been enforced because of a series of legislative amendments. In States where CON laws have been enacted and have not expired or

been repealed, CON applications by institutions are reviewed by local health systems agencies and are then denied or approved by State health planning agencies.

Charge
The price of a service or the amount billed for services rendered.

Coinsurance
That percentage of covered hospital and 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.

Community hospitals
As defined by HCFA, those nonfederal acute care hospitals whose average length of stay is less than 30 days and whose facilities and services are open to the general public.

Community rating
Definitions of community rating vary. One definition is a method of determining premium rates that is based on the allocation of total costs without regard to past claims experience. Another definition is an approach to pricing health insurance premiums that requires an insurer to accept all applicants at virtually the same rates. The second definition is the one most applicable to the health reform proposals referred to in this report.

Comprehensive Family Health Access and Savings Act (S. 1807/H.R. 3918)
A proposal introduced by Sen. Phil Gramm and Rep. Rick Santorum in the 103d Congress that gives new federal tax exclusions, deductions, and refundable credits to individuals for the purchase of health insurance and/or for contributions to medical savings accounts. The proposal would also prohibit certain insurance underwriting practices, and would subsidize premium expenses for certain persons with pre-existing conditions. Phase-in of new federal subsidies would be contingent on the achievement of federal savings under the Medicare and Medicaid programs.

Comprehensive Health Reform Act of 1992 (H.R. 5919)
A proposal introduced by Rep. Robert Michel in the 102d Congress. It allows the self-employed to deduct their health insurance costs from taxable income, regulating employment-based health insurance to improve its availability and affordability, standardizing medical and health insurance information, and reforming the system of liability for medical malpractice.

Comprehensive health service organizations
As defined in the American Health Security Act of 1993 (H.R. 1200/S. 491), a public or private organization which, in return for a capitated payment amount, undertakes to furnish, arrange for the provision of, or provide payment with respect to: 1) a full range of health services (as identified by a National Health Board), including at least hospital and physician services, and 2) out-of-area coverage in the case of urgently needed services, to an identified population that is living in or in or near a specified service area and that enrolls voluntarily in the organization.

Consumer Choice Health Security Act of 1993 (S. 1743/H.R. 3698)
A bill introduced by Sen. Don Nickles and Rep. Cliff Steams in the 103d Congress in which all persons would be required to purchase health insurance through a plan meeting federal standards relating to minimum benefits and rating and underwriting practices, or through a state-established health plan. Current tax exclusions for employer-sponsored health plans would be replaced with refundable tax credits for a portion of the premium cost of qualified health insurance plans and for other medical expenses. Employers currently providing health benefits would be required to convert them into added wages.

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).

Corporate alliances
A term used in the Health Security Act (H.R. 3600/S, 1757) that refers to entities created by em-

ployers with 5,000 or more employees to provide health insurance. Corporate alliances would have to enroll all eligible persons and provide the comprehensive benefit package. They would have to offer a choice of at least three health plans, one of which would be a fee-for-service plan.

costs
Expenses incurred in the provision of services or goods. Many different kinds of costs are defined and used (e.g., allowable, direct, indirect, and operating costs). It is important not to confuse costs with charges, which are the price of a service or the amounts billed for services rendered.

Cost-sharing
The provisions of a health benefits plan that require the enrollee to pay a portion of the cost of services covered by the plan, typically exclusive of premium cost-sharing (sharing the cost of a health care plan premium between the sponsor and the enrollee). Usual forms of cost-sharing include deductibles, coinsurance, and copayments. These payments are made at the time a service is received or shortly thereafter, and are only made by those insured people who seek treatment.

Coverage
Promise by a third party to pay for all or a portion of expenses incurred for specified health care services.

Current law
Refers to the status quo or current health care policy and law as of the time of the analysis.

Current Population Survey (CPS)
Sponsored by the Department of Labor's Bureau of Labor Statistics, and the Department of Commerce's Bureau of the Census, the CPS is a continuing monthly cross-sectional survey of about 60,000 U.S. households. Data collected includes labor force status for ages 15 and older. The March CPS includes supplementary questions on income, employment status, and health insurance coverage during the previous calendar year.

