Adolescent Health Insurance Status: Analyses of Trends in Coverage and Preliminary Estimates of the Effects of an Employer Mandate and Medicaid Expansion on the Uninsured

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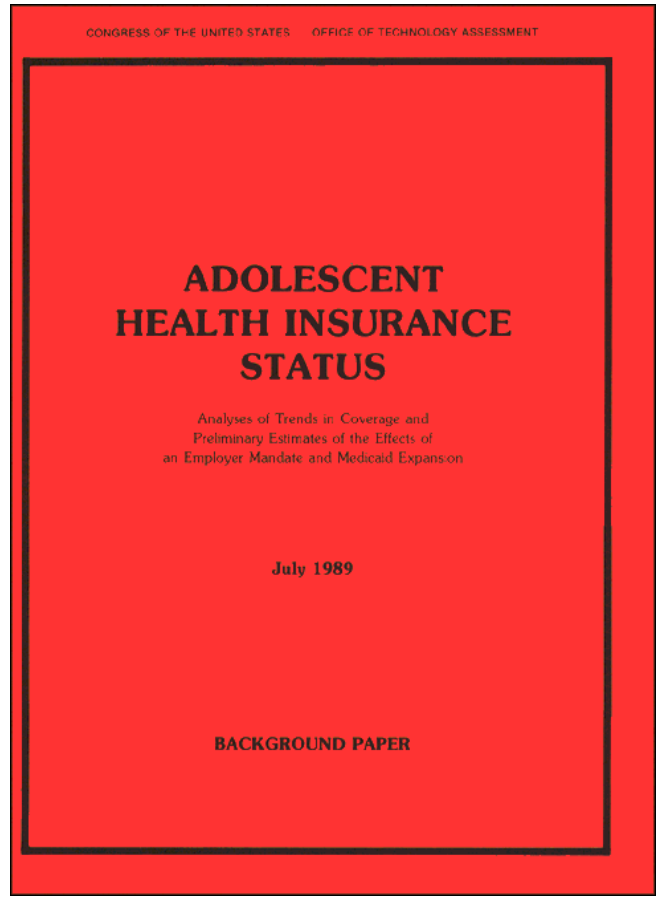

ADOLESCENT HEALTH INSURANCE STATUS: ANALYSES OF TRENDS IN COVERAGE

and

PRELIMINARY ESTIMATES OF THE EFFECTS OF AN EMPLOYER MANDATE AND MEDICAID EXPANSION ON THE UNINSURED

July 1989

Background Paper for the Office of Technology Assessment's
Projecit on Adolescent Health

Prepared under contract by

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OTA appreciates the assistance of Carnegie Corporation and Carnegie Council on Adolescent Development in supporting the work of Richard Kronick for this background paper

The views expressed in this paper do not necessarily represent those of the Technology Assessment Board, the Technology Assessment Advisory Council, or their individual members.

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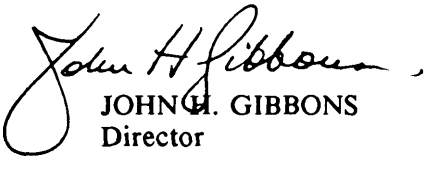
FOREWORD

One need only read today's headlines to know that many of our Nation's adolescents often need health care and don't get it. This Background Paper addresses one important barrier to access to care--lack of health insurance coverage. This is OTA's first publication in response to a request for an assessment of adolescent health. Numerous members of Congress requested the assessment, including the Chair and/or Ranking Minority Members of the Senate Appropriations Committee, the Senate Commerce, Science, and Transportation Committee, the Senate Environment and Public Works Committee, the Senate Finance Committee, the Senate Foreign Relations Committee, the Senate Labor and Human Resources Committee, the Senate Rules and Administration Committee, the Senate Small Business Committee, the Senate Veterans' Affairs Committee, the House Agriculture Committee, the House Interior and Insular Affairs Committee, and 7 members of OTA's Technology Assessment Board, including the Chairman.[1] The principal requesters were Senator Daniel K. Inouye, Chairman of the Select Committee on Indian Affairs, and Senator Nancy Landon Kassebaum, Ranking Minority Member of the Education, Arts and Humanities Subcommittee of the Senate Labor and Human Resources Committee. A letter of support was received from the House Select Committee on Children, Youth, and Families. The main report of the assessment will be released in 1990.

It is important to note that certain of the analyses in this background paper are preliminary, because certain data are not yet available from the U.S. Census Bureau. Therefore, estimates have been made of the numbers of adolescents who are currently uninsured and of the potential impact of the two proposed legislative changes to expand coverage. An updated report will be released by OTA soon after the necessary data become available.

A special report associated with OTA's adolescent health project will be released later this summer on the mental health of American Indian and Alaska Native adolescents.

OTA would like to thank Carnegie Corporation of New York and the Carnegie Council on Adolescent Development for supporting the work of Richard Kronick of the University of California, San Diego. OTA is, however, responsible for the paper and its conclusions, as well as any omissions or errors therein.



JOHN H. GIBBONS
Director

1 An additional four Senators requested the assessment (in 1988), but are no longer members of the Senate.

OTA Background Paper--

Adolescent Health Insurance Status:
Preliminary Analyses of Trends in Coverage and
Estimates of the Effects of an
Employer Mandate and Medicaid Expansion on the Uninsured

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CONTENTS

Chapter *Page*

1. Executive Summary 1

2. Introduction and Current Number of Uninsured Adolescents **9**

3. Sociodemographic Characteristics of Uninsured Adolescents 13

4. Trends in Adolescent Health Insurance Coverage, 1979-1986 ..... **29**

5. Potential Effects of Employer Mandates and Medicaid Expansions **43**

Appendix

A. Constructing Estimates of the Number of Uninsured Using the Current Population Survey: Adjustments Made and Interpretation of Results 49
B. CPS Health Insurance Questions, March 1980-March 1987 58
C. CPS Health Insurance Questions, March 1988 59
D. Bivariate Relationships Among Insurance Status and Selected Sociodemographic Characteristics of Uninsured Adolescents 61
E. Federal Poverty Level for a Family of Three, 1979-1988 69
F. Acknowledgments and OTA's Adolescent Health Advisory Panel **70**

References 72

Tables

Table *Page*

1. Health Insurance Status of Adolescents, Age 10-18, by Family Income, 1987 4
2. Health Insurance Status of the 10- to 64-year-old Population, by Age Group, 1987 11
3. Family Income, Race and Ethnicity, and Health Insurance Status of Adolescents, Age 10-18, 1987 15
4. Adolescent's Living Arrangement by Family Income, 1987 17
5. Family Income, Living Arrangement, and Health Insurance Status of Adolescents, Age 10-18, 1987 17
6. Family Income, Education of Family Head, and Health Insurance Status of Adolescents, Age 10-18, 1987 18
7. Family Income, Selected Parental Characteristics, and Health Insurance Status of Adolescents, Age 10-18, 1987 ..... **20**
8. Region and Adolescent Health Insurance Status, 1987 23
9. Health Insurance Status of Adolescents, Age 10-18, by Region and Family Income, 1987 25
10. Estimates of the Effects of Poverty and Rates of Medicaid and Private Coverage on Regional Differences in Adolescent Health Insurance Status, 1983-1986 26
11. Trend in the Health Insurance Status of Adolescents, Age 10-18, 1979-1986 ..... **30**
12. Trend in the Health Insurance Status of Adolescents, Age 10-18, by Family Income, 1979-1986 33

CONTENTS (cent'd)

Tables (cent'd)

Table *Page*

13. Estimates of the Effects of Changes in Poverty and **Rates** of Medicaid and Private Coverage on the Proportion of Adolescents Without Health Insurance, 1981-1986 36
14. Industry of Parent's Employers and Health Insurance **Status** of Adolescents, 1982-1986 38
15. Trend in Parental and Adolescent Health Insurance **Status, 1979-1986** **40**
16. Potential Effect of Various Employer Mandates on Uninsured Adolescents by Living Arrangement and Parent's Work Status 45
17. Potential Effect of a Medicaid Expansion on Uninsured Adolescents by Poverty Level and Living Arrangements 47
18. Potential Effects of Various Combinations of Employer Mandates and Expansions in Medicaid on Uninsured Adolescents, Age 10-18 47

A-1 . Health Insurance Status of Adolescents, Age 15-18, by Year, 1979-1987 53
A-2. Health Insurance Status of Adolescents, Age 15-18, by Type of Family and Year, 1987 vs. 1984-1986 53
A-3. Trend in the Proportion of Adolescents With and Without Health Insurance, by Age Group, 1979-1987, Unadjusted Data 54
A-4. Health Insurance Status of Adolescents by Age Group, Type of Family, Parental Insurance Status, and Family Income as a Percentage of Poverty, 1987, Unadjusted 56

D-1. Health Insurance Status of Adolescents, Age 10-18, by Selected Demographic and Household Characteristics, 1987 62

Figures

Figure *Page*

1. Percent of Adolescents Who Live With Uninsured Parent, Insured Parent, or No Parent, 1987 2
2. Parent's Insurance Status of Uninsured Adolescents, 1987 2
3. Trends in the Proportion of Uninsured Adolescents, Age 10-18, 1979-1986 --..--...--4
4. Poverty Status of Adolescents, Age 10-18, by Race/Ethnicity, 1987 14
5. Map of the U.S., Showing Census Divisions and Regions 22

6a-d. Trends in the Proportion of Insured Adolescents, Age 10-18, by Type of Coverage, 1979-1986 31
- a. Employment-based coverage 31
- b. Other private coverage 31
- c. Medicaid coverage only 31
- d. Other coverage 31

7. Trends in the Proportion of Adolescents, Age 10-18, Who Live in Poverty, 1979-1986 32
8. Distribution of Adolescents, Age 10-18, by Parent's Industry of Employment Categorized by Rates of Health Insurance Coverage 39

D-1. Living Arrangements of Uninsured Adolescents Only 65
D-2. Living Arrangements of All Adolescents, Insured and Uninsured 65
D-3. Race/ethnicity of Adolescents, 1987 66
D-4. Parent's Work Status of Uninsured Adolescents Only 68
D-5. Parent's Work Status of All Adolescents 68

1. EXECUTIVE SUMMARY

This paper examines the health insurance status of adolescents, age 10 to 18 years, and addresses these questions:

- How many adolescents are without health coverage and why are some adolescents insured and others not?
- Has the number of uninsured adolescents changed over time? If so, why has this change occurred?
- How many adolescents would be affected by three potential approaches to reducing the number of uninsured: a mandate that employers provide health insurance to their workers (and their dependents); an expansion of the Medicaid program; or a combination of the two?

Data for this study come from Current Population Surveys (CPS) fielded in 1980 to 1988 by the U.S. Bureau of the Census. Each March, a supplement to the survey asks a variety of questions about work history and income during the previous year, and includes a set of health insurance questions. Responses to these questions are the basis for the analyses presented in this paper.

In 1988, new questions were introduced to the health insurance supplement and others were changed materially. The March 1988 CPS data that are currently available for public use are incomplete and preliminary. However, in light of today's pressing debate concerning the uninsured, this preliminary report has been prepared based on currently available information. An update, incorporating the final results from the 1988 and 19891 March surveys, will be released before the end of 1989. These final results may affect OTA's estimates of the proportion of adolescents who are currently uninsured, and, thus, estimates of the effects of an employer mandate or expanded Medicaid eligibility, but OTA does not expect these changes to be significant. They will not affect OTA's estimate of the increase in uninsured adolescents between 1979 and 1986.

How Many Adolescents Are Without Health Insurance and Who Are They?

Approximately 4.6 million adolescents, aged 10 to 18, 15 percent overall, were without public or private health coverage in 1987. Adolescents are slightly more likely to be uninsured than younger children and adults aged 25- to 54-years-old.[3] Those adolescents who do have health insurance are more than twice as likely as 25- to 54-year-olds to be covered by Medicaid.

Sociodemographic Characteristics of Uninsured Adolescents

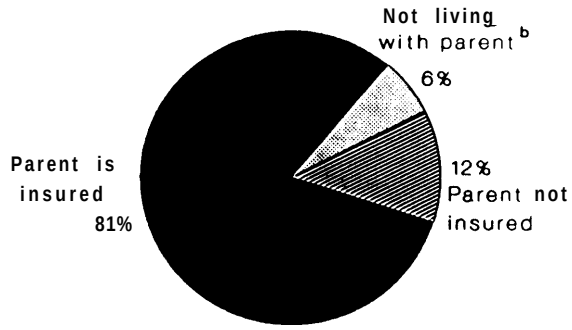
Most adolescents, age 10 to 18, live with their parents. Twelve percent of all adolescents live with uninsured parents (figure 1) and almost two out of three uninsured adolescents live with parents who are also uninsured (figure 2). To a large extent, then, the problems of uninsured adolescents are the problems of uninsured parents.

Family income is the most important determinant of health insurance status for all age groups. The poor, regardless of other factors, are the most likely to be uninsured. Adolescents in poor or near-poor families are much more likely to be uninsured than others; approximately 30 percent are without

1 At the time this Background Paper was published, data from the March 1989 CPS were not available for analysis. Because of question wording changes initiated in March 1988, data collected in 1988, 1989, and subsequent years will never be able to be compared to data collected from March 1980 through March 1986. However, when the March 1989 CPS becomes available, some analysis will be able to be made comparing 1987 and 1988. (Note that the data collected each March pertain to the previous calendar year; thus, data collected in March 1980 pertain to calendar year 1979, and data collected in March 1989 pertain to calendar year 1988).

2 19- to 24-year-olds are at greatest risk for being uninsured.

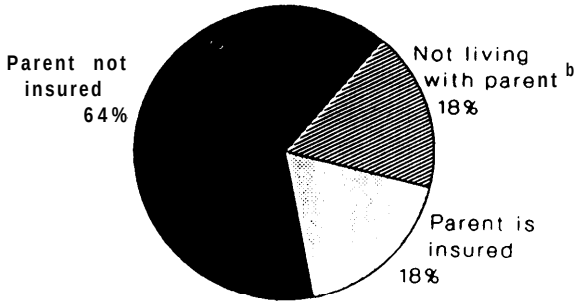
Figure 1--- Percent of Adolescents Who Live With Uninsured Parent, Insured Parent, or No Parent, 1987[a]



[a]Refers to the insurance status of the household head unless only the spouse had employment-based health coverage.
[b]Includes adolescents not living with their parents and married adolescents living with their parents.

SOURCE: Office of Technology Assessment, 1989, based on estimates from the March 1988 Current Population Survey.

Figure 2--- Parent's Insurance Status of Uninsured Adolescents, 1987[a]



[a]Refers to the insurance status of the household head unless only the spouse had employment-based health coverage.
[b]Includes adolescents not living with their parents and married adolescents living with their parents.

SOURCE: Office of Technology Assessment, 1989, based on estimates from the March 1988 Current Population Survey.

any coverage, public or private (table 1).[3] In contrast, half as many adolescents whose family income is between 150 and 299 percent of poverty and less than 5 percent of adolescents in families at 300 percent of poverty or above are uninsured.

Despite the strong relationship between low family income and the likelihood of being uninsured, it should be recognized that for adolescents, as for adults, it is by no means true that all the uninsured are poor. While 41 percent of uninsured adolescents live below the Federal poverty level, one-third of uninsured adolescents are between 100 and 199 percent of poverty, and more than one-quarter are at 200 percent of poverty or above.

Several other demographic characteristics have fairly strong relationships with health insurance status independent of family income. These include Hispanic ethnicity, parent's education, parental self-employment, and region. Hispanic adolescents are much more likely than others to be uninsured regardless of family income. This may be because Hispanics are more likely than others to work in agriculture and domestic service where coverage rates are historically low. If Hispanic families living in poverty are more likely than others to include both husband and wife, they will be less likely to be eligible for Medicaid. In addition, Hispanic adolescents who are "undocumented aliens" are not routinely eligible for Medicaid; eligibility is a State option.

Although black adolescents are much more likely than whites to live in or near poverty, and to be uninsured, the correlation between race and lack of health insurance coverage almost disappears when family income is taken into account.

At each income level, adolescents whose parents have little formal education are much more likely to be uninsured than adolescents whose parents have had more education. Among adolescents in middle and upper-income families, those whose parents are self-employed are much more likely than others to be uninsured. Almost one out of five Southern and Western adolescents are uninsured while less than one out of ten Northeastern and Midwestern adolescents are without coverage.

Further analysis shows that regional variations in coverage are due primarily to differences in income-specific rates of Medicaid and private health coverage. In the South, it appears that more stringent Medicaid income eligibility requirements are key to the greater proportion of uninsured adolescents. If income-specific Medicaid coverage rates were as high in the South as in the North, the proportion of Southern adolescents without health insurance would drop by approximately 25 percent. In the West, lower rates of private coverage appear to be the most critical factor although lower Medicaid coverage rates are important as well. If income-specific rates of private insurance coverage were as high in the West as in the North, the proportion of uninsured Western adolescents would be reduced by about 19 percent. These results make clear that public policies designed to expand health coverage, such as an employer mandate or expansion in Medicaid, would have markedly different effects in Western and Southern States than in the North.