Demand for services
Use of services.

Depth of coverage
The aspect of insurance benefit plans related to the extent of patient cost-sharing.

Diagnosis-related groups (DRGs)
Entries in a taxonomy of types of hospitalizations based on 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 have been mandated for use in establishing payment amounts for individual admissions under Medicare's prospective hospital payment system as required by the Social Security Amendments of 1983 (Public Law 98-21).

Disproportionate share hospitals
Hospitals that serve a relatively large volume of low-income patients and therefore may be eligible for a payment adjustment under the prospective payment system (PPS).

Distributional analyses
Analyses of the distribution of costs and benefits of a particular policy across different sectors in the economy, populations, income groups, or other identifying characteristics of groups.

Durable medical equipment
Medical equipment that is capable of withstanding repeated use, generally not useful to someone in the absence of injury or illness, and appropriate for home use. Examples include intravenous poles and infusion pumps.

Economic efficiency
Economic efficiency exists when resources are allocated in an optimal way.

Employment-based health insurance
A group health plan that is sponsored by an employer for employees and their dependents.

Enrollee
An individual who qualifies for benefits under a health benefits plan and has taken any required action to register or otherwise signify his or her participation in the plan.

Estimate
An approximate calculation, a numerical value obtained from a statistical sample or economic model (in this report, used most often to refer to the outcome of simulations of national health expenditures).

Expenditures
In the context of health care, monies spent on the acquisition of heath care coverage and/or services.

Expenditure caps
An approach to government cost controls in which a regulatory authority sets a limit on aggregate spending levels or increases for a specific category of health services (e.g., physician or hospital services), and in which billings exceeding the cap trigger certain penalties, the effects of which would be felt in the current period. Compare with *expenditure targets.*

Expenditure limit
Refers broadly to a government regulatory strategy that set limits on aggregate spending levels or increases for large sources of funding for national health expenditures.

Expenditure targets
An approach to cost containment in which a regulatory authority sets targets or goals for aggregate spending levels or increases for a specific category of health services (e.g., physician or hospital services). However, billings exceeding the target do not necessarily trigger penalties. Compare with *expenditure caps.*

Experimental data
Data from experiments.

Federal poverty level
The official U.S. government definition of poverty based on cash income levels for families of different sizes. Responsibility for changing poverty concepts and definitions rests with the Office of Management and Budget.

Fee-for-service
A method of billing for health services under which a physician or other practitioner charges separately for each patient encounter or service rendered. Fee-for-service is used in this report and in most studies comparing fee-for-service and managed care to refer to insurance arrangements that do not "manage" care (i.e., pure indemnity arrangements), but managed care principles are increasingly being used in fee-for-service indemnity plans.

Fee-for-service plan
Used in this report to mean a traditional or conventional health insurance plan that permits insured individuals to select providers of services and that pays the providers according to the fees charged for such services. The term is used to distinguish such plans from HMOS, under which the enrollee generally must obtain services from HMO providers whose payments from the HMO are not necessarily directly related to the type or quantity of services actually provided.

Fee schedule
An exhaustive list of medical services and fees in which each entry is associated with a specific monetary amount that represents the approved payment amount for the service under a given insurance plan.

First-dollar coverage
Coverage without patient *cost-sharing* requirements.

Fixed costs
Operating expenses that do not vary, at least over the short term, with the volume of services provided.

Government cost controls
Measures by which federal, state, or local governments play a direct role in financing and paying health care facilities and providers. Government cost controls include limits on prices of health insurance (i.e., premiums), prices of particular categories of health services (e.g., physicians' fees), overall expenditures for a particular health care category or facility (e.g., hospital), or overall outlays for a particular source of funding (e.g., national, state, or local government budgets).

Gross **domestic product (GDP)**
The total value of the goods and services produced in a country.

Group-model HMO
An HMO that contracts with one independent group practice to provide health services.

Growth rate of national health expenditures
The extent to which national health expenditures increase, usually expressed as an annual percent**age** increase.

Health alliances
A term used in the Health Security Act (H.R. 3600/S. 1757) to refer to regional purchasing pools that would allow employees and individuals to comparison shop for health plans, along with other responsibilities.

Health Care Cost Containment and Reform Act of 1992 (H.R. 5502)
A proposal Rep. Pete Stark introduced in the 103d Congress that would make three major changes to the health system. It would attempt to slow the growth of health care spending by establishing limits on most health care expenditures and by setting payment rates for all personal health services. It would establish national standards for health insurance plans and simplify the administration of health insurance. Finally, it would expand benefits under Medicare and Medicaid and establish a new Federal program to provide health insurance to all children under age 19.

Health Equity and Access Reform Today Act of 1993 (H.R. 3704/S. 1770)
A reform proposal introduced by Rep. Bill Thomas and Sen. John Chafee and others in the 103d Congress that would require all persons to purchase coverage through a qualified health plan, or face a penalty for noncompliance. All employers would be required to offer their employees enrollment in a qualified health plan, or face a penalty for noncompliance. No employer, however, would be required to make contributions for coverage of an employee. Small employers and individuals could participate voluntarily in State-established purchasing cooperatives or select other qualified health plans. All plans would have to offer standard benefits and would be subject to restrictions on rating and underwriting practices. Federal subsidies in the form of vouchers would be phased in for low-income persons, subject to savings being achieved under the Medicare and Medicaid programs.

Health insurance
In this report, the term *health insurance* is used broadly to include various types of health plans that are designed to reimburse or indemnify individuals or families for the costs of medical care, or (as in HMOS) to arrange for the delivery of that care, including traditional private indemnity fee-for-service coverage, prepaid health plans such as HMOS, self-funded employment-based health plans, *Medicaid,* and *Medicare.*

Health maintenance organization (HMO)
A health care organization that acts as both insurer and provider of health care. A defined set of physicians (and, often, other health care providers such as physician assistants and nurse midwives) provide services to an enrolled population. Benefits are usually provided with minimal patient cost-sharing. Types of HMOS include *group-model HMOS, staff-model HMOS,* and *individual practice associations.*

Health plan
The term *health plan* has no standard definition, and different insurer organizations and health reform proposals define "health plan" differently. The term health plan was coined, in part, because the term health insurance plan does not indicate that many plans both provide insurance, that is they finance care through premiums collected from employers and individuals, and are involved in the delivery of care (e.g., through utilization management, by hiring providers, and/or providing setting). Thus, the term health plan is more general than the term health insurance plan and includes a wide spectrum of private health care financing and delivery arrangements, ranging from traditional fee-for-service plans to traditional health maintenance organizations.

Health plan purchasing cooperatives
Groups that arrange for the purchase of health insurance usually on behalf of a large number of people, such as employees of small businesses.

Health Security Act (H.R. 3600/S. 1757)
A proposal devised by the Clinton Administration that would require all persons to obtain a comprehensive health benefits package from large insurance purchasing cooperatives called *health alliances*. Health plan premiums would be paid through a combination of employer and individual contributions, supplemented by Federal subsidies for some types of firms, early retirees, and persons with incomes below certain levels. A national health care budget would be established for expenditures for services covered under the comprehensive package. This budget would limit both initial premiums and the year-to-year rates of increase that could be charged by health plans participating in the alliances. Ultimately, premiums could grow no faster than the rate of growth in per capita gross domestic product, unless Congress specifies a different inflation factor.

Home health services
Items and services provided as needed in patients' homes by a home health agency or by others under arrangements made by a home health agency.

Hospital mandatory rate setting
A state program that involves mandatory review and compliance by all hospitals in the state with hospital rates set by a state rate-setting authority.

Hospital market basket index
An index of the national average annual change in the price of goods and services that hospitals purchase to produce inpatient services.

Hospital operating budget
The fixed amount of revenues that pays for day-to-day costs of running a hospital. Generally, the budget does not include funds to finance capital expenditures such as the expansion of building facilities or the purchasing of expensive high-technology equipment.