Trends in Adolescent Insurance Coverage, 1979-1986

The proportion of adolescents without health insurance increased by 25 percent between 1979 and 1986 (figure 3). In the early 1980s, the rise in the uninsured was strongly associated with increased poverty combined with a decline in Medicaid coverage of the poor and near-poor. Later, in the mid-1980s, as the country recovered from recession, these trends reversed somewhat. However,

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3 Poor refers to those with family incomes below 100 percent of the Federal poverty level, and near-poor describes families living between 100 and 150 percent of the Federal poverty level.

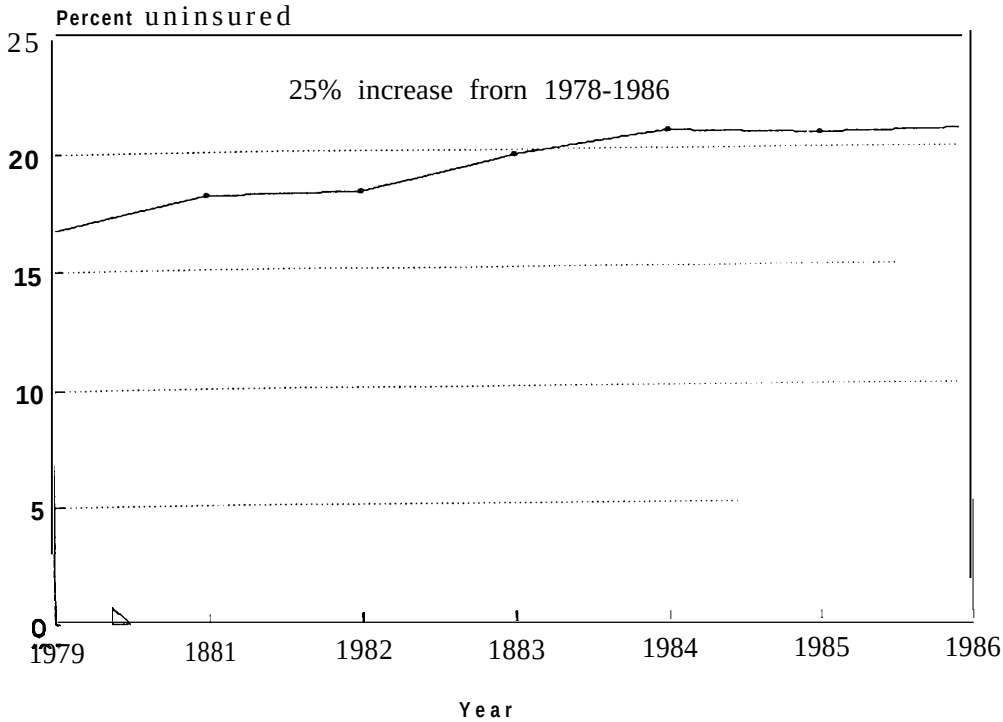
Table 1--- Health Insurance Status of Adolescents, Age 10-18, by Family Income, 1987

Family income as a percent of the Federal poverty level[a]	Proportion of all adolescents at the specified poverty Level[b]	Health insurance status: No health insurance coverage	Insured: private and public: Private only	Medicaid only	Other[c]	Total
less than 50 percent	9.2%	30.9%	16.6%	48.4%	4.2%	100.0%
50 to 99 percent	10.1	32.2	23.6	38.1	6.1	100.0
100 to 149 percent	9.5	29.4	53.4	10.7	6.5	100.0
150 to 199 percent	9.7	21.5	69.2	3.1	6.2	100.0
200 to 299 percent	19.2	10.3	82.8	1.0	6.0	100.0
300 percent and above	& J 100.0%	4.6	90.7	0.2	4.6	100.0

[a] In 1987, the Federal poverty level was $9,056 for a family of three.
[b] There were 31.0 million adolescents, age 10-18, in 1987.
[c] Includes CHAMPUS, Medicare, or a combination of public and private coverage.

SOURCE: Office of Technology Assessment, 1989, based on estimates from the March 1988 Current Population Survey.

Figure 3--- Trends in the Proportion of Uninsured Adolescents, Age 10-18, 1979-1986[a]



a 1980 and 1988 data are not available; 1987 data are not comparable.

SOURCE: Office of Technology Assessment, 1989, based on estimates from the March 1980 through March 1987 Current Population Surveys.

the proportion of the adolescent population at each income level with private insurance declined substantially. It is important to note that due to a combination of factors (including a decline in the absolute number of 10- to 18-year-olds from 1979 to 1986), there was no change in the aggregate number of uninsured.

The decline in Medicaid coverage was greatest among adolescents living in or near poverty and was largely due to regulations issued under the 1981 Omnibus Reconciliation Act of 1981 (OBRA) that limited the working poor's eligibility for Aid to Families with Dependent Children (AFDC) and Medicaid benefits. In 1979, 48 percent of adolescents living in families between 50 to 99 percent of poverty had Medicaid coverage. By 1983, this had dropped to 38 percent and rebounded slightly to 42 percent in 1984 and 1986. Meanwhile, almost half of the adolescents in families with incomes from 100 to 149 percent of poverty who were in the Medicaid program in 1979 had lost coverage by 1982.

The decline in private coverage was also most significant among the poor. In 1979, 17 percent of adolescents in households below 50 percent of poverty were covered by some form of private insurance, but by 1986, only 11 percent were enrolled in a private health plan. Adolescents in families between 50 to 99 percent of poverty experienced a similar trend; the proportion with private health coverage dropped from 27 to 22 percent during the same time period.

A principal reason why more adolescents were uninsured in 1986 than in 1979 is simply that more lived with uninsured parents in 1986 than in 1979. During this period, the proportion of adolescents who lived with uninsured parents increased from 8.8 to 10.5 percent, accounting for 37 percent of the overall 1979 to 1986 increase in uninsured adolescents. At the same time, the uninsured *rate* among adolescents who lived with uninsured parents also rose, increasing from 92 to 96 percent (contributing an additional 10 percent to the overall climb in the uninsured).

Eighteen percent of the overall rise in the proportion of adolescents without health coverage was due to a fall in the coverage rate among adolescents not living with a parent; in 1979, 61 percent were uninsured, by 1986 the proportion without coverage increased to 74 percent. The proportion of adolescents who obtained health insurance from their own jobs declined precipitously.

Estimated Effects of Employer Mandates and Medicaid Expansions

Two types of proposals have been prominently advanced to reduce the number of uninsured. So-called "employer mandates" require that employers offer group health insurance policies and pay a significant amount of the premiums for all employees who work more than a specified number of hours per week. Proposals to expand Medicaid require that categorical eligibility requirements be relaxed and/or that income eligibility limits be increased, thereby requiring or encouraging all States to make Medicaid available to all those eligible below certain income levels.

Numerous factors determine the effects of an employer mandate: Who is included in an employer mandate is especially important. How many hours per week must be worked? Does coverage begin on the first day of employment or after awaiting period? Are the self-employed included? Are employee dependents covered? Will small firms be exempt? What level of benefits must be provided? How much must the employer contribute to the premium?

Similarly, the effect of an expansion in Medicaid depends on a number of policy decisions. For example, what is the minimum eligibility income level? Are the changes in eligibility mandatory or optional for the States? Are two-parent families with workers eligible or must one parent be absent or unemployed?

Estimated Effects of Employer Mandates

The following assumptions were used in estimating the effect of an employer mandate on the number of uninsured adolescents:

- The self-employed are exempt. All other "permanent" employees who work more than the required number of hours per week are covered (i.e., with no exemptions for firm size or industrial classification).
- Employees working 26 weeks or more in the preceding year are considered "permanent" workers and would be covered under the mandate.
- The effects of the mandate are estimated using three different assumptions about the number of hours of work at which workers are covered: 18 hours, 25 hours, and 30 hours.
- Adolescents who do not live with their parents are not covered as dependents under the mandate; however all other unmarried adolescents age 18 or younger would be covered by the mandate if their parents were covered as well.

If employees who worked 30 hours or more per week were included, approximately 2.55 million uninsured adolescents, or 55 percent of all adolescents currently without health coverage, would become insured. Although reducing the hourly work threshold does increase the number of uninsured who would become covered, its effect is relatively minimal (at least within the range of 18 to 30 hours per week). For example, if the hourly work threshold was reduced to 25 hours per week, an additional 60,000 adolescents (1.3 percent of all those uninsured) would be covered. If the threshold was 18 hours per week, an additional 136,000 adolescents (or 3 percent of all uninsured adolescents) would be covered.

Estimated Effects of Medicaid Expansion

Proposals to expand Medicaid may mandate or give States the option to broaden Medicaid eligibility. Currently States have the flexibility, within limits, to set their own eligibility levels for the AFDC and Medicaid programs. Some States have relatively broad eligibility policies while others are much more restrictive. However, with few exceptions, adolescents are eligible for Medicaid only if they are in a family with a so-called "deprivation factor"; that is, a family with an absent parent or one whose principal breadwinner is unemployed.[4]

If the current categorical requirement of a "deprivation factor" is maintained, the potential for an expansion in Medicaid to cover significant portions of uninsured adolescents is severely limited. If all adolescents in single-parent households with incomes below 100 percent of poverty were covered by Medicaid, approximately 707,000 of the 4.6 million uninsured adolescents would be covered. However, even if States were required to extend eligibility standards to all such adolescents, it is doubtful that all would enroll. In fact, many of the 8 percent of *uninsured* adolescents who were in single-parent households in 1987, with incomes below 50 percent of poverty, were already eligible to receive Medicaid benefits.

If categorical requirements were dropped, and all adolescents with family income below a specified standard were eligible for Medicaid, then significant portions of the currently uninsured could be covered by a Medicaid expansion. For example, if households with family incomes below 100 percent of poverty were included, more than 40 percent of currently uninsured adolescents would be covered. An additional 19 percent of uninsured adolescents would be included if the income standard was raised to 149 percent of poverty.

Combined Approach: Employer Mandate With A Medicaid Expansion

If employers were required to cover all workers who worked 18 hours or more and

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4 This remains unchanged by the Family Support Act of 1988 (Public Law 100-485).

Medicaid was available to all adolescents in families with income below 200 percent of poverty, then only 7 percent of adolescents without health coverage would remain uninsured. An employer mandate that included employees of at least 30 hours per week combined with a Medicaid expansion that included all adolescents below 100 percent of poverty would cover over 80 percent of uninsured adolescents.

Most of the adolescents left out by the combination of an employer mandate and Medicaid expansion are children of the self-employed. If the self-employed were included under a "combination" mandate, the vast majority of uninsured adolescents would become covered.

Of the proposals evaluated, clearly the single greatest impact would come from an employer mandate.

2. INTRODUCTION AND CURRENT NUMBER OF UNINSURED ADOLESCENTS

This paper examines the health insurance status of adolescents, aged 10 to 18 years, and addresses the following questions:

- How many adolescents are without health coverage and why are some adolescents insured and others not?
- Has the number of uninsured adolescents changeover time? If so, why has this change occurred?
- How many adolescents would be affected by three potential approaches to reducing the number of uninsured: a mandate that employers provide health insurance to their workers (and workers' dependents); an expansion of the Medicaid program; or a combination of the two?

The first section of the paper briefly describes its principal data source, the Current Population Survey (CPS), and important issues in using the CPS to measure insurance status. The second section provides a preliminary analysis of the size and characteristics of the uninsured adolescent population in 1987 and also examines the sociodemographic factors related to health insurance status. Next, trends in the number of uninsured adolescents from 1979 to 1986[1] are assessed. The final section provides estimates of the potential effects of an employer mandate, Medicaid expansion, or combination approach on the number of uninsured adolescents.

In light of today's pressing debate concerning the uninsured, this preliminary report has been prepared based on currently available information. An update, based on final results from the 1988 and 1989 March surveys, will be released as soon as possible.[2]

Data and Related Issues

Current Population Survey

Data for this study come from the CPS, a household survey that is fielded monthly by the U.S. Bureau of the Census to approximately 60,000 families (including 160,000 individuals). The chief objective of the CPS is to provide monthly estimates of the nation's unemployment rate and other characteristics of the labor force. Starting in 1980, a set of questions about health insurance coverage during the previous year[3] was added to the survey in the month of March.[4] The supplement also asks a variety of questions about work history and income during the previous year. Responses to questions in the supplement are the basis for the analyses presented in this paper.

Important Issues in Using the Current Population Survey

Important adjustments to the 1988 data were required to estimate and describe uninsured adolescents (see appendix A for greater detail). Each March from 1980 through 1987,[4] the CPS used identical health

1 The year 1987 is not included because as explained below, questions asked for that year are not comparable to past years.

2 At the time this Background Paper was published, data from the March 1989 CPS were not available for analysis. Note, however, that because of question wording changes initiated in March 1988, data collected in 1988, 1989, and subsequent years, will never be able to be compared to data collected from March 1980 through March 1986. Uhen the March 1989 CPS becomes available, some analysis will be able to be made comparing 1987 and 1988. (Note further that the data collected each March pertain to the previous calendar year; thus, data collected in March 1980 pertain to calendar year 1979, and data collected in March 1989 pertain to calendar year 1988.)

3 There is some controversy about the way respondents interpret the CPS questions. Some analysts have argued that people respond as to their insurance status at the point in time at which the survey is fielded, not for the calendar year preceding the survey. For discussion of this issue, see appendix A.

4 The March 1981 survey is an exception; the complete set of health insurance questions were not asked in that year.

insurance questions (see appendix B). In 1988, new questions were introduced and the others were changed materially. The March 1988 health insurance questions (see appendix C) provide an improved and more accurate estimate of the number of adolescents who are uninsured.

One of the principal problems with the earlier CPS was that it did not ask if adolescents or other children received health insurance coverage from absent parents *(or* anyone outside the household). Thus, any adolescent or child who was covered under an absent parent's health policy was almost always reported as uninsured. **As** a result, the March 1980 to 1987 surveys almost certainly overestimated the actual number of uninsured adolescents.

Two changes were made in the March 1988 CPS to fix this problem. First, questions directed to respondents 15 years of age and older were modified and second, new questions about children 14 and younger were introduced.[5] In the 1980 to 1987 surveys, there was no direct question inquiring whether each individual in the household was covered by a health plan; the Census Bureau had to "infer" coverage when a private insurance subscriber reported that his or her children were covered. Adolescents and other dependents were counted as insured only if they resided with a subscriber to a policy or they themselves were a subscriber to a health insurance plan. In contrast, the new 1988 questions specifically ask whether each person in the household, age 15 and above, was covered by a health insurance plan. Those who answer yes are then asked if the plan is in their own name or not. Thus, for example, adolescents (age 15 and older) who reside with their mother but are enrolled in an absent father's health insurance policy, would be reported as insured in the 1988 survey but uninsured in the 1987 survey. In addition, a separate set of 1988 questions explicitly ask if children 14 and younger were covered by a nonresident parent.

Responses to the new questions aimed at the 15 and older group are included in OTA's preliminary analysis, but answers to the new questions concerning children 14 and younger have not yet been provided by the Census Bureau. The final, complete data will not be released until later this year.

Before any adjustment, 1988 estimates indicated that 15 percent of 15- to 18-year-olds and 22 percent of 10- to 14-year-olds were uninsured in 1987. Yet earlier surveys found little difference in the health insurance status of these two age groups. It is most likely that this discrepancy in coverage rates is because data for the 10- to 14-year-olds is not yet complete. It is likely that the final data will show similar rates of coverage for these two groups of adolescents. Therefore, the 1988 CPS data presented in this report assume similar coverage rates among adolescents aged 10 to 14 and 15 to 18 given the same family income relative to the Federal poverty level, living arrangement (i.e., two-parent family, one-parent family, or no parent present), and parent's insurance status.

Finally, in this report, the March 1980 through March 1987 data serve as the basis for describing trends in adolescent health insurance status. Keep in mind that because of the changes in the survey, the 1988 findings cannot be directly compared with earlier results.

Number of Uninsured Adolescents, 10- to 18-Years-Old, 1987[6]

Approximately 4.6 million adolescents, 15 percent overall, were without either public or

5 Questions are asked directly of respondents 15 years and older and of the parents of those under 15.

6 Throughout this report, adolescents are defined to be aged 10- to 18-years inclusive.

private health coverage in 1987 (table 2).[7] Adolescents are slightly more likely to be uninsured than children aged 9 and younger and adults aged 25- to 54-years-old.[8] Those adolescents who do have health insurance, however, are more than twice as likely as 25- to 54-year-olds to be covered by a public program, particularly Medicaid. 'Almost 10 percent of adolescents have Medicaid coverage compared to 4.5 percent of 25- to 54-year-olds. Note also that while about 70 percent of adolescents have private insurance. 25- to 54-year-olds are privately insured at a somewhat higher rate (i.e., 76 percent).

7 As noted earlier, preliminary 1988 CPS data have been adjusted to facilitate the analysis. See "Data and Methods" and appendix A for details on the CPS and adjustments to" the data.