Individual practice association (I PA)
A type of HMO that contracts directly with physicians in independent practice, with one or more associations of physicians in independent practice, and/or with one or more multi specialty group practices to provide health services.

Input (real)
A measure of cost defined in terms of the factors used to produce a good or service. In the context of the hospital sector, these factors include labor (e.g., nurses, nursing assistants, administrators, and custodial staff) and nonlabor units (e.g., buildings, equipment, and supplies).

Insurer overhead
The *administrative load* of private health insurance and the costs of operating public programs that provide health care coverage.

Length of stay
The number of days a patient stays in the hospital from admission to discharge.

Level
The amount of spending in a particular specified time period.

Managed care
A general term applied to a range of initiatives from organized health care delivery systems (e.g., HMOS) to features of health care plans (e.g., preadmission certification programs, utilization review programs) that attempt to control or coordinate enrollees' use of (and thus to control the cost of) services.

Managed competition
An approach to health reform that would combine health insurance market reform with health care delivery system restructuring. The theory of managed competition is that the quality and economy of health care delivery will improve if independent groups compete with one another for consumers in a government-regulated market.

Managed Competition Act of 1992 (H.R. 5936)
A proposal sponsored by Rep. Jim Cooper in the 102d Congress that attempts to control costs and expand access to health insurance by restructuring the way health insurance and health care are provided. A national health board would oversee the health insurance market and establish criteria for accountable health plans (AHPs); regional health plan purchasing cooperatives (HPPCS) would allow individuals and small groups to purchase health insurance on the same terms as large groups. The tax deduction for health insurance premiums would be limited to the cost of the least expensive AHP in the region. The bill would replace the Medicaid program with a new Federal program that would help low-income people purchase health insurance coverage through their local HPPC. Other provisions of the bill are designed to improve access to health care in rural and other underserved areas, expand preventive health programs, establish uniform standards for malpractice claims, and simplify the administration of health insurance.

Managed Competition Act of 1993 (H.R. 3222/S. 1579)
A proposal sponsored by Rep. Jim Cooper and Sen. John Breaux in the 103d Congress that would allow states to establish health plan purchasing cooperatives (HPPCS) that would contract with accountable health plans (AHPs). AHPs would be required to cover a uniform set of benefits and comply with premium rating and underwriting standards. All employers would be required to offer, but not pay for, coverage in an AHP. Small employers with 100 or fewer employees would have to participate in the HPPC; larger employers could offer their own AHP. Health plan expenses would be tax-deductible up to the cost of the lowest-cost basic plan in the area. An excise tax would be imposed on employer contributions in excess of this level.

Medicaid
A joint federal-state program intended to provide health care and health-related services for low-income individuals. Medicaid regulations are established by each state within federal guidelines, and the eligibility requirements and services covered vary significantly among the states. In general, Medicaid pays for medical, nursing home, and home health care for individuals who meet the eligibility requirements for those services. In some states, Medicaid also pays for adult day care and in-home services such as personal care and homemaker services. Financial eligibility for Medicaid is determined by a means test, in which a ceiling is placed on the maximum income and assets an individual may have in order to qualify for assistance. The income and assets levels are low in all states and very low in some states.

Medical savings account
A trust created or organized exclusively for the purpose of paying the medical expenses of beneficiaries of such trust.

Medicare
A nationwide, federally administered health insurance program authorized by Title XVIII of the Social Security Act of 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 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.

Medicare payment rates
The amounts that the Medicare program agrees to pay for hospital or physician services provided to Medicare beneficiaries.

Medigap insurance
Private supplementary medical insurance covering out-of-pocket expenditures (deductibles and coinsurance) of Medicare beneficiaries, but typically not covering the patient liability for physician services not covered by assignment.