8 While earlier CPS data indicate that adolescents (and younger children) are significantly more likely to be uninsured than adults (Chollet, 1988), the preliminary 1988 data suggest little difference in the proportion of adults and adolescents who are uninsured. These findings are similar to those from the 1986 National Health Interview Survey and preliminary results from the 1987 National Medical expenditure Survey (U.S. Department of Health and Human Services [USDHHS], 1987; Short, et al., 1988).

Table 2---Health Insurance Status of the 10- to 64-year-old Population, by Age Group, 1987

Age group	Total population	No health insurance		Insured: private and public[a,b]		
		Number	Percent	Private only	Medicaid only	Other
10-18[c]	31,006,189	4,612,366	14.9%	69.9%	9.9%	5.3%
19-24	22,331,823	5,482,490	24.6	63.1	6.3	6.0
25-54	101,413,818	14,134,455	13.9	76.1	4.5	5.3
55-64	21,635,137	2,418,154	11.2	71.4	4.0	13.4

[a] Private only includes all with employment-based coverage from someone in or outside the household and non-group insurance from household numbers; Medicaid includes all those with only Medicaid coverage; and other includes CHAMPUS, Medicare, or a combination of public and private coverage.

[b] Row percentages may not total 100 percent due to rounding.

[c] Health insurance status for 10- to 14-year-olds has been estimated based on currently available information. See appendix A for details.

SOURCE: Office of Technology Assessment, 1989, based on estimates from the March 1988 Current Population Survey.

3. SOCIODEMOGRAPHIC CHARACTERISTICS OF UNINSURED ADOLESCENTS

Understanding the sociodemographic factors that are related to adolescent health insurance status is key to unraveling the problem of those who are uninsured. Parent's insurance status, poverty and family income, who adolescents live with, race and ethnicity, parent's marital status and education, region and residence, and parent's work status, and employment characteristics are all related to insurance status (see appendix D). However, many demographic and socioeconomic characteristics of adolescents are highly intercorrelated, and most are correlated with family income. The following examines these relationships and assesses their correlation with health insurance status independent of family income. [1]

Family Income

Family income is the most important determinant of health insurance status for all age groups. The poor, regardless of other factors, are the most likely to be uninsured. Adolescents in poor or near-poor families are much more likely to be uninsured than others; approximately 30 percent are without any coverage, public or private (see table 1 in Executive Summary). In contrast, half as many adolescents whose family income is between 150 and 299 percent of poverty and less than 5 percent of adolescents of adolescents in families at 300 percent of poverty or above are uninsured.

Race and Ethnicity

The correlation between race and lack of health coverage almost disappears when family income is taken into account. Black adolescents are much more likely than whites to live in or near poverty (and thus to be uninsured); more than half of black adolescents are in families with incomes below 150 percent of poverty compared to 19 percent of whites (figure 4). Yet, black and white adolescents who live in families with similar incomes are insured at similar rates (table 3). Nonetheless, how black and white adolescents are covered does differ within the same income categories, especially among those living in or near poverty. White adolescents who live below 150 percent of poverty are twice as likely as black adolescents in similar economic circumstances to have private health coverage. Black adolescents in this income category are twice as likely as whites to be covered by Medicaid.

This is not the case for Hispanic adolescents however. Hispanic adolescents are much more likely than others to be uninsured regardless of family income. In families with incomes below 150 percent of poverty, for example, 43 percent of Hispanic adolescents are uninsured, compared to 30 percent of non-Hispanic whites and 26 percent of non-Hispanic blacks (table 3). This may be because Hispanics are more likely than others to work in agriculture and domestic service where coverage rates are historically low. In addition, Hispanic adolescents who are "undocumented aliens" are not routinely eligible for Medicaid; eligibility is a State option. [2]

Living Arrangement

It is clear that adolescents who live with two parents are more likely to be insured than others. However, a more complicated

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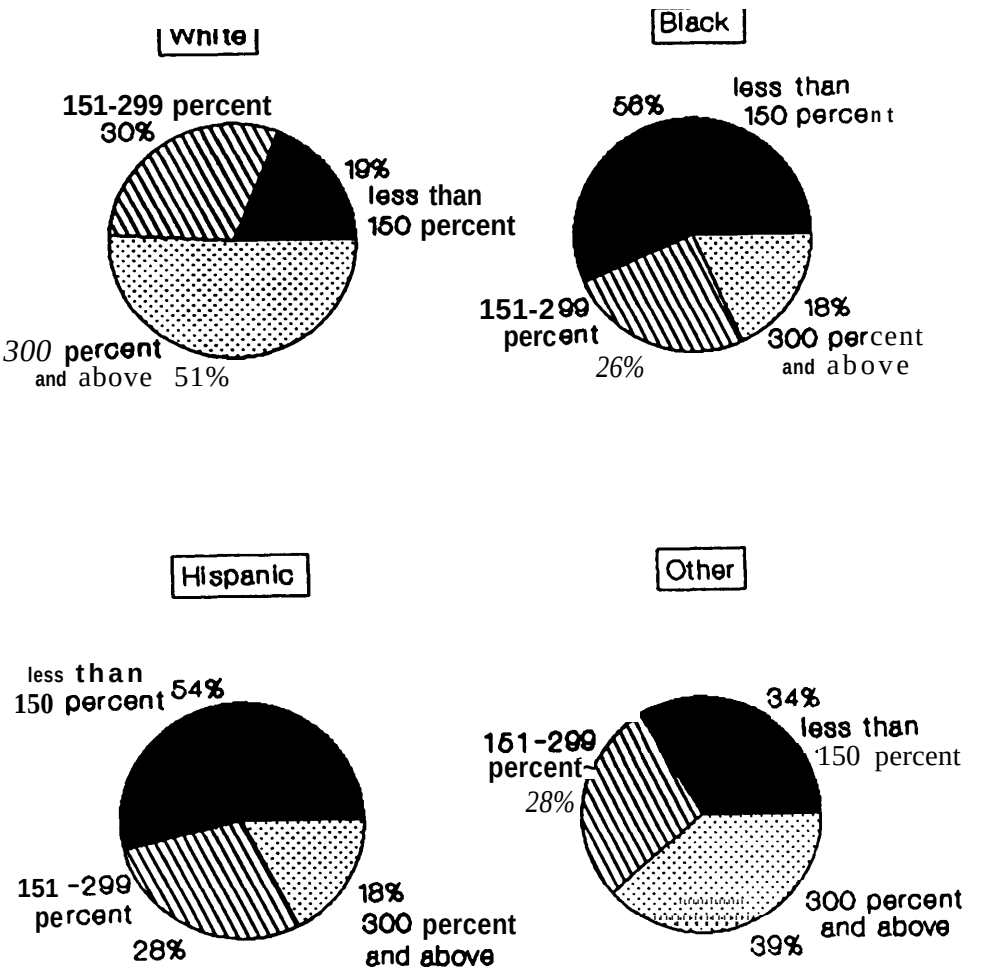
1 See appendix E for Federal poverty levels in 1979 to 1988.

2 Other contributing factors may be family composition and number of workers in the family. If Hispanic families living in poverty are more likely than others to include both husband and wife, they will be less likely to be eligible for Medicaid. Census data indicate that, of families below the poverty level, Hispanic families are more likely than Black non-Hispanic families, but not more likely than White non-Hispanic families, to include both husband and wife (U.S. Department of Commerce, August 1988). In addition, employment-based health insurance may not be available to a working-poor Hispanic family if it includes more than one wage-earner.

Figure 4.--Poverty Status of Adolescents, Age 10-18, by Race/Ethnicity, 1987'



'Poverty status is expressed in relation to the Federal poverty level. In 1987, the Federal poverty level was $9,056 for a family of three.

SOURCE: Office of Technology Assessment, 1989, based on estimates from the March 1988 Current Population Survey.

Table 3--- Family Income, Race and Ethnicity, and Health Insurance Status of Adolescents, Age 10-18, 1987

Family income as a percentage of poverty[a]	Race/ethnicity	Total[b]	No health insurance coverage	Insured: private and public		
				Private only	Medicaid only	Other[c]
less than 150 percent	white, non-Hispanic	100.0%	29.8%	41.0%	22.4%	6.7%
	black, non-Hispanic	100.0	25.6	22.5	46.0	5.8
	Hispanic	100.0	42.6	22.3	32.6	2.5
	other	100.0	27.4	23.0	43.9	5.7
150 to 299 percent	white, non-Hispanic	100.0	12.6	80.7	1.0	5.6
	black, non-Hispanic	100.0	14.1	74.4	3.6	7.9
	Hispanic	100.0	22.5	67.9	4.3	5.3
	other	100.0	19.7	68.9	0.7	10.7
More than 300 percent	white, non-Hispanic	100.0	4.0	91.7	0.2	4.1
	black, non-Hispanic	100.0	6.6	85.7	0.9	6.7
	Hispanic	100.0	7.3	84.1	0.1	8.5
	other	100.0	10.5	84.2	0.4	5.0

[a] In 1987, the Federal poverty level was $9,056 for a family of three.
[b] Percentages may not total 100 percent due to rounding.
[c] Includes adolescents with CHAMPUS, Medicare, or any combination of public and private coverage.

SOURCE: Office of Technology Assessment, 1989, based on estimates from the March 1988 Current Population Survey.

picture of the effects of living arrangement on health insurance status emerges when family income is taken into account. Part of the reason why adolescents who do not live with two parents are often uninsured is because they are also likely to be poor. Most adolescents who live with only one parent live in or near poverty: 60 percent of adolescents who live with their mother only are in families below 150 percent of poverty (table 4). Adolescents who do not live with a parent at all are even more likely to live in or near poverty. In contrast, only 16.2 percent of adolescents in two-parent families live below 150 percent of poverty.

Almost half of poor or near-poor adolescents who live with their mother only are insured under the Medicaid program (table 5). In fact, this group of adolescents is more likely than any others, even two-parent family dependents, to have health coverage. For adolescents in families at 150 percent of poverty or above, however, the expected relationship between living arrangement and insurance status is found; those who live with both parents are much more likely than others to have health coverage.[3]

Parent's Education

The effects of parental education, even controlling for family income, are quite strong; at each income level, adolescents whose parents have little formal education are much more likely to be uninsured than adolescents whose parents have had more education (table 6).

The relatively strong relationship between level of education and insurance status may result from a number of factors: those with more education are likely to have greater assets to protect and are thus likely to be more risk averse than those with less education (and also more likely to be able to afford to buy insurance); those with more education are likely to be valued more highly in the labor market, thus, even controlling for cash income we would expect their total compensation to be greater; and those with more education may be inclined to value the consumption of medical care more highly than those with less education.

But to put the relative importance of education in some perspective, in preliminary multivariate analyses[4] it appears that, for adolescents, low family income (i.e., below 150 percent of poverty) is a much stronger predictor of being uninsured than having a parent with limited education (i.e., less than a high school education).

Parent's Work Status and Employment Characteristics

Controlling for family income, adolescents **who live** with full-time workers are **somewhat more** likely than those living with

3 This result is one of the only findings in this section that is at variance with the findings from the 1984 National Health Interview Survey (NH IS) (Newacheck and McManus, 1989). Using the 1984 NH IS, Newacheck and McManus conclude that controlling for family income there is no relationship between being in a single parent family and lack of health insurance.

4 Multivariate analyses were not well enough developed to report in full here. Correctly specified analyses are a nontrivial problem. Although limited dependent variable models can be estimated with a O-1 dependent variable measuring whether or not an adolescent is insured, such models do not correspond directly to any choices being made. Rather, there is a hierarchical decision process. One way of specifying it is as follows: an adult either works at a job with health benefits offered or not, and if so, decides whether or not to cover any adolescent children. If no benefits are offered, the children may or may not be eligible for Medicaid, and if eligible, the parent decides whether or not to apply. If there is no employer-provided insurance and no public program, then the parent decides whether or not to buy nongroup insurance. Rather than one simple model with a yes/no variable for insurance, at least three models should be estimated (i.e., yes/no on employer provided insurance, Medicaid eligibility/coverage, and purchase of nongroup insurance). It may be, of course, that reasonably accurate estimates of the "effects" of independent variables can be achieved from estimation of the simple combined model, but this is not yet clear.

Table 4--- Adolescent'sLiving Arrangement by Family Income, 1987

Family income as a percentage of Poverty[a]	Living arrangement	Proportion of adolescents
less than 150 percent	living with both parents	16.2%
	living with father only	25.2
	living with mother only	60.0
	not living with parent[b]	65.4
151 to 299 percent	living with both parents	31.0%
	living with father only	28.8
	living with mother only	24.7
	not living with parent	19.9
300 percent and above	living with both parents	52.8%
	living with father only	46.0
	living with mother only	15.2
	not living with parent[b]	14.8

[a] In 1987, the Federal poverty level was $9,056 for a family of three.
[b] The CPS category "adolescents not living with their parents" includes adolescents who live with other relatives (i.e., grandchildren, nieces, nephews, etc.) or unrelated individuals, those living on their own (or with their own spouse and/or children), and married adolescents who reside with their parent(s). Married adolescents are categorized this way because the Census Bureau assumes that most private health insurance plans exclude them from their parent's policies.

SOURCE: Office of Technology Assessment, 1989, based on estimates from the March 1988 Current Population Survey.

Table 5.--Family Income, Living Arrangement, and Health Insurance Status of Adolescents, Age 10-18, 1987

Family income as a percentage of Poverty[a]	Living arrangement	Total[b]	No health insurance coverage	Insured: private and public		
				Private only	Medicaid only	Other[c]
less than 150 percent	living with both parents	100.0%	34.0%	41.4%	17.3%	7.3%
	living with father only	100.0	33.9	32.8	27.0	6.3
	living with mother only	100.0	23.4	23.0	49.5	4.1
	not living with parent[d]	100.0	44.0	27.8	22.8	5.5
150 to 299 percent	living with both parents	100.0	11.4	80.9	1.0	6.9
	living with father only	100.0	18.2	73.0	1.2	7.5
	living with mother only	100.0	18.5	75.1	2.8	3.6
	not living with parent[d]	100.0	37.0	51.7	8.3	3.0
300 percent and above	living with both parents	100.0	3.2	91.9	0.1	4.8
	living with father only	100.0	10.1	83.4	0.5	6.0
	living with mother only	100.0	9.5	87.9	0.9	1.8
	not living with parent[d]	100.0	33.2	64.0	1.6	1.2

[a] In 1987, the Federal poverty level was $9,056 for a family of three.
[b] Percentages may not total 100 percent due to rounding.
[c] Includes adolescents with CHAMPUS, Medicare, or any combination of @lie and private coverage.
[d] Includes adolescents not living with their parents and married adolescents living with their parents.

SOURCE: Office of Technology Assessment, 1989, based on estimates from the March 1988 Current Population Survey.

Table 6--- Family Income, Education of Family Head, and Health Insurance Status of Adolescents, Age 10-18, 1987

Family income as a percentage of poverty[a]	Education of family head[b]	Total[c]	No health insurance coverage	Insured: private and public		
				Private only	Medicaid only	Other[d]
less than 150 percent	less than 9 years	100.0%	35.8%	21.1%	40.5%	2.5%
	9 to 11 years	100.0	27.2	22.4	45.1	5.3
	high school graduate	100.0	27.0	37.3	29.7	6.0
	some college	100.0	27.3	39.9	24.0	8.8
	college graduate	100.0	19.4	52.5	19.6	8.5
	post graduate	100.0	18.1	58.9	11.6	11.3
150 to 299 percent	less than 9 years	100.0	22.4	67.0	4.3	6.3
	9 to 11 years	100.0	21.1	72.2	2.6	4.2
	high school graduate	100.0	10.8	82.2	1.3	5.7
	some college	100.0	12.3	78.5	0.6	8.6
	college graduate	100.0	11.0	83.7		5.4
	post graduate	100.0	6.8	86.6		6.6
300 percent and above	less than 9 years	100.0	12.8	85.9		1.2
	9 to 11 years	100.0	7.6	84.8		7.7
	high school graduate	100.0	3.8	92.2	0.2	3.8
	some college	100.0	3.7	90.1	0.3	6.0
	college graduate	100.0	4.1	91.7	0.2	4.0
	post graduate	100.0	2.6	93.0	0.1	4.4

[a] In 1987, the Federal poverty level was $9,056 for a family of three.
[b] Refers only to parent(s) who reside with unmarried adolescents.
[c] Percentages may not total 100 percent due to rounding.
[d] Includes adolescents with CHAMPUS, Medicare, or any combination of public and private coverage.

SOURCE: Office of Technology Assessment, 1989, based on estimates from the March 1988 Current Population Survey.

part-time or part-year workers to be insured, but the relationship is weak (table 7). Given the same family income, an adolescent whose parent is a part-time or part-year worker is 3 to 7 percentage points more likely to be uninsured than an adolescent whose parent is a full-time, full-year worker.

When family income is held constant, the relationships between industry of parent's employment and lack of insurance are attenuated, but do not disappear. Part of the reason why adolescents whose parents work in agriculture or retail trades are more likely than other adolescents to be uninsured is that such adolescents are much more likely than others to be poor; however industry does have some independent effect on the probability of being uninsured, particularly among middle income groups (i.e., 150 to 299 percent of poverty).

As would be expected given the more favorable tax treatment of employer-sponsored insurance and the advantages of purchasing insurance in the large group market, controlling for family income does not substantially attenuate the relationship between self-employment and lack of health insurance. Among adolescents in middle- and upper-income families, adolescents whose parents are self-employed are much more likely than others to be uninsured (table 7).

Residence[5]

The bivariate relationship between residence (i.e., central city, suburban, rural) and insurance status (see appendix D) virtually disappears when family income is held constant.

Understanding Why Health Insurance Status Varies Across Regions

The proportion of adolescents without health coverage varies widely across regions of the country (see figure 5 for a map of United States census regions; see appendix D). Almost one out of five Southern and Western adolescents are uninsured while less than one out of ten Northeastern and Midwestern adolescents are without coverage (table 8). These differences appear to be largely due to the extent to which adolescents have private coverage; approximately 76 percent of adolescents in the North are privately insured compared to 65 percent in the South and 54 percent in the West.[6] Medicaid coverage varies as well, but the regional differences are relatively small (i.e., North, 11 percent; South and West, 9 percent).

These findings concur with other research (Newacheck and McManus, in press; Short, et al., 1988). The large difference across regions in the extent of private insurance coverage has led researchers to conclude that most of the regional variation in coverage rates is due to differences in the extent to which employers offer health insurance benefits. In the North, the more unionized, industrial labor force is more likely to have employment-related benefits than workers in the South and West. It has also been noted that more restrictive Medicaid eligibility policies in the South contribute to lower coverage rates, but the extent of this contribution has not been measured before.

This section examines regional differences in coverage rates more closely and finds that Medicaid eligibility, particularly in the South and to some degree in the West, plays a more critical role vis a vis the uninsured than has been generally recognized.

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5 This paper follows Census Bureau terminology for residence and region.

6 Because insurance status in the Northeast and Midwest is so similar, in the remainder of this section the two areas are combined and referred to as the "North."

Table 7.--Family Income, Selected Parental Characteristics, and Health Insurance Status of Adolescents, Age 10-18, 1987

Family income as a percentage of of poverty[a]	Parental characteristics[b]	Total[c]	No health insurance coverage	Insured: private and public		
				Private only	Medicaid only	Other[d]
	Parental work status:[e,f]					
less than 150 percent	full-year, full-time	100.0%	31.0%	59.0%	6.4%	3.5%
	full-year, part-time	100.0	37.2	32.8	23.3	6.8
	part-year	100.0	34.0	24.5	35.5	6.0
	nonworker	100.0	19.5	8.6	65.2	6.8
150 to 299 percent	full-year, full-time	100.0	11.6	84.9	0.4	3.1
	full-year, part-time	100.0	16.2	73.6	2.7	7.5
	part-year	100.0	18.7	69.1	4.3	8.0
	nonworker	100.0	18.0	29.8	8.6	43.6
300 percent and above	full-year, full-time	100.0	3.6	93.2	0.1	3.1
	full-year, part-time	100.0	6.1	87.3	0.8	5.8
	part-year	100.0	6.6	90.4		3.0
	nonworker	100.0	7.1	29.1	0.9	61.9
	Industry of family head:[e]					
less than 150 percent	public administration	100.0	18.6	55.2	14.4	11.8
	durable goods	100.0	26.9	55.8	12.5	4.9
	transportation	100.0	39.5	43.0	13.3	4.1
	mining	100.0	34.9	54.4	8.6	2.0
	nondurable goods	100.0	28.9	54.1	12.3	4.7
	finance	100.0	31.0	54.7	7.0	7.3
	wholesale trade	100.0	28.7	47.9	17.6	5.9
	professional services	100.0	26.9	50.7	17.9	4.7
	construction	100.0	42.6	30.7	19.4	7.3
	retail trade	100.0	38.7	36.3	19.8	5.2
	business services	100.0	36.5	32.9	28.3	2.3
	entertainment	100.0	31.5	54.9	10.0	3.7
	agriculture	100.0	38.4	47.2	8.7	5.8
	personal services	100.0	36.4	34.3	26.7	2.6
	nonworker/other	100.0	19.5	8.6	65.2	6.8
150 to 299 percent	public administration	100.0	4.1	87.3	0.6	8.1
	durable goods	100.0	8.2	87.6	0.7	3.4
	transportation	100.0	9.3	86.9	0.2	3.6
	mining	100.0	2.5	91.6		6.0
	nondurable goods	100.0	8.4	86.4	1.4	3.9
	finance	100.0	13.3	85.5	0.7	.5
	wholesale trade	100.0	10.2	87.9		1.9
	professional services	100.0	11.5	84.6	0.6	3.3
	construction	100.0	24.0	69.4	0.9	5.7
	retail trade	100.0	16.0	77.1	2.5	4.4
	business services	100.0	22.3	70.2	0.9	6.6
	entertainment	100.0	12.0	76.6	3.3	8.1
	agriculture	100.0	25.6	69.9	.	4.5
	personal services	100.0	27.2	69.5		1.1
	nonworker/other	100.0	18.0	29.8	8.6	43.6

(continued)

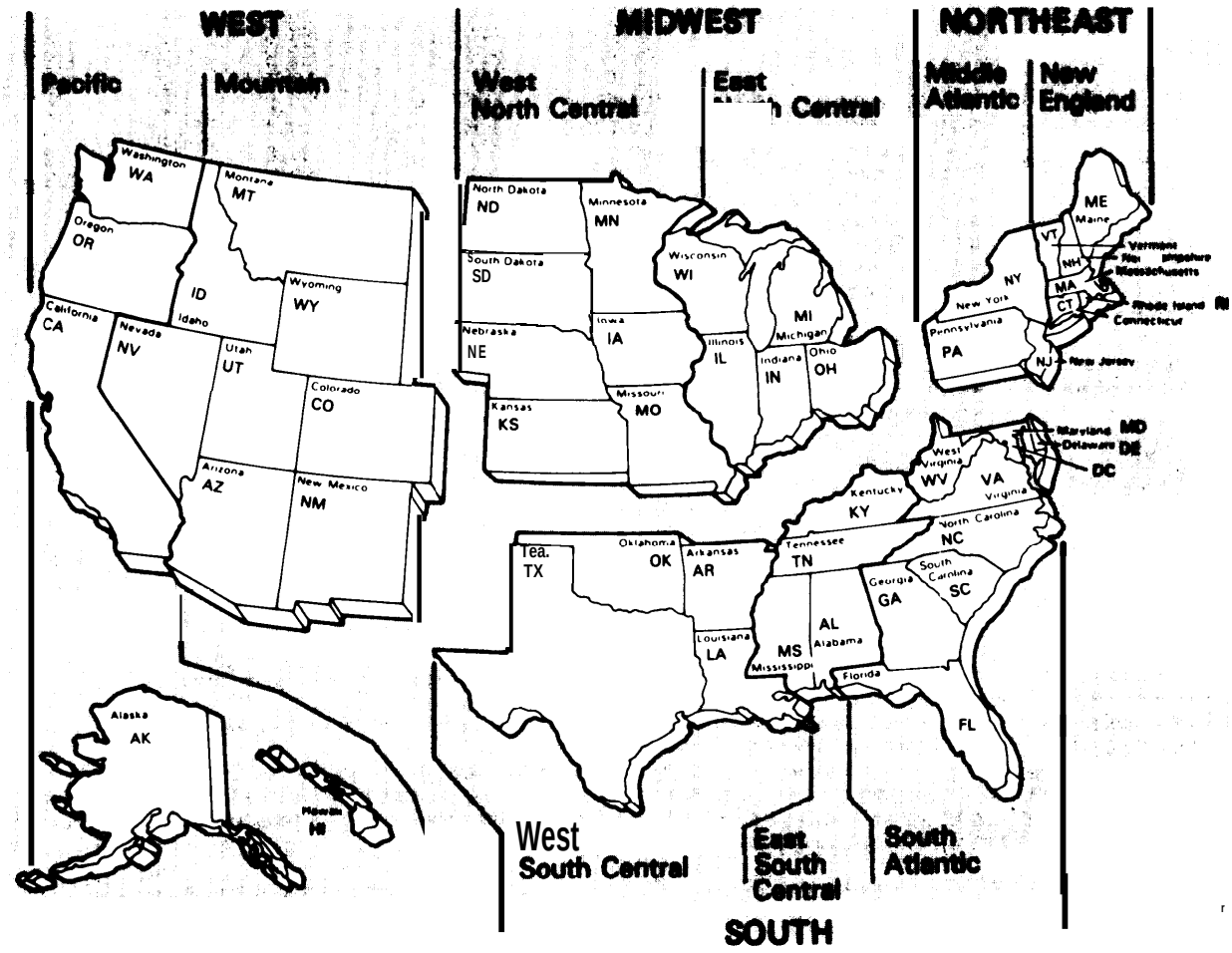
Table 7--- Family Income, Selected Parental Characteristics, and Health Insurance Status of Adolescents, Age 10-18, 1987 (Cont'd)

Family income as a percentage of of poverty[a]	Parental characteristics[b]	Total[c]	No health insurance coverage	Insured: private and public		
				Private only	Medicaid only	Other[d]
300 percent and above	public administration	100.0	2.1	88.1	.	9.8
	durable goods	100.0	2.1	95.5		2.4
	transportation	100.0	3.0	92.8	0.2	4.1
	mining	100.0	4.6	93.6	.	1.8
	nondurable goods	100.0	2.5	%.3	.	1.2
	finance	100.0	4.1	93.9		2.0
	wholesale trade	100.0	4.7	92.7	.	2.5
	professional services	100.0	3.9	93.9	0.2	2.0
	construction	100.0	8.1	86.8	0.3	4.9
	retail trade	100.0	5.2	92.1	0.1	2.6
	business services	100.0	6.1	87.0	0.8	6.1
	entertainment	100.0		98.0	.	2.0
	agriculture	100.0	8.3	90.1		1.6
	personal services	100.0	10.8	86.2	.	2.9
	nonworker/other	100.0	7.1	29.1	1.9	61.9
	Parent self-employed:[e]					
less than 150 percent	self-employed	100.0%	36.8%	47.8%	9.6%	5.8%
	not self-employed	100.0	33.0	43.7	18.4	4.9
	non worker	100.0	19.5	8.6	65.2	6.8
150 to 299 percent	self-employed	100.0	29.8	65.1	0.2	4.8
	not self-employed	100.0	11.2	83.9	1.0	3.9
	non worker	100.0	18.0	29.8	8.6	43.6
300 percent and above	self-employed	100.0	14.2	82.5		3.3
	not self-employed	100.0	3.1	93.5	0.1	3.3
	non worker	100.0	7.1	29.1	1.9	61.9

[a] In 1987, the Federal poverty level was $9,056 for a family of three.
[b] Characteristics are of household head unless only the spouse had employment-based health coverage.
[c] Percentages may not total 100 percent due to rounding.
[d] Includes adolescents with CHAMPUS, Medicare, or any combination of public and private coverage.
[e] Includes only unmarried adolescents living with their parents.
[f] Full-year, full-time refers to workers who worked for at least 35 hours per week for at least 50 weeks. Full-year, part-time refers to workers who were employed for at least 50 weeks and worked less than 35 hours in a typical week. Part-year workers worked or sought work during the year, but for less than 50 weeks during the year. Nonworkers neither worked nor sought work during 1987.

SOURCE: Office of Technology Assessment, 1989, based on estimates from the March 1988 Current Population Survey.

Figure 5.--Map of the U.S., Showing Census Divisions and Regions



SOURCE: U.S. Bureau of the Census.

Table 8.--Region and Adolescent Health Insurance Status, 1987

Region[a]	Total	No health insurance coverage	Insured: private and public		
			Private only	Medicaid only	Other[b]
Northeast[c]	100.0%	9.2%	76.6X	10.9%	3.3%
Midwest[c]	100.0	9.3	76.1	11.1	3.6
South	100.0	19.7	64.7	8.8	6.7
West	100.0	18.6	65.4	9.4	6.7

[a]Northeast includes: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont.
Midwest includes: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.
South includes: Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.
West includes: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

[b]Includes adolescents with CHAMPUS, Medicare, or any combination of public and private coverage.
[c]In the text, Northeast and Midwest are combined and referred to as North.

SOURCE: Office of Technology Assessment, 1989, based on estimates from the March 1988 Current Population Survey.

In order to better understand the regional differences in coverage rates, it is useful to examine differences in three key factors across regions:

- the proportion of adolescents who are poor;
- the proportion of adolescents who receive Medicaid, controlling for family income; and
- the proportion of adolescents with private insurance, controlling for family income.

It is evident that a greater proportion of Southern than Northern adolescents live in poverty (table 9). For example, 12 percent of Southern adolescents are in families below 50 percent of poverty in contrast to 8 percent in the North. It follows that, if other things *were* equal, Southern adolescents should have a significantly higher rate of Medicaid coverage than Northern adolescents. However, only 43 percent of low-income Southerners are covered by Medicaid compared to 61 percent of those in the North. Poor Western adolescents are the least likely to be covered by Medicaid; only 37 percent in families below 50 percent of poverty have Medicaid coverage.

Similarly, Medicaid coverage rates for Northern adolescents are higher than those for Southern adolescents for all income categories. In the West, however, Medicaid coverage rates in families at 100 percent of poverty or above are slightly higher than in the North.

On average, adolescents are 11 percentage points more likely to be covered by private insurance in the North than in the South or West (table 8).

The contribution of each factor to the overall differences across regions in the proportion of adolescents can be measured by constructing three simulations. The **first simulation** computes the rate at which Southern (or Western) adolescents would be uninsured if the distribution of Southern (or Western) adolescents by poverty level equalled the distribution in the North.

The **second simulation** computes the rate at which Southern (or Western) adolescents would be uninsured if the Medicaid coverage rates in the South (or West) were equal to those in the North, controlling for family income.[7]

The **third simulation** computes the rate at which Southern (or Western) adolescents would be uninsured if the proportion of adolescents with private insurance coverage at each level of family income were the same in the South (or West) as in the North. To increase the stability of the estimates, data from the four CPS surveys between 1984 and 1987 are pooled in the analysis.[8]

Simulation Results

From 1983 through 1986, 25 percent of Southern adolescents, 23 percent of Western adolescents, and 16 percent of Northern adolescents were uninsured (table 10). The simulation results reported below break down these differences into their component parts. These results make clear that public policies designed to expand health coverage (such as the Medicaid expansions or employer mandates discussed later in the paper) would have markedly different effects *in* Western and in Southern States than in Northern States.

Southern States--- It appears that Medicaid income eligibility requirements are key to the greater proportion of uninsured

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7 In performing this simulation, a finer breakdown of family income was used than is shown in table 9, including: less than 50 percent of poverty, 50 to 74 percent, 75 to 99 percent, 100 to 124 percent, 125 to 149 percent, 150 to 199 percent, 200 to 249 percent, 250 to 299 percent, 300 to 349 percent, 350 to 399 percent, 400 to 449 percent, 450 to 499 percent, and 500 percent and above. In order to provide more stability to the estimates at this level of detail, an increased sample size, based on pooled data from the March 1984 to March 1987 Current Population Surveys was used.

8 Note that because the data usedare pre-1988, the absolute proportions of uninsured adolescents shown in this section will be higher than the estimates using the March 1988 CPS. Pre-1988 estimates and estimates based on the March 1988 are not directly comparable.

Table 9---HealthInsuranceStatus of Adolescents, Age 10-18, by Region and Family Income, 1987

Family income as a percentage of poverty[b]	Region[c]	Total population, age 10-18 (in millions)	Percent of the region's adolescents[d]	Total[e]	No health insurance coverage	Insured: private and public[a] Private only	Medicaid only	Other[f]
less than 50 percent	North	1.06	7.8%	100.0%	19.5%	16.0%	60.5%	4.1%
	South	1.31	11.8	100.0	36.2	16.7	42.6	4.6
	West	.47	7.5	100.0	41.8	17.6	37.2	3.5
50 to 99 percent	North	1.19	8.7	100.0	16.5	24.5	53.8	5.2
	South	1.25	11.2	100.0	45.1	24.0	24.4	6.6
	West	.70	11.2	100.0	35.8	21.4	36.2	6.5
100 to 149 percent	North	1.19	8.7	100.0	21.7	59.8	12.4	6.1
	South	1.11	9.9	100.0	37.2	49.4	7.6	5.9
	West	.66	10.6	100.0	30.3	48.3	13.0	8.4
150 to 199 percent	North	1.15	8.4	100.0	13.9	78.7	3.2	4.2
	South	1.23	11.0	100.0	25.8	66.2	1.8	6.2
	West	.62	9.9	100.0	27.0	58.0	5.4	9.7
200 to 299 percent	North	2.79	20.4	100.0	7.6	87.8	0.8	3.8
	South	2.04	18.3	100.0	11.8	79.1	0.5	8.5
	West	1.14	18.3	100.0	14.1	77.0	2.0	7.0
300 percent and above	North	6.28	46.0	100.0	3.7	93.9	0.2	2.3
	South	4.20	37.7	100.0	4.4		0.1	7.0
	West	2.63	42.4	100.0	7.0	86.4	0.5	6.1

[a] Health insurance status for 10- to 14-year-olds has been adjusted. See appendix A for details.
[b] In 1987, the Federal poverty level was $9,056 for a family of three.
[c] North includes: Connecticut, Illinois, Indiana, Iowa, Kansas, Maine, Massachusetts, Michigan, Minnesota, Missouri, New Hampshire, New Jersey, New York, North Dakota, Nebraska, Ohio, Pennsylvania, Rhode Island, South Dakota, Vermont, Wisconsin.
South includes: Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.
West includes: Alaska, Arizona, California, Colorado, Idaho, Hawaii, Montana, New Mexico, Oregon, Nevada, Utah, Washington, and Wyoming.
[d] Percentages refer to the proportion of adolescents in the indicated region who have family income as shown--e.g., 7.8 percent of adolescents in the North live in families whose income is less than 50 percent of the poverty level.
[e] Percentages may not total 100 percent due to rounding.
[f] Includes adolescents with CHAMPUS, Medicare, or any combination of public and private coverage.