Model
In this report, a general term applied to a collection of analytical tools used for estimating, projecting, or simulating national health expenditures under health care reform. A National Acade-

my of Sciences (N AS) panel defines formal models as "models that are based on a coherent modeling strategy and set of assumptions, developed for repeated application, and designed to produce consistent estimates for a range of policy proposals within a common framework that is, or can be, well documented and evaluated. By their nature, formal models circumscribe, although they do not eliminate, the role of individual analysts' judgments. Such models . . . vary in size, scope, and the types of data and modeling strategies they use, but they share the attributes we have listed." Not all of the analytical tools for making estimates and projections of national health expenditures, redistributive, and macroeconomic effects of policy changes meet the NAS criteria for formal models. NAS notes further that "formal models, as [NAS has] defined them, are at one extreme of a continuum of policy analysis tools." Between "back of the envelope" calculations and formal models are "models that are developed by an analyst on an ad hoc basis--often using personal computer spreadsheets—to respond to a specific policy debate. Such models, which vary greatly in complexity and approach, will reflect the analyst best efforts to use all available data to develop the estimates needed for the particular debate, but they are not generally designed with any future application in mind" (20).

Monopsonistic buying power
A market condition that allows a single buyer to control the demand side of the market for a product or service.

Multivariate econometric analysis
An analysis that uses statistical methods to estimate and test models of economic behavior and measures the effects of several factors on the variable of interest.

National Health Accounts (NHA)
The National Health Accounts are statistics representing total national health expenditures used to identify all goods and services relating to health care, and the amount spent on these goods and services.

National Health Board
A body that would be established under several health reform proposals and given varying degrees of responsibility for creating and regulating different aspects (i.e., a standard benefit package) of these proposals.

National health expenditures (NHE)
An estimate by HCFA of national spending on health care made up of two broad categories: 1) health services and supplies, which, in turn, consist of personal health care expenditures (the direct provision of health care), program administration and the net cost of private health insurance, and government public health activities; and 2) research and construction of medical facilities.

National health expenditure-to-GDP ratio
The ratio of a country's national health expenditures to the country's gross domestic product.

National health insurance program
Any system of health insurance benefits, covering all or nearly all citizens, established by federal law, administered by the federal government, and supported or subsidized by taxation.

National Health Interview Survey
A continuing nationwide sample survey in which data are collected through personal household interviews. Information is obtained on personal and demographic characteristics, illnesses, injuries, impairment, chronic conditions, utilization of health resources, and other health topics. For individuals under age 17, information is collected from a proxy respondent, typically a parent or guardian. The survey is conducted by the National Center for Health Statistics in DHHS.

National Medical Care Utilization and Expenditure Survey, 1980 (NMCUES)
Sponsored by the National Center for Health Statistics in the DHHS, the NMCUES survey involved five rounds of data collection over a 15-month period around 1980 for a national sample of 6,000 households. Data were collected on health insurance coverage, episodes of illness,

number of bed days, hospital admissions, physician and dental visits, other medical care encounters, prescription purchases, access to medical care services, income, and demographic and socioeconomic characteristics. Information was also collected on provider characteristics, services provided, charges, sources, and amounts of payments.

National Medical Expenditure Survey (NMES)
A survey conducted by the DHHS involving five rounds of data collection, between February 1987 and July 1988, sampling 14,000 households (Household Survey). The NMES also surveys physicians and health care facilities providing care to members of a household sample during 1987 and employers and insurance companies responsible for their insurance coverage (Health Insurance Plan Survey). The NMES also included an institutional survey of 13,000 residents of nursing and personal care homes, psychiatric hospitals, and facilities for mentally retarded persons.

Network-model HMO
An HMO that contracts with two or more independent group practices to provide health services.

Nominal
Variables (e.g., fees, expenditures, or gross domestic product) expressed in nominal terms means data that is not adjusted for the effects of price changes. Compare with *real.*

Open enrollment
A health insurance enrollment period when coverage is offered regardless of health status and without medical screening.

Out-of-pocket expenses (costs) or spending
Payments made by a plan enrollee, beneficiary, or insured for medical services that are not reimbursed by the health plan. These may include payments for deductibles and coinsurance for covered services, for services not covered by the plan, for provider charges in excess of the plan's limits, and for enrollee premium payments.

Per-case payment
A type of hospital payment system that pays the hospital 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.

Per-diem **payment**
An established rate and method of payment based on the cost of providing a day of hospital inpatient care.

Personal health expenditures
Expenditures that include all services and products purchased that are associated with individual health care, such as hospital services, physician services, drugs, and nursing home care. Excludes expenditures for government public health activities, research and construction, and administrative costs. This is a subcategory of national health expenditures.

Point estimate
A single number rather than a range of numbers.

Preexisting condition
A condition (such as an injury, a disease, or a physical disability) existing in an individual before an insurance policy goes into effect that may in some way hinder the insurance coverage.

Preferred provider organization (PPO)
A term that refers to a variety of different insurance arrangements under which plan enrollees who choose to obtain medical care from a specified group of participating providers receive certain advantages, such as reduced cost-sharing charges. Providers usual] y furnish services at lower than usual fees in return for prompt payment by the health insurance plan and a certain assured volume of patients.

Premium
The periodic payment made to an insurer under the terms of an insurance contract.

Premium limits
A limit on the growth rate or level of premiums.

Price controls
Government involvement in determining the level or growth in input prices (resource costs) or output prices (charges) for medical services, including fee schedules and fee updates for physician ser-

vices and per-diem, per-case, or per-service rate setting for hospital services.

Price elasticity of demand
Percent change in quantity demanded that results from a 1 percent change in the price of a product. For example, if a 10 percent increase in the fee for a physician's office visit caused a 5 percent decrease in patient visits, the price elasticity of demand would be minus 0.5.

Private health insurance
Health insurance that is taken up and paid for at the discretion of individuals, or employers on behalf of individuals.

Private insurance load
The difference between premiums and claims paid, including profit. (Also referred to in this report as private insurance overhead.)

Proposal
In this report, proposal refers to plans to reform the health care system, usually in the form of legislation.

Prospective budgets
An overall limit on the funds to pay for a specific category of health care services, fixed in advance of the payment period, regardless of where the funds originate.

Prospective payment
Payment for medical care on the basis of rates set in advance of the time period in which they apply. The unit of payment may vary from individual medical services to broader categories, such as hospital case, episode of illness, or person (cavitation). Medicare's DRG payment system for inpatient hospital services is a particular form of prospective payment.

Prospective payment system (PPS)
A payment system that pays health care providers for their services according to a predetermined, fixed amount. Although prospective payment rates may be related to the costs providers incur in providing services, the amount a provider is paid for a service under a prospective payment system is unrelated to the provider's actual cost of providing that specific service. Medicare and CHAMPUS use prospective payment systems to pay for inpatient hospital services.

Provider
A physician, hospital, group practice, nursing home, pharmacy, or any individual or group of individuals that provides a health care service.

Provider overhead
Provider expenses associated with activities not directly related to patient care. Definitions of what specific activities are included vary widely.

Provider volume offset
Provider behavior that changes the volume of services in response to changes in provider payment rates.

Public coverage
Third-party coverage that is chiefly administered, operated, or financed by federal or state governments. Examples are Medicaid, Medicare, and CHAMPUS. Compare *private health insurance.*

Rand Health Insurance Experiment (HIE)
A large-scale controlled trial in health care financing with the objective of examining the effects of different organizational and patient cost-sharing arrangements. The HIE was conducted between 1974 and 1982.

Randomized clinical trial (RCT)
An experiment designed to test the safety and efficacy of a medical technology in which people are randomly allocated to experimental or control groups, and outcomes are compared.

Rate-setting system
A method of payment in which a governmental regulatory body (usually a state) decides what prices a hospital, for example, may charge in a given year.

Real
Variables (e.g., fees, expenditures, or gross domestic product) expressed in real terms means data that is adjusted for the effects of price changes. Compare with *nominal.*

Real expenditures
Expenditures adjusted for inflation.

Regional alliance
As defined in the Health Security Act, a nonprofit organization, an independent state agency, or an agency of the state which contracts with certified health plans to provide coverage to residents of the region. An alliance would be required to offer a contract to any certified plan seeking to serve in its area unless the plan's proposed premium exceeded the per capita premium target by more than 20 percent. The alliance would also be required to ensure that at least one fee-for-service plan was available among plan offerings.