SOURCE: Office of Technology Assessment, 1989, based on estimates from the March 1988 Current Population Survey.

Table 10.--Estimates of the Effects of Poverty and Rates of Medicaid and Private Coverage on Regional Differences in Adolescent Health Insurance Status, 1983-1986

	Adolescent Health Insurance Status, 1983-1986		
	Region		
	North	South	West
Proportion without health insurance	16.0%	25.2%	22.7%
Proportion with Medicaid coverage	11.0	7.8	9.0
Proportion with private coverage	69.3	60.4	61.3

Factor	Simulation	Estimated effect on the proportion of adolescents without health insurance	
		South	West
Poverty level	Assume that the region's distribution of adolescents (by poverty level) was the same as in the North.	-1.8%	-0.3%
Medicaid coverage	Assume that the region's rate of Medicaid coverage (by poverty level) was the same as in the North.	-6.2	-2.1
Private coverage	Assume that the region's rate of private coverage (by poverty level) was the same as in the North.	-1.1	-4.3
Total	All of the above	-9.2	-6.7

SOURCE: Office of Technology Assessment, 1989, based on estimates from the March 1984 to March 1987 Current Population Survey.

adolescents in the South. If income-specific Medicaid coverage rates were as high in the South as in the North, 6.2 percent fewer Southern adolescents would be without health insurance; this accounts for approximately 66 percent of the Southern vs. Northern gap in coverage. Given equivalent income-specific rates of private coverage, 1.l percent fewer Southern adolescents would be uninsured accounting for 15 percent of the gap. Finally, if Southern adolescents were no poorer than those in the North, 1.8 percent fewer Southern adolescents would be uninsured accounting for 20 percent of the gap (table 10).

Western States--- Overall, the proportion of Western adolescents without health insurance exceeds the Northern rate by 6.7 percentage points. Lower rates of private coverage appear to be the most critical factor in the coverage gap, although lower Medicaid coverage rates are important as well. If income-specific rates of private insurance coverage were as high in the West as in the North, 4.3 percent fewer Western adolescents would be uninsured, reducing the gap between West and North by 65 percent. The remaining 35 percent differential is due to lower income-specific rates of Medicaid coverage.

It is likely that the West's lower private coverage rates (relative to the North) are, in part, due to lower rates of unionization, and greater employment in the traditionally low-coverage agriculture and service sectors. More work is needed to further understand the extent to which these and other factors account for regional differences in income-specific rates of private insurance coverage.[9]

9 Other hypotheses to explain these regional differences should be explored. For example, coverage rates might be lower in the Uest because there are higher rates of self-employment, greater employment in small firms, more people in multiple part-time jobs, the price of insurance is higher, and/or free care is more available.

4. TRENDS IN ADOLESCENT HEALTH INSURANCE COVERAGE, 1979-1986

The proportion of adolescents without health insurance increased from 16.7 to 20.8 percent from 1979 to 1986 (table 11).[1)2] This increase of 4.1 percentage points is slightly larger than the concurrent increase of 3 percentage points in the under-65 population as a whole (CRS, 1988a). The proportion of uninsured adolescents increased 1.5 percentage points from 1979 to 1981, by an additional 1.5 percentage points from 1982 to 1983, and by 1 point from 1983 to 1984. After that, from 1984 through 1986, the proportion of uninsured adolescents remained relatively stable. Overall, during the period of 1979 to 1986, the proportion of adolescents without health coverage grew by 25 percent to 4.6 million. If, instead, the proportion of adolescents who were uninsured had remained stable throughout the period, 800,000 fewer adolescents would have been uninsured in 1987.

Most of the change in adolescent health insurance coverage from 1979 to 1986 occurred in employment-based and other private coverage (e. g., nongroup family plans) (figure 6). The proportion of adolescents in employment-based health plans declined from 60.8 to 58.6 percent while other private insurance dropped from 8.1 to 5.7 percent. Medicaid-only coverage increased slightly from 8.7 to 9.5 percent (table 11; figure 6c) although not enough to cover increases in the proportion of adolescents living in poverty. These patterns of change parallel that for the adult population.

Poverty, Medicaid, and Private Insurance Coverage

In the early 1980s, two events occurred which were likely to have significant effects on the prevalence of health insurance coverage. First, the country experienced a steep recession, with unemployment peaking at 10.9 percent in December 1982. Second, the Omnibus Reconciliation Act of 1981 (OBRA) changed the rules that States are required to use in determining eligibility for the Aid to Families with Dependent Children (AFDC) and Medicaid programs. The intent and effect of these rule changes were to make it more difficult for the so-called working poor (i.e., people with some earned income but who are still below the poverty level) to be eligible for AFDC and Medicaid. The effects of both the recession and the OBRA changes are clearly seen in the CPS data.

Changes in Poverty and Medicaid.--The proportion of the adolescent population living in poverty increased markedly from 1979 to 1983, rising from 14.7 percent to 21 percent, and then decreasing slightly to 19.4 percent in 1986 (figure 7). Other things being equal, this rise in adolescent poverty should have led to an increase in both the proportion of adolescents who were uninsured as well as those covered by Medicaid.

However, as can be seen in table 12, the proportion of the poor and near-poor who were covered by Medicaid declined dramati-

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1 This analysis uses data from CPS surveys conducted from March 1980 through March 1987; because of changes in question wording, data from the March 1988 survey are not coo-parable to prior years. The proportion of adolescents without health coverage in 1987 (i. e., 15 percent) is substantially below the estimate for 1986, apparently because of wording changes in the March 1988 questionnaire. The preliminary March 1988 CPS data provide the most accurate estimate of the size and characteristics of the uninsured that is currently available to the public. Nonetheless, it remains important to assess the trends in health coverage from 1979 through 1986. Because CPS questions were not changed from March 1980 through March 1987, such trend analysis is possible. Note that the trend estimates presented here are similar to those that have been identified by comparing 1977 to 1987 National Medical Expenditure Survey results (Short, 1988).

2 Note that 1980 data are not available because the U.S. Census Bureau did not field a complete set of health insurance questions in its March 1981 survey.

Table 11.--Trend in the Health Insurance Status of Adolescents, Age 10-18, 1979-1986

Year[b]	Total population, age 10-18 (in millions)	No health insurance coverage	Insured population[a]			
			Employment-based	Other private	Medicaid only	Other
1979	33.96	16.7%	60.8%	8.1%	8.7%	5.7%
1981	33.52	18.2	60.2	6.4	8.8	6.4
1982	32.78	18.3	60.4	6.5	8.9	5.8
1983	32.05	19.8	59.0	6.4	9.3	5.4
1984	31.80	20.8	58.6	5.9	9.6	5.2
1985	31.36	20.6	58.8	5.5	9.5	5.5
1986	31.16	20.8	58.6	5.7	9.5	5.4

[a] Employment-based includes all with employment-based insurance from someone in the household, and without public coverage; other private includes nongroup insurance from household members and employment-based insurance from nonhousehold members, without public coverage; Medicaid includes all those with Medicaid but without private coverage; other is primarily CHAMPUS, and includes Medicare, and those with both public and private coverage.
[b] 1980 data are not available.

SOURCE: Office of Technology Assessment, 1989, based on estimates from the March 1980 through March 1987 Current Population Surveys.

Figures 6a-d.--Trends in the Proportion of Insured Adolescents, Age 10-18, by Type of Coverage, 1979-1986'

Figure 6a
Employment-based[b]

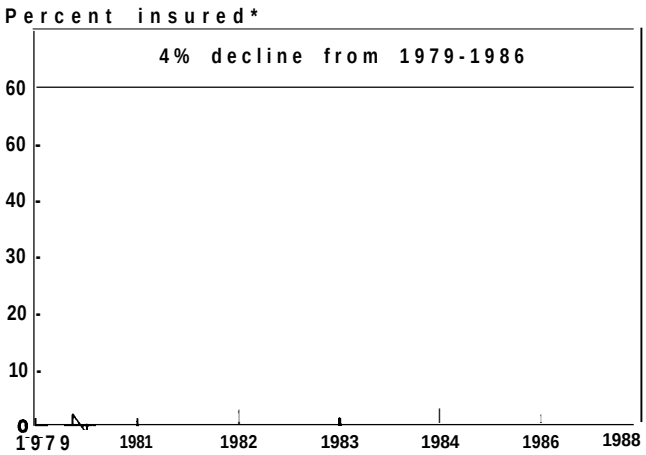


Figure 6b
Other private[c]

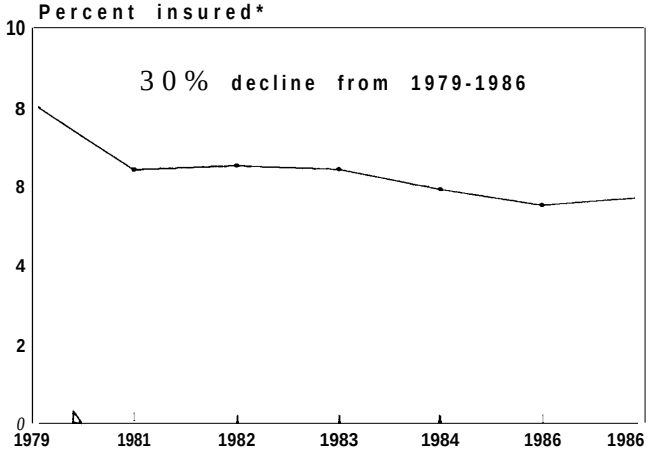


Figure 6C
Medicaid only[d]

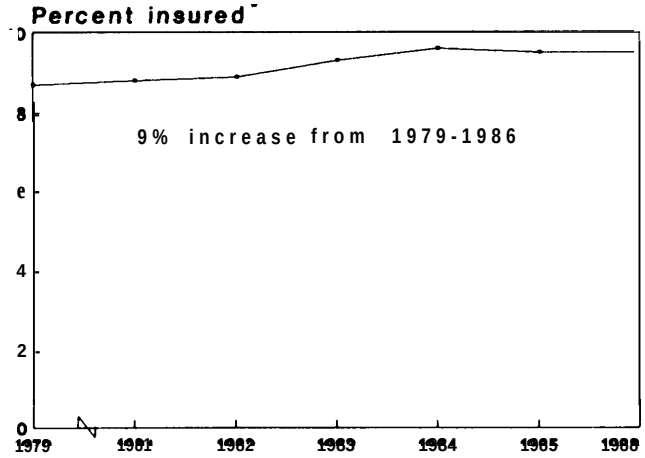
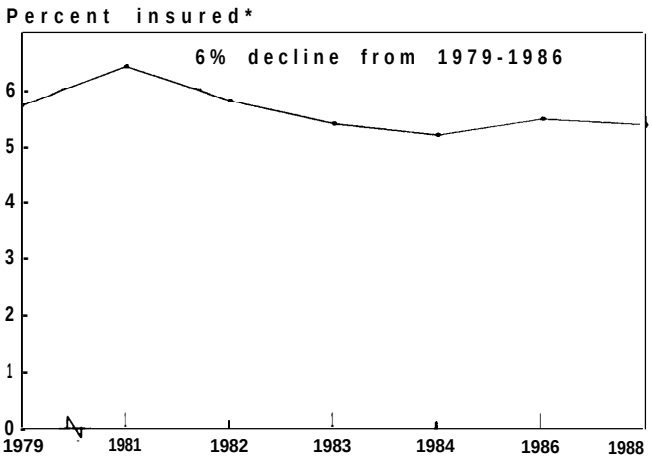


Figure 6d
Other[e]

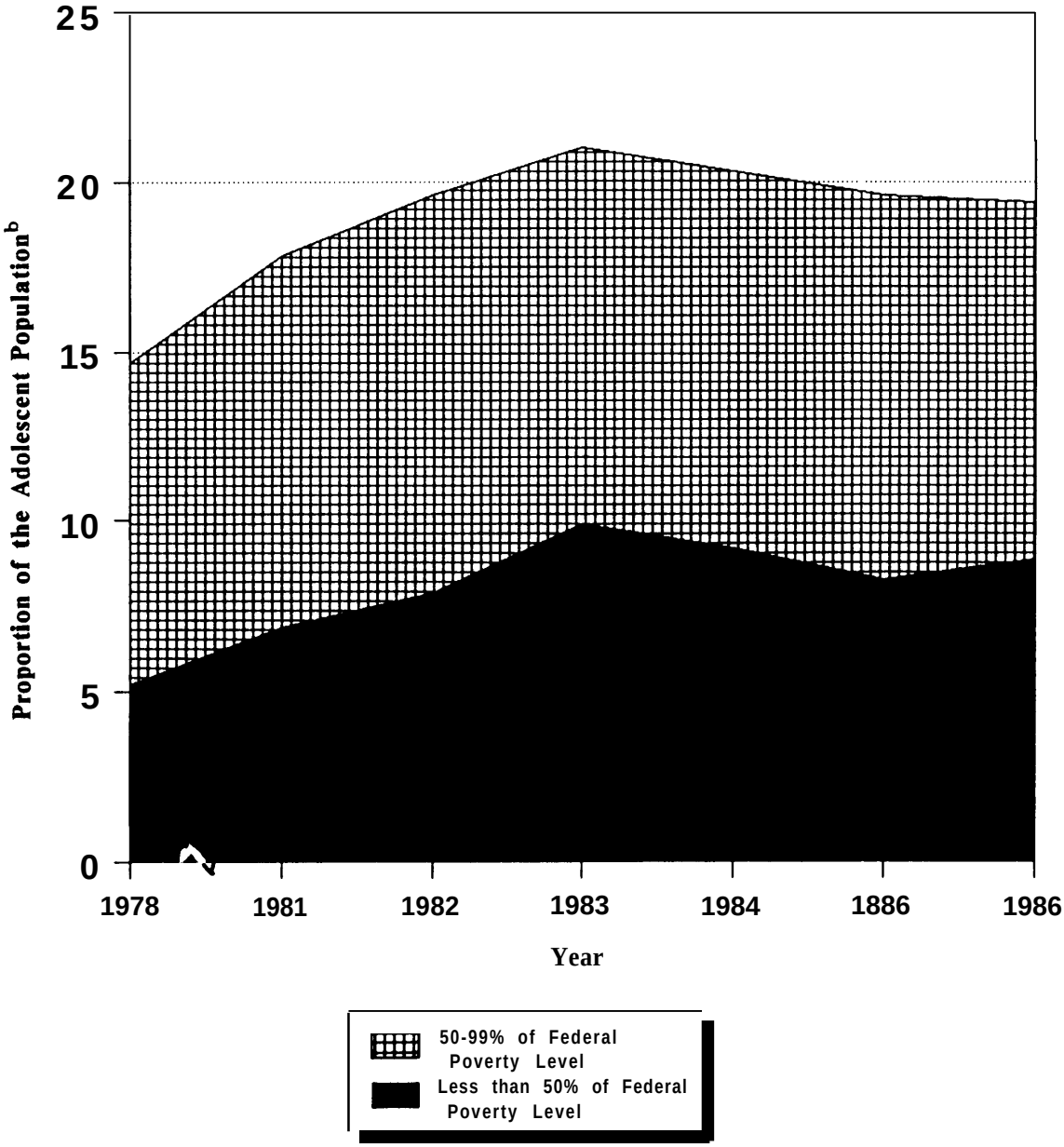


*Note that scales for 'Percent insured" are not equivalent.

[a] 1980 and 1988 data are not available; 1987 data are not comparable.
[b] Employment-based includes all with employment-based insurance from someone in the household, and without public coverage.
[c] Other private includes nongroup insurance from household members and employment-based insurance from non-household members, without public coverage.
Medicaid includes all those with Medicaid but without private coverage. Note that the increase in Medicaid did not keep pace with increases in the proportion of adolescents in poverty.
[d] Other is primarily CHAMPUS, and includes Medicare, and those with both public and private coverage.

SOURCE: Office of Technology Assessment, 1989, based on estimates from the March 1980 through March 1987 Current Population Surveys.

Figure 7---Trends in the Proportion of Adolescents, Age 10-18, Who Live in Poverty, 1979-1986'



[a]1980 data are not available.
[b]See appendix E for Federal poverty levels from 1979-1988.

SOURCE: Office of Technology Assessment, 1989 based on estimates from the March 1980 to March 1987 Current Population Surveys.

Table 12--- Trend in the Health Insurance Status of Adolescents, Age 10-18, by Family Income, 1979-1986

Family income as a percentage of poverty[a]	Year[b]	No health insurance coverage	Insured: Private[c]	Insured: Medicaid[d]
less than 50 percent	1979	38.4%	17.4%	44.5%
	1981	39.9	15.4	45.0
	1982	39.7	18.1	43.1
	1983	40.6	13.8	46.0
	1984	42.6	11.5	45.5
	1985	41.1	11.4	46.8
	1986	42.4	11.2	47.1
50 to 99 percent	1979	29.9	27.3	47.8
	1981	34.5	30.2	38.9
	1982	32.9	31.9	39.4
	1983	34.7	30.5	38.4
	1984	33.9	26.8	42.0
	1985	37.9	22.4	40.3
	1986	38.0	21.8	41.9
100 to 149 percent	1979	28.7	52.6	20.6
	1981	29.6	56.9	16.0
	1982	29.8	57.2	12.0
	1983	32.7	56.3	11.1
	1984	36.0	53.3	11.1
	1985	34.5	51.8	11.9
	1986	37.8	49.8	12.3
150 to 199 percent	1979	24.3	69.5	6.7
	1981	22.1	70.6	6.5
	1982	21.5	72.8	4.5
	1983	22.7	72.2	3.4
	1984	26.2	68.8	4.8
	1985	25.7	67.3	6.0
	1986	25.5	68.1	4.9
200 to 299 percent	1979	13.9	81.5	3.7
	1981	13.5	82.8	2.8
	1982	13.3	83.0	2.1
	1983	14.4	82.1	1.2
	1984	17.0	79.6	1.3
	1985	16.4	80.2	1.3
	1986	15.8	80.1	2.0
300 percent and above	1979	7.8	90.0	1.0
	1981	7.6	90.1	1.0
	1982	7.6	90.1	0.7
	1983	8.0	90.0	0.4
	1984	7.8	90.2	0.3
	1985	8.6	89.6	0.4
	1986	8.9	89.2	0.4

[a] In 1987, the Federal poverty level was $9,056 for a family of three. See appendix E for Federal poverty levels from 1979-1988.
[b] 1980 data are not available.
[c] Includes anyone with private coverage, as well as those who have both private and public coverage.
[d] Includes anyone with Medicaid coverage, as well as those who have both private and Medicaid coverage.

SOURCE: Office of Technology Assessment, 1989, based on estimates from the March 1980 through March 1987 Current Population Surveys.

cally between 1979 and 1983. In 1979, 48 percent of adolescents living in families between 50 to 99 percent of poverty had Medicaid coverage. By 1983, this had dropped to 38 percent, and rebounded slightly to 42 percent in 1984 and 1986.

Medicaid coverage of the near-poor also dropped significantly during this period. In 1979, 21 percent of adolescents in families with incomes from 100 to 149 percent of poverty were covered by Medicaid; in stark contrast, from 1982 through 1986, Medicaid covered only 11 to 12 percent of this group. These declines in Medicaid coverage levels were clearly due to the 1981 OBRA regulations that limited the working poor's eligibility for AFDC and Medicaid benefits.[3]

Changes in Private Health Insurance--- Income-specific rates of private insurance coverage were lower in 1986 than in 1979, but the change was not evenly distributed across income groups or across time. The decline in private coverage was much sharper for lower income than for middle and upper income groups. Further, income-specific private insurance rates increased slightly from 1979 to 1982, and then decreased sharply, particularly among the poor, from 1983 to 1986.

The larger decline in private coverage among the poor is clear. In 1979, nine out of ten adolescents in families with income at 300 percent or more of poverty had private health insurance. This had declined only slightly to 89 percent by 1986. During the same period, private insurance coverage among adolescents in families with income between 200 and 299 percent of poverty declined by only 1.4 percentage points. The trend among adolescents in households below 50 percent of poverty was markedly different; 17 percent were covered by some form of private insurance in 1979, but by 1986, only 11 percent were enrolled in a private health plan. Adolescents in families between 50 to 99 percent of poverty experienced a similar trend; the proportion with private health coverage dropped from 27 to 22 percent from 1979 to 1986.

Although one might have expected a decline in coverage during the recession and an increase in income-specific coverage rates during the recovery, the opposite pattern occurred: coverage rates increased during the recession and declined, especially for the poor, during the recovery. In all income categories (except for those below 50 percent of poverty) the rates of private coverage were higher from 1981 to 1983 than they were in 1979, and then decreased during the 1984 through 1986 period. The reasons for this counterintuitive pattern of change are not apparent.

Understanding the Increase in the Uninsured, 1979 to 1986

The following examines why the proportion of adolescents without health insurance grew from 1979 to 1986. First, four hypotheses, drawn from two of the most carefully prepared studies of changes in coverage at the national level, will be analyzed (Wilensky, 1988 and CRS, 1988a)

1. There were more adolescents living in families at or near the poverty level in 1986 than in 1979.
2. Given the same family income distribution, fewer adolescents were covered by Medicaid in 1986 than in 1979.
3. Given the same family income distribution, fewer adolescents were covered by private health insurance in 1986 than in 1979.
4. Employment has shifted from historically high-coverage industries, such as manufacturing, to low-coverage industries, such as the service sector. (To the extent that evidence is found for the hypothesis that income-specific rates of private coverage have declined,

3 The relationship to OBRA can be seen clearly by noting that Medicaid coverage levels did not decline among the very poorest, those below 50 percent of poverty. OBRA was not intended to affect eligibility for those with no (or very small) earned incomes.

change in the industrial base of the economy might begin to explain the rate of decline in private coverage.)

5. There were more privately insured parents who did not insure their children in 1986 than 1979 (possibly because employers are requiring greater contributions for dependent coverage).
6. There were more adolescents who lived outside their parents' homes and were thus more likely to be uninsured in 1986 than in 1979.

Changes in Poverty, Medicaid Coverage, and Private Health Insurance: Three Simulations.-- The first three hypotheses can be analyzed by using simulation methods similar to those used to examine regional differences in coverage rates. Three simulations are constructed. The first simulation computes the proportion of adolescents who would have been insured in each year from 1979 to 1986, if the family income distribution of adolescents by poverty level had remained at 1979 levels. The difference in each year's calculated versus actual proportion of uninsured adolescents reflects the effects of changes in poverty and family income on the uninsured.

The **second simulation** computes the percentage of adolescents who would have been uninsured each year if the income-specific rates of Medicaid coverage had remained at 1979 levels.

The **third simulation is** the same as the second, except that it assumes no change throughout the period from the 1979 income-specific rates of private health coverage. Then, the third simulation is divided into two parts to determine the individual effects of changes in private coverage rates for those above and below 150 percent of poverty.

As noted earlier, from 1979 to 1986, the proportion of uninsured adolescents rose from 16.7 to 20.8 percent, an increase of 4.1 percentage points. As detailed in table 13, it appears that approximately:

- 1 percentage point of the increase in the uninsured (24 percent of the total change) was due to a growth in adolescent poverty;
- 1.6 percentage points (39 percent of the total) were a result of decreases in the income-specific rates of Medicaid coverage; and
- 1.5 percentage points (37 percent of the total) are accounted for by decreases in the income-specific rates of private coverage (principally among adolescents below 150 percent of poverty).

It is important to look closely at the variations in coverage throughout the period. By 1983, just past the height of the recession, growth in the number of poor adolescents could have increased the proportion of uninsured by 1.9 percentage points, while the drop in Medicaid coverage might have contributed an additional 2.6 percentage point rise in the uninsured. This potential total increase of 4.5 points was partially offset, however, by a concurrent rise in private coverage.

Afterward, these trends reversed. Income-specific rates of private coverage declined every year after 1982; the net effect reversing from a potential 2.4 percentage point *decrease* in the proportion of uninsured adolescents in 1982, to a potential *increase* of 1.5 points in 1986 (table 13). At the same time, after peaking in 1983, a slight decline in adolescent poverty and small increase in income-specific Medicaid rates helped reduce the negative effect of the drop in private coverage.

In summary, not only were there more poor adolescents in 1986 than in 1979, but they were less likely to have Medicaid. Further, decreases in private coverage affected the poor much more than the nonpoor.[4]

4 Note that most studies of the growing gap between rich and poor in the 1980s focus on cash income and ignore declines in health coverage; such an approach understates the disparity in wealth, since the value of health insurance is not taken into account (see, for example, Palmer and Sawhill, eds., 1984).

Table 13.--Estimates of the Effects of Changes in Poverty and Rates of Medicaid and Private Coverage on the Proportion of Adolescents Without Health Insurance, 1981-1986

Factor(s)	Simulation	Estimated effect on the proportion of adolescents without health insurance					
		1981	1982	1983	1984	1985	1986
Poverty level	Assume the 1979 poverty level distribution of adolescents	-1.2%	-1.6%	-1.9%	-1.6%	-1.2%	-1.0%
Medicaid coverage	Assume the 1979 rate of Medicaid coverage (by poverty level)	-1.5	-2.4	-2.6	-2.1	-1.8	-1.6
Private coverage	1. Assume the 1979 rate of private coverage (by poverty level)	1.3	2.4	1.4	-0.4	-1.0	-1.5
	2. Assume the 1979 rate of private coverage for adolescents below 150 percent of poverty only	0.6	1.4	0.6	-0.3	-0.5	-1.1
	3. Assume the 1979 rate of private coverage for only adolescents at 150 percent of poverty or above	0.6	1.1	0.8	-0.2	-0.4	-0.5
Poverty level, Medicaid coverage rate, and private coverage rate	Assume the 1979 poverty level distribution of adolescents, Medicaid coverage rate, and private coverage rate (i.e., all of the above)	-1.4	-1.6	-3.1	-4.1	-4.0	-4.1

SOURCE: Office of Technology Assessment, 1989, based on estimates from the March 1982 to March 1987 Current Population Survey.

Private Coverage and Changes in Employment and the Economy .--Why has the decline in private coverage occurred? It has been suggested that it may be due, in part, to sectoral changes in the economy; that is, fewer job opportunities in manufacturing (where benefits are traditionally provided) and more jobs in the relatively low-paying, low-benefits service sector (Wilensky, 1988). It makes sense that this might be part of the explanation, but as can be seen below, relatively straightforward analysis of the data does not provide much support for this explanation.

From 1982 to 1986, an average of 17.3 percent of adolescents were without any health coverage. During this period, those whose parents were employed in public administration, durable goods, transportation, mining, and nondurable goods industries had consistently high rates of private health coverage and a 10.4 percent overall uninsured rate (table 14). Adolescents with parents in finance, wholesale trade, and professional services had an average rate of private coverage: 16.7 percent were uninsured. Private coverage in construction, retail trade, business services, and entertainment industries was lower than average; more than one out of four adolescents with parents in these industries were uninsured. Finally, coverage was very low in agriculture and personal services; 38 percent of adolescents linked with these industries had no health insurance .

There was relatively little change in the distribution of the adolescent population among these four industry groups from 1979 to 1986 (figure 8). The proportion of adolescents with parents in the high coverage industries decreased slightly from 45.4 to 42.8 percent and the proportion of adolescents linked to industries with an average coverage rate increased from 25.2 to 27.4 percent. However, given this relatively small shift in the adolescent population distribution, the difference in coverage rates between these two industry groups was not large enough to substantially affect the aggregate number of uninsured. (There was virtually no net increase in the proportion of adolescents whose parents work in low or very low coverage industries.)

Thus, at least at this fairly aggregate level of analysis, sectoral change does not appear to account for the observed increases in the proportion of uninsured adolescents. It is possible that a more refined analysis which considers occupational as well as more detailed industrial classifications would result in different conclusions. Such an analysis is beyond the scope of this paper.

Dependent Coverage, Parent's Insurance Status, and Adolescent Living Arrangements.-- In 1979, 6.1 percent of adolescents living with insured parents were without health coverage (table 15). By 1986, this proportion had risen to 7.2 percent; an increase of approximately 250,000 uninsured adolescents that accounted for almost one-quarter of the period's overall 4 percentage point growth in the proportion of uninsured adolescents.

This trend is worrisome, but the extent of the problem and need for a public policy response are tempered by two observations. First, it is clear that most of the increase in adolescents without health coverage (i. e., more than three-quarters) was due to other factors discussed above. Second, analysis of preliminary 1987 data found that only 3.3 percent of adolescents living with insured parents were themselves uninsured. This is less than half the 7.2 percent rate in 1986, indicating that the wording changes in the March 1988 CPS may have had a particularly large effect on this estimate.

The principal reason why more adolescents were uninsured in 1986 than in 1979 is simply that more lived with uninsured parents in 1986 than in 1979. During this period, the proportion of adolescents who lived with uninsured parents increased from 8.8 to 10.5 percent. This increase accounts for 37 percent of the overall 1979 to 1986 increase in uninsured adolescents.

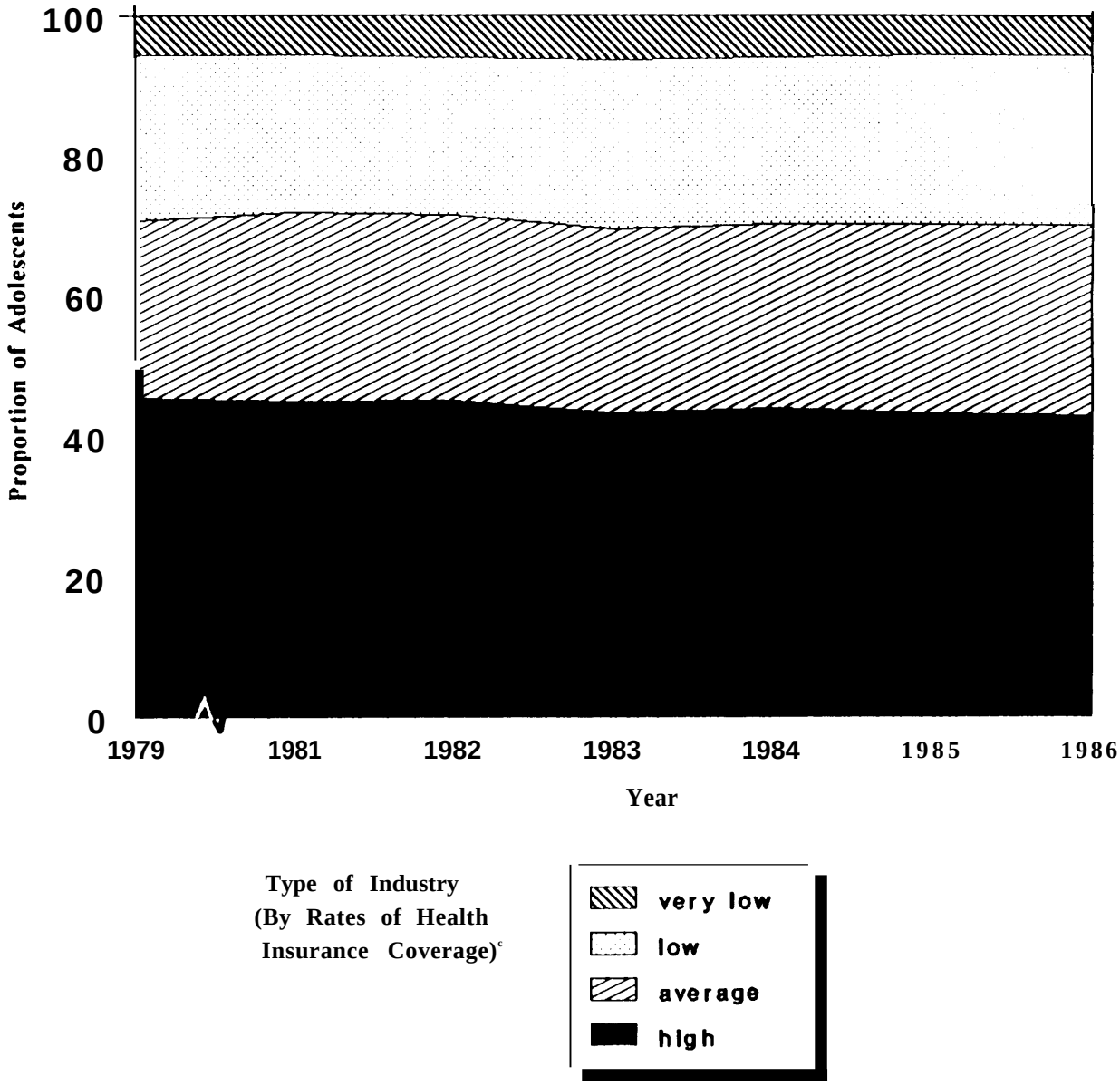
Table 14--- Industry of Parent's Employers and Health Insurance Status of Adolescents, 1982-1986'

Rate of coverage	Industry[b]	Percent of total	No health insurance coverage	Insured: private and public — Private only	Medicaid only	Other[c]
High	public admin.	6.3%	8.6%	82.5%	1.7%	7.3%
	durable goods	17.5	9.9	84.8	1.4	3.9
	transportation	9.2	10.5	84.2	1.5	3.8
	mining	1.4	11.7	84.1	0.8	3.3
	nondurable goods	9.7	12.2	81.6	2.6	3.6
	Total	44.1	10.4	83.6	1.7	4.2
Average	finance	5.1	14.8	80.4	1.5	3.4
	wholesale trade	4.6	14.2	79.9	2.0	4.0
	prof. services	16.8	17.9	73.4	4.3	4.4
	Total	26.5	16.7	75.9	3.4	4.1
Lou	construction	8.2	24.5	68.7	2.7	4.1
	retail trade	10.4	26.0	62.8	6.4	4.8
	business service	4.2	27.6	61.3	5.5	5.5
	entertainment	0.6	29.7	57.4	5.9	7.1
	Total	23.4	25.9	64.5	4.9	4.7
Very Lou	agriculture	3.4	36.7	52.3	6.9	4.1
	personal services	2.6	39.4	39.5	16.7	4.4
	Total	6.0	37.9	46.8	11.1	4.2
All industries		100.0%	17.3%	74.9%	3.5%	4.3%

[a] Estimates are based on pooled data from March 1983 to March 1987 Current Populations Surveys.
[b] Refers to the industry of the household head unless only the spouse had employment-based health insurance.
[c] Includes adolescents with CHAMPUS, Medicare, or a combination of public and private coverage.

SOURCE: Office of Technology Assessment, 1989, based on estimates from the March 1983 to March 1987 Current Population Surveys.

Figure 8.--Distribution of Adolescents, Age 10-18, by Parent's Industry of Employment Categorized by Rates of Health Insurance Coverage[a,b]



[a]1980 data are not available.
[b]Refers to the industry of the household head unless only the spouse has employment-based coverage.
[b]High coverage rates are found in public administration, durable goods, transportation, mining, and nondurable goods. Average includes finance, wholesale trade, and professional services. Low includes construction, retail trade, business services, and entertainment. Very Low includes agriculture and personal services.

SOURCE: Office of Technology Assessment, 1989, based on estimates from the March 1980 to March 1987 Current Population Surveys.

Table 15.--Trend in Parental and Adolescent Health Insurance Status, 1979-1986'

	Parent's insurance status[b]	1979	1981	1982	1983	1984	1985	1986
Distribution of adolescent population	not insured	8.8%	9.2%	9.3%	10.2%	10.9%	10.8%	10.5%
	insured	85.7	84.8	85.0	83.9	83.3	83.5	83.1
	not living with parent[c]	5.5	6.1	5.7	5.9	5.8	5.8	6.3
	All[d]	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Proportion of adolescents without health coverage	not insured	91.9%	95.1%	97.7%	97.4%	97.3%	97.5%	96.4%
	insured	6.1	6.3	6.1	6.8	7.1	7.2	7.2
	not living with parent[c]	61.3	67.7	7.7	71.3	72.4	71.5	73.9

a 1980 data are not available.

[b]Refers to the insurance status of the household head unless only the spouse had employment-based health coverage.

[c]Includes all adolescents not living with their parents and married adolescents living with their parents.

[d]Percentages may not total 100 percent due to rounding.

SOURCE: Office of Technology Assessment, 1989, based on estimates from the March 1980 through March 1987 Current Population Surveys.

Eighteen percent of the overall rise in the proportion of adolescents without health coverage was due to a fall in the coverage rate among adolescents not living with a parent. In 1979, 61 percent were uninsured; by 1986 the proportion without coverage rose to 74 percent. At the same time, the uninsured rate among adolescents who lived with uninsured parents also rose, increasing from 92 to 96 percent (and contributing to 10 percent of the overall climb in the uninsured). Among both groups the proportion of adolescents who obtained health insurance from their own jobs declined precipitously.[3]

Changes in adolescent living arrangements had a minimal effect on the proportion of uninsured. From 1979 to 1986, the proportion of adolescents who did not live with a parent rose from 5.5 to 6.3 percent, accounting for only 11 percent of the overall 4 percentage point increase in uninsured adolescents.

Other Explanations for Increases in Uninsured Adolescents

Declining rates of health insurance coverage may also result from increases in administrative and medical care costs. People may be less willing to purchase insurance for themselves or their dependents as the cost of coverage increases.[4] National health expenditure estimates suggest that insurers' administrative costs rose by 18 percent per year from 1980 to 1986 (U.S. Dept. of Health and Human Services, 1987).5 Increases in real per capita health care costs averaged 4.6 percent per year from 1980 to 1986 and may have further encouraged the poor and near-poor to rely on whatever free care is available at the local hospital or health center rather than use scarce dollars to purchase (or have their employer purchase) health coverage. Although not within the scope of this paper, the affects of rising health care costs on the prevalence of private health coverage clearly merit further study.

3 In 1979, a total of 700,178 (4.3 percent) of 15- to 18-year-olds had their own health insurance; by 1986, this number had dropped to 332,106 (2.3 percent). (It is assumed that only 15- to 18-year-olds, and not younger adolescents, might have health insurance coverage on their own.) Of the 15- to 18-year-olds with their own insurance coverage who lived on their own, 11.5 percent (161,056 of 15- to 18-year-olds) were insured in 1979; by 1986, this proportion had dropped to 4.9 percent (68,175 of 15- to 18-year-olds).

4 Cost is defined here as the difference between expected medical costs and the price of an insurance policy.

5 The 18 percent per year increase occurred in a category of expenditures including administrative costs for public programs (primarily Medicare and Medicaid), private insurance administrative costs, and insurance company profit or loss (or, in the case of nonprofit insurers, addition or deletion from reserves). Most of the 18 percent increase occurred in private insurance costs.

5. POTENTIAL EFFECTS OF EMPLOYER MANDATES AND MEDICAID EXPANSIONS

Two types of proposals have been prominently advanced to reduce the number of uninsured. So-called "employer mandates" require that employers offer group health insurance policies and pay a significant amount of the premiums for all employees who work more than a specified number of hours per week. Proposals to expand Medicaid require that categorical eligibility requirements be relaxed and/or that income eligibility limits be increased (i.e., thereby requiring all States to make Medicaid available to all those eligible below certain income levels) (see CRS, 1988b for a discussion of illustrative options).

A number of factors determine the effects of an employer mandate. The types of employees and employers to be included in an employer mandate are especially important. How many hours per week must be worked? Does coverage begin on the first day of employment or after a waiting period? Are the self-employed included? Are employee dependents covered? Will small firms be exempt? What level of benefits must be provided? How much must the employer contribute to the premium?

Similarly, the effect of an expansion in Medicaid depends on a number of policy decisions. For example, what is the minimum eligibility income level? Are the changes in eligibility mandatory or optional for the States? Are two-parent families with workers eligible or must one parent be absent or unemployed?

The following presents preliminary estimates of the effects of an employer mandate, Medicaid expansion, and combinations of an employer mandate and Medicaid expansion. The analyses use preliminary data from the March 1988 CPS supplement.

Employer Mandates

The following assumptions are used in estimating the effect of an employer mandate on the number of uninsured adolescents:

- The self-employed are exempt. All other "permanent" employees who work more than the required number of hours per week are covered (i.e., with no exemptions for firm size or industrial classification).[1]
- Employees working 26 weeks or more in the preceding year are considered "permanent" workers and would be covered under the mandate.
- The effects of the mandate are estimated using three different assumptions about the number of hours of work at which workers are covered: 18 hours, 25 hours, and 30 hours.
- All unmarried adolescents age 18 or younger would be covered by the mandate if their parents were covered as well; however, it is assumed that adolescents who are not heads of household who do not live with their parents would not be covered as dependents under the mandate.[2]

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1 The currently available 1988 CPS data do not include firm size. As a result, it is difficult to do any analysis that excludes small business even though many proposed mandates exempt employees in small firms (often five or fewer employees). Other data sources and a set of imputation rules could be used to assign sane employees to firms of 5 (or 10) workers or less, but such a process was beyond the scope of this paper. Note also that uhen final 1988 CPS public use files are available, the smallest firmsize coded will be 1 to 25 employees thus prohibiting any analysis for firms with less than 25 employees.

2 Most mandate proposals cover some adolescents who do not live with their parents; however, because the CPS file does not report parent's work status for adolescents who do not live with their parents, this analysis takes the conservative approach and does not impute dependent coverage to these adolescents. Adolescents who are living on their own and are eligible for employer-based coverage are included as employees, not as dependents.

Table 16 summarizes the effects of an employer mandate on adolescents given the above assumptions. If employees who worked 30 hours or more per week were included, approximately 2.55 million uninsured adolescents, or 55 percent of all adolescents currently without health coverage would become insured. Although reducing the hourly work threshold does increase the number of uninsured who would become covered, its effect is relatively minimal (at least within the range of 18 to 30 hours per week). For example, if the hourly work threshold was reduced to 25 hours per week, an additional 60,000 adolescents **(1.3** percent of all those uninsured) would be covered. If the threshold was 18 hours per week, an additional 136,000 adolescents (or 3 percent of all uninsured adolescents) would be covered.

This projection of how many adolescents would be covered by an employer mandate is slightly lower than similar analyses of the adult uninsured because a sizable number of uninsured adolescents neither live with their parents nor work full-time. Of the 1.87 million adolescents who would not recovered by an 18-hour-per-week threshold, 716,000 live on their own. It is possible that many of them would, in fact, be covered as a dependent on a parent's policy, and that actual coverage under a mandate might be higher than estimated here. Also not covered by an 18-hour threshold are approximately 379,000 adolescents with self-employed parents; 456,000 who live with nonworking parents; and 267,000 who live with parents who worked less than 26 weeks during the preceding year.

While assuring that most workers and their dependents have health insurance benefits, an employer mandate may have other labor market effects (see Monheit and Short, 1988; Phelps, 1980; CRS, 1988b). For example, if employers are required to pay for health benefits for employees who were previously uninsured, they may respond by either raising prices, absorbing reduced profits, reducing cash wages (or other fringe benefits) or reducing staff.

It is likely that many employers would limit the rate of growth of cash wages so that total employee compensation (i.e., cash plus health benefits) remains the same. For uninsured, middle-income workers, this might be a desirable tradeoff; that is, they would receive less cash compensation than before, but would gain access to group health insurance and reap the benefits of tax-free employer contributions. However, lower-income employees may evaluate the tradeoff differently; they might prefer the cash to the health benefits. Therefore, in designing a mandate that includes these workers, it would be important to consider the feasibility of subsidizing employer contributions for the required health benefits.

It is also important to consider workers who earn at or near the minimum wage. Employers of such workers maybe prohibited by minimum wage laws from lowering wages, despite a mandated obligation to provide health coverage. Consequently, in response to a mandate, employers of minimum-wage workers may be less likely to make new jobs available.

Medicaid Expansions

Proposals to expand Medicaid may mandate or simply give States the option to broaden Medicaid eligibility. Currently, States have the flexibility, within limits, to set their own eligibility levels for the Aid to Families with Dependent Children (AFDC) and Medicaid programs. Some States have relatively broad eligibility policies while others are much more restrictive. However, with few exceptions, adolescents are eligible for Medicaid only if they are in a family with a so-called "deprivation factor;" that is, a family with an absent parent or one whose principal breadwinner is unemployed (see CRS, 1988c for an excellent summary of eligibility rules).[3]

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3 This is unchanged by the passage of the Family Support Act of 1988 (Public Law 100-485).

Table 16--- Potential Effect of Various Employer Mandates on Uninsured Adolescents by Living Arrangement and Parent's Work Status (in thousands)

Living arrangement/ parent's work status	Number covered by mandate on 30 hours per week employees	Additional number covered by lowering mandate to 25 hours per week[a]	Additional number covered by lowering mandate to 18 hours per week[a]	Number not covered by 18 hours per week mandate	Totals
Living without parents	75	2	22	716	815
Parent is self-employed	14	6	4	379	403
Parent is not working	10	2	4	456	472
Parent working fewer than 26 weeks	9	0	6	267	282
Parent working 26 weeks or more	2,440	51	101	49	2,641
Total	2,549 (55.3%)	60 (1.3%)	136 (3.0%)	1,868 (40.5%)	4,613 (100.0%)

[a]Entries refer to the number of uninsured adolescents (in 1,000s) who would be covered by the employer mandate.

SOURCE: Office of Technology Assessment, 1989, based on estimates from the March 1988 Current Population Survey.

If the current categorical requirement of a "deprivation factor" is maintained, the potential for an expansion in Medicaid to cover significant portions of uninsured adolescents is severely limited. As can be seen in table 17, if all adolescents in single-parent households with incomes below 100 percent of poverty were covered by Medicaid, approximately 707,000 of the 4.6 million uninsured adolescents would be covered. However, even if States were required to extend eligibility standards to all such adolescents, it is doubtful that all would enroll. In fact, many of the 8 percent of *uninsured* adolescents who were in single-parent households in 1987, with incomes below 50 percent of poverty, were already eligible to receive Medicaid benefits.

If categorical requirements were dropped, and all adolescents with family income below a specified standard were eligible for Medicaid, then significant portions of the currently uninsured could be covered by a Medicaid expansion. Over 40 percent of uninsured adolescents in 1987 lived in households with family income below 100 percent of poverty, and an additional 19 percent were in households with income between 100 and 149 percent of poverty (table 17).

One concern often raised about expanding Medicaid is that employers may respond by dropping private health coverage for low-wage workers who would be eligible for coverage under the expansion. Should this happen, the pool of eligibles could be much larger than those who are currently uninsured and living under the income thresholds In 1987, there were approximately 600,000 privately insured adolescents in families with incomes between 50 and 99 percent of poverty; some of these might "leak" from the private system to Medicaid if Medicaid was available to all families with incomes below 100 percent of poverty. However, the potential leakage would be much greater if Medicaid were available to all adolescents in family incomes below 150 percent of poverty; about 1.7 million additional privately insured adolescents are in families with incomes between 100 and 149 percent of poverty.

Combined Approach: Employer Mandate With a Medicaid Expansion

Table 18 shows the proportion of uninsured adolescents who would be covered by various combinations of an employer mandate and Medicaid expansion. The entry in the bottom right corner of the table shows that if employers were required to cover all workers who worked 18 hours or more and Medicaid was available to all adolescents in families with income below 200 percent of poverty, then only 7 percent of adolescents without health coverage would remain uninsured. An employer mandate that included employees of at least 30 hours per week combined with a Medicaid expansion that included all adolescents below 100 percent of poverty, would cover over 80 percent of uninsured adolescents (see the center of table 18).

Note that most of the adolescents left out by the combination of an employer mandate and Medicaid expansion are children of the self-employed. If the self-employed were included under a "combination" mandate, the vast majority of uninsured adolescents would become covered (even if the expansion included only those up to 100 percent of poverty).

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3 Section 89 of the Internal Revenue Code, the so-called "nondiscrimination" section, will make this more difficult than previously, but not impossible.

Table 17.--Potential Effect of a Medicaid Expansion on Uninsured Adolescents by Poverty Level and Living Arrangements (in thousands)

Medicaid eligibility level[a,b]	Estimated number (percent) of uninsured adolescents covered by the Medicaid expansion		
	Living arrangement		
	Living with one parent	Living with two parents or living alone	Total
Less than 50 percent of poverty	354 (8%)	523 (11%)	877 (19%)
50 to 99 percent of poverty	353 (8)	657 (14)	1,010 (22)
100 to 149 percent of poverty	288 (6)	582 (13)	870 (19)
150 to 199 percent of poverty	212 (5)	431 (9)	643 (14)
200 percent of poverty and above	275 (6)	938 (20)	1,214 (26)
Total number of uninsured adolescents covered under expansion	1,482	3,131	4,614
Overall proportion of uninsured adolescents covered by expansion	(33%)	(67%)	(loo%)

[a]Entries are the proportion of currently uninsured adolescents who would be insured under the indicated level of Medicaid expansions.
[b]The Medicaid expansions assume that all adolescents in families with income below the specified amount would be covered by Medicaid.

SOURCE: Office of Technology Assessment, 1989, based on estimates from the March 1988 Current Population Survey.

Table 18.--Potential Effects of Various Combinations of Employer Mandates and Expansions in Medicaid on Uninsured Adolescents, Age 10-18

Medicaid eligibility level[a,c]	No employer mandate	Employees included in the mandate[a,b] (no. of hours worked weekly)		
		30 hours	25 hours	18 hours
No expansion	0%	55%	57%	60%
Anyone below 50% of poverty	19	71	72	75
Anyone below 100% of poverty	41	81	82	84
Anyone below 150% of poverty	60	87	87	89
Anyone below 200% of poverty	74	92	93	93

1

Proportion of uninsured adolescents who would become covered

[a]Entries are the proportion of currently uninsured adolescents who would be insured under the indicated combination of an employer mandate and Medicaid expansion.
[b]The employer mandates assume that all workers excluding the self-employed (and their dependents), who work more than the indicated number of hours for at least 26 weeks during the preceding year, would be covered.
[c]The Medicaid expansions assume that all adolescents in families with income below the specified amount would be covered by Medicaid.

SOURCE: Office of Technology Assessment, 1989, based on estimates from the March 1988 Current Population Survey.

APPENDIX A.--CONSTRUCTING ESTIMATES OF THE NUMBER OF UNINSURED USING THE CURRENT POPULATION SURVEY: ADJUSTMENTS MADE AND INTERPRETATION OF RESULTS

This appendix describes the methods used to analyze Current Population Survey (CPS) data on health insurance coverage. The CPS questions changed materially in March 1988. The material below first considers the questions as they were asked from March 1980 through March 1987 and then considers the March 1988 questions.

CPS Questions-- **March 1980 to March 1987**

In the March supplement to the Current Population Survey in each year from 1980 through 1987 (with the exception of 1981) respondents who were in the civilian labor force in the previous year--that is, civilians who were 15 or older and who reported at least some work during the previous year--were asked whether they were included in a group health insurance plan at any job they held during the previous year.[1] Respondents who reported that they were included in such a plan were asked who else was included in the plan, and responses to "who else was included" were coded into the categories: spouse only; children only; spouse and children; and other.

Additional questions about public and private coverage were asked. The question was asked whether anyone 15 or over was covered by Medicare at any time in the previous year, and if so, who was covered; whether anyone 15 or over was covered by Medicaid at any time in the previous year, and if so, who was covered; and whether anyone 15 or over was covered by CHAMPUS, VA, or military health care, and if so, who was covered. Finally, all respondents 15 and over were asked whether they had any other health insurance plan at any time during the preceding year, and if so, who else was covered.[2]

It is important to recognize that the question about other health insurance was far from comprehensive. The question was asked "Did anyone in this household have any (other) health insurance plan at any time during 1986?" Although it sounds comprehensive, it left two gaps. First, the reference to "anyone" referred only to people 15 and above. If a respondent under 15 had a health insurance plan it would not be coded. Second, and more importantly, interviewers were instructed to interpret the question to mean "did anyone have a health insurance plan in their own name"? If the respondent was covered as a dependent then the respondent was not coded as "having" a health insurance plan; the respondent was only coded as "having" a health insurance plan if the respondent was the primary subscriber (U.S. Department of Commerce, Bureau of the Census, **1987).**

These questions are used to define the uninsured as a residual category. Those respondents who did not report coverage from any source during the preceding year should, if they were responding accurately, have been uninsured for the entire previous year. There are, however, two reasons why this residual category will be larger than the true number of people who were uninsured for the entire previous year. The first reason is question wording difficulties: in a variety of situations (discussed further below) people with health insurance coverage will be counted as being uncovered. The second reason is recall error: some respondents appear to forget that they may have been covered at

1 In many families a proxy respondent will respond for other family members. Thus, it would be more accurate to say that a question about employment-based coverage is asked about (not of) each family member in the labor force.

2 In March 1981 the questions about private health insurance not related to employment were omitted from the questionnaire. Thus, March 1981 data cannot be compared to previous or subsequent years.

some point during the previous year. Both sources of error will be discussed below.

Question Wording Problems in the 1980-1987 CPS

There were two main problems with the wording of the health insurance questions prior to 1988: first, there was no direct question inquiring whether each individual in the household is covered by insurance, and second, dependents could only be assigned insurance coverage if the subscriber to the insurance policy resided in the household. This created a number of gaps. For one example, if a child was living with his/her mother and insured by an absent father, the CPS would count that child as uninsured. As a second example, if an adolescent was not living with his/her parents (e.g., a foster child or a grandchild, or an adolescent living in his/her own apartment), the adolescent could never be ascribed coverage as a dependent child, since using the CPS questions coverage can only be derivative of **a parent's coverage if the parent lives in the same household.**

Further, the fact that direct questions about coverage were not asked meant that the Census Bureau was forced to make inferences about coverage when a private insurance subscriber reports that his/her children are covered. In such circumstances the Census Bureau assumed that any children living with the subscriber who were 21 or younger were to be covered, unless the child had been married.[3] This is a reasonable rule, but will almost certainly understate the extent of dependent coverage. Some family insurance policies provide for coverage of dependent children up to age 23 if they are full-time college students, some will cover dependents up to age 21 regardless of the dependent's marital status, and some provide for dependent coverage only up to age 18. Thus, for a variety of reasons the questions asked by the Current Population Survey from 1980 through 1987 should overestimate the number of people without insurance. This overestimate will be greatest for children and adolescents.

Recall Error: Full-Year or Point-in-Time Estimates?

If respondents were answering without recall error, respondents who report not being covered by either private or public sources should have been uninsured for the entire previous year. However, as argued by Swartz, CPS estimates of the number of uninsured people are approximately the same as estimates from other surveys of the number of people uninsured at a given point in time (Swartz, 1986). Swartz argues that the CPS estimates can be reconciled with estimates from other surveys if we assume that CPS respondents are responding to health insurance questions with reference to their insurance status at the point in time at which the questions were asked (March of the given year), and not with reference to the entire previous calendar year as the questions were intended.

This argument is partially correct, but the case appears to be overstated. There are a number of potentially anomalous findings if people are really responding to the CPS questions with respect to their health insurance status at the point in time at which the questions were fielded. First, for those people for whom we might expect a difference in insurance status from the previous year to March--namely for those people who were employed in the previous year but unemployed in March or vice-versa--insurance status is more closely aligned with employment status during the previous year than it is with

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3 On the March 1982 and March 1983 Public Use Files the Census Bureau did not apply the editing routine that assigns coverage to spouses and dependent children for private insurance coverage. The public use files indicate whether or not an individual has **a** private insurance plan in his/her own name, and who else is covered (spouse only, children only, spouse and children, or other), but in 1982 and 1983 the census bureau did not follow the conventions it followed in 1980 and in subsequent years of editing the records for the spouses and children to show coverage where it existed. For this paper the Census Bureau's standard editing rules were applied to assign dependent coverage, where appropriate, to spouses **and** children. Thus, the data used here for 1982 and 1983 are consistent with data for 1980 and 1984-1987.

employment status during March (Enthoven and Kronick, 1988). This suggests that many people are answering the health insurance questions with reference to their health insurance status in the preceding year, as requested, and not with reference to the point in time at which the questions were asked. Second, preliminary estimates from the 1987 National Medical Care Expenditure survey show that 37 million people were uninsured during early 1987 (Short, et al., 1988). This is 6 million more people uninsured than one preliminary estimate from the March 1988 CPS (Moyer, 1989). One plausible explanation for a smaller number of uninsured on the CPS compared to NMES is that NMES is measuring the number of uninsured at a point in time, while CPS is, at least for some people, measuring the number of people who were **uninsured for the entire previous year. If this is the case, then, we would expect that the CPS would show a smaller number of** people uninsured than the NMES, as it apparently does.[4] Third, it makes sense that when people are asked whether they were covered by insurance during the previous calendar year that some who are currently uninsured might forget that they were covered at some point during the preceding year, but it does not make sense to think that all (or even most) respondents will forget to report such coverage.

In summary, because of question wording difficulties, CPS estimates from 1980 through 1987 certainly overestimate the number of people who were uninsured for the entire previous year. As will be discussed below, the question wording problems were largely corrected in the March 1988 CPS; however, because of recall error problems it is likely **that the March 1988 estimates will also overestimate the number of people who were uninsured for the entirety of 1987. The safest conclusion is that the 1988 estimates will overestimate the number of people who were uninsured for the entirety of 1987, but underestimate the number of people who were uninsured at any point** in time during 1987.

Despite the question wording problems from March 1980 to March 1987 the CPS provides a valuable data source for the analysis of the health insurance status of adolescents. It is the only data source that provides annual measurements to support trend analysis. The CPS has a large sample of respondents, which facilitates analysis of subpopulations. Further, the CPS has a variety of questions about labor force participation, which facilitates analysis of the effects of employer mandates.

Question Wording Changes in March 1988

In an attempt to correct the underestimate of health insurance coverage, the March 1988 CPS asked different questions about health insurance from those in previous years. There are two major changes. First, for each person in the household age 15 and above, the March 1988 questionnaire asks directly whether the respondent was 'covered by" a health insurance plan. Anyone covered by a health insurance plan is then asked whether the plan is in his/her own name or not. Thus, a 16-year-old who is covered by the health insurance of an absent father should be reported as covered by the March 1988 questions, while the same person would be reported as uncovered by the March 1987 questions (since such a person did not "have" a health insurance plan). Second, a set of "cover sheet" questions ask directly whether any children in the household under 15 were covered by health insurance during the preceding year.

As of this writing, the public use files of the March 1988 data contain responses to the new questions for those 15 and above, but do

4 A large remaining puzzle is why the point in time estimate from NMES of the number of people who are uninsured is approximately 6 mi 11 ion greater than the point in time estimates from either the Health Interview Survey or from the Survey of Income and Program Participation (USDHHS, 1987; McNeil, 1988). Further work is needed to understand these differences, and to further clarify to what extent CPS provides an estimate of the full-year versus point-in-time estimate of the number of uninsured.

not yet contain responses to the new cover sheet questions.

As can be seen in table A-1, the new questions appear to have had a dramatic effect on the reported coverage rates for 15- to 18-year-old adolescents. From 1983-1986 approximately 21 to 21.5 percent of this group were estimated to be uninsured; the estimated percentage uninsured drops dramatically to 15.2 percent in the March 1988 survey. Since the estimated percentage uninsured changes hardly at all for adults (data not shown) there is every reason to believe that the change in estimate in 1988 is due to question wording changes and not to any real change in the proportion of 15- to 18-year-old adolescents who were uninsured.

Almost all of the reported decrease in the proportion of 15- to 18-year-olds who are reported as uninsured is accounted for by an increase in the proportion with "other private insurance." The meaning of this category changes in 1988 compared to previous years. Prior to the March 1988 survey, "other private insurance" was equivalent to nongroup health insurance-- that is, it measured the number of people covered by insurance that was not employment-based. However, in the March 1988 survey this category also includes employment-based insurance in which the policyholder was not a household member-- e.g., if a 16-year-old child is covered by the employment-based policy of an absent father, this coverage will be counted as "other private insurance," and not as employment-based.

Further confirmation of the role of question wording change comes from an examination of changes in coverage rates for those in single-parent households and those who do not live with either of their parents. The 1988 questions ask such people directly whether they are covered, rather than relying on assigning coverage for such people as the dependents of other policyholders. Thus, if these adolescents are covered by a parent living in another household they will be reported as uncovered in 1987, but should be counted as insured in the March 1988 CPS.

As can be seen in table A-2, coverage rates for 15- to 18-year-old adolescents either living without a parent or living with only one parent do increase by much more than coverage rates for adolescents living with both parents: from 64 percent uninsured to 43 percent uninsured for those living alone, from 30-percent to 18-percent for those living with one parent, but just from 12.5-percent to 10-percent for those living with both parents. This is further evidence that the changes are a result of question wording changes and not of any real change in the number of adolescents who are uninsured.[5]

As mentioned above, the public use files that are currently available from the March 1988 CPS contain the pre-1987 question wording for adolescents who are 14 or younger. As such, estimates of the number of uninsured people age 14 and younger are certainly overestimates of the true number of such people who are uninsured.

An approximation of the size of the estimation error can be obtained from examination of the data in table A-3, which shows the estimated percentage of adolescents uninsured, by age group, in each survey from 1980 through 1988. As can be seen there, for most of the 1980s the proportion of 10- to 14-year-olds who were uninsured was slightly lower than the proportion of 15- to 18-year-olds who were uninsured. However, in March 1988 the estimated proportion of 15- to 18-year-olds who were uninsured decreased dramatically but the estimated proportion of 10- to 14-year-olds who were uninsured actually increased slightly.

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5 A somewhat surprising result in table A-2 is that coverage appears to increase among 15- to 18-year-olds living in two-parent households -- from 12.5 percent in 1983-1986 to 9.9 percent in 1987. The increase occurs primarily in the percentage with "other private" suggesting that some 15- to 18-year-olds report being covered as a dependent when neither parent in the household reports covering the adolescent. Some explanations are plausible, e.g., perhaps these are households with a step-parent and the coverage of the adolescent is coming from an absent parent, but further investigation is warranted here.

Table A-1.--Health Insurance Status of Adolescents, Age 15-18, by Year, 1979-1987

Year[a]	Total population, age 15-18	Total	No health insurance coverage	Insured: public and private[b]				
				Employment-based	Other private	Medicaid	Other public	Public and private
1979	16,252,304	100.0%	17.4%	58.8%	9.0%	8.3%	2.2%	4.3%
1981	15,522,802	100.0	18.5	58.4	7.3	8.4	2.5	5.0
1982	15,054,670	100.0	19.5	58.5	7.1	8.4	2.6	3.8
1983	14,655,516	100.0	20.9	56.7	7.5	9.0	2.4	3.5
1984	14,581,461	100.0	21.6	56.7	6.8	9.2	2.2	3.5
1985	14,733,076	100.0	21.5	57.7	6.4	8.7	2.2	3.6
1986	14,716,502	100.0	21.5	57.2	7.0	8.3	2.2	3.8
1987	14,492,077	100.0	15.2	57.3	12.7	8.4	2.4	4.0

[a] 1980 data are not available.

[b] Employment-based includes all with employment-based insurance from someone in the household, and without public coverage; other private includes nongroup insurance from household members and employment-based insurance from nonhousehold metiers, without public coverage; Medicaid includes all those with Medicaid but without private coverage; other public is primarily CHAMPUS, and includes Medicare; public and private includes all those with both public and private coverage.

SOURCE: Office of Technology Assessment, 1989, based on estimates from the March 1980 through March 1988 Current Population Surveys.

Table A-2.--Health Insurance Status of Adolescents, Age 15-18, by Type of Family and Year, 1987 vs. 1984-1986

Type of family	Year	Total	No health insurance coverage	Insured: public and private[a]				
				Employment-based	Other private	Medicaid	Other public	Public and private
Two-parent	1984-1986	100.0%	12.5%	71.9%	6.5%	2.9%	2.2%	4.0%
	1987	100.0	9.9	72.1	8.8	2.4	2.5	4.4
One-parent	1984-1986	100.0	30.2	33.9	8.0	22.6	2.0	3.3
	1987	100.0	18.8	36.0	17.4	22.4	1.6	3.7
No Parent[b]	1984-1986	100.0	64.6	8.6	5.5	17.0	2.8	1.4
	1987	100.0	42.6	6.5	28.2	16.6	3.4	2.6

[a] Employment-based includes all with employment-based insurance from someone in the household, and without public coverage; other private includes nongroup insurance from household members and employment-based insurance from nonhousehold members, without public coverage; Medicaid includes all those with Medicaid but without private coverage; other public is primarily CHAMPUS, and includes Medicare; public and private includes all those with both public and private coverage.

[b] No parent in family includes those adolescents who do not live with their parents and married adolescents living with their parents.

SOURCE: Office of Technology Assessment, 1989, based on estimates from the March 1985 through March 1988 Current Population Surveys.

Table A-3.--Trend in the Proportion of Adolescents With and Without Health Insurance by Age Group, 1979-1987, Unadjusted Data

Year[a]	Age Group			
	10-14 Years		15-18 Years	
	Uninsured	Insured[b]	Uninsured	Insured[b]
1979	16.0%	84.0%	17.4%	82.6%
1981	17.9	82.1	18.5	81.5
1982	17.3	82.7	19.5	80.5
1983	19.0	81.0	20.9	79.1
1984	20.1	79.9	21.6	78.4
1985	19.8	80.2	21.5	78.5
1986	20.2	79.8	21.5	78.5
1987	21.9	78.1	15.2	84.8

[a] 1980 data are not available.
[b] Includes adolescents with health coverage from any source, public or private.

SOURCE: Office of Technology Assessment, 1989, based on estimates from the March 1980 through March 1988 Current Population Surveys.

It seems likely that when the additional "cover sheet" questions from the March 1988 survey are available, that the estimated proportion of uninsured 10- to 14-year-olds will be similar to the estimated proportion for 15- to 18-year-olds. To anticipate this result, all analyses of March 1988 CPS data in the body of this paper use adjusted data for 10- to 14-year-olds. The adjustment process is described below.

One method of adjustment would be to simply assume that 15.2 percent of 10- to 14-year-olds should be uninsured (the same proportion as 15- to 18-year-olds), and that 30.6 percent (i.e., 1-15.2/21.9) of those who currently are counted as uninsured should instead be counted as insured. This change in count could be accomplished by randomly changing the health insurance status of 30.6 percent of the currently uninsured 10- to 14-year-olds from uninsured to "other private insurance."[6]

The data are adjusted using a process similar to the process described above, but one slightly more refined. As noted above the reported increase in coverage in the March 1988 survey for 15- to 18-year-olds was larger for adolescents living without their parents