Relative value scale (RVS)
An index that assigns weights to each medical service. The RVS used in the development of the Medicare fee schedule consists of four cost components: physician work, practice work, practice expense, and malpractice expense.

Retrospective cost-based reimbursement
A payment method for health care services that pays hospitals (or other providers) their incurred costs for treating patients after the treatment has occurred. In this country, the term has traditionally referred to hospital payment, since other providers have generally been paid on the basis of charges instead of costs.

Risk-adjusted payments
Payments to providers or insurers that are adjusted for the relative risk of using health services. Common risk adjustment factors include age, gender, health status, and prior use of health services.

Scope of coverage
The services covered.

Sensitivity analysis
An analysis of the effect of changes in assumptions on the findings and outcome of an overall study.

Service intensity
The number and complexity of patient care resources, or intermediate outputs, used in producing a patient care service.

Sickness fund
Organizations that administer national health insurance; the term is used primarily in European countries.

Simulation
Used in this report to mean an artificial model of the health care system, set up in order to test an outcome of a potential health reform proposal.

Single-payer system
A payment system in which all covered health care services are insured and paid for by a single insurer.

Skilled nursing facility
A facility that provides skilled nursing care. A distinct part skilled nursing facility is a distinct unit within the hospital that provides such care (i.e., beds set up and staffed specifically for this service), is owned and operated by the hospital, and meets Medicare certification criteria.

Small-market reforms
Changes in the health insurance market for small businesses.

Staff-model HMO
An HMO in which physicians practice solely as employees of the HMO and are paid a salary.

Standardized benefit package
Under reform, a requirement that all or many health insurers must provide coverage for an identical scope and depth of services.

Statistically significant
The likelihood that an observed association is not due to chance.

Supplemental insurance
Coverage that is designed to insure expenses not covered by a basic plan.

Survey of Income and Program Participation (SIPP)
Sponsored by the Department of Commerce's Bureau of the Census, the SIPP is an ongoing panel survey of adults ages 15 and older in the civilian, noninstitutionalized population. The first panel,

held in the fall of 1983, completed nine interviews at 4-month intervals with 20,000 households. Subsequent panels have begun in February of each year with varying numbers of households and numbers of interviews. For the purposes of this report, the most important data collected concerned monthly information on detailed sources and amounts of income from public and private transfer payments, noncash benefits including food stamps, Medicaid, Medicare, and health insurance coverage.

Third-party payer
Private insurers or government insurance programs that pay providers for health care given to patients they insure, either directly or by reimbursing patients for payments they make.

Uncertainty
In this report, as in a recent report of the National Research Council, the term is used as "an umbrella term for the quantification of the differences between a model's estimates and the truth" (20).

Underwriting
The process by which a health insurer determines whether or not and on what basis it will accept an application for insurance.

Univariate econometric analysis
An econometric method for measuring the effect of only one factor on the variable of interest. Compare *multi variate econometric analysis.*

Universal coverage
Guaranteed health insurance coverage for all individuals in a given population.

Utilization
Use; commonly examined in terms of patterns or rates of a single service or type of service (e.g., hospital care, physician visits, prescription drugs). Measurement of utilization of all medical services in any given period is sometimes done in terms of dollar expenditures. Use is also expressed in rates per unit of population at risk for a given period (e.g., number of admissions to a hospital per 1,000 persons over age 65 per year or number of visits to physician per person).

Volume feedback
A method of reducing physician fees in the current or proceeding period based on the volume of *services* provided in the current or past period.

Volume Performance Standards (VPS)
Established under the Omnibus Budget Reconciliation Act of 1989 (Public Law 101 -239) as a means of affecting Medicare payments to physicians; volume performance standards act as a mechanism to update physician fees, as an expenditure target for physician expenditures that are used 2 years later to update fees under the Medicare fee schedule, and to assist in updating future payment rates based in part on the comparison of actual expenditure increases with the target.

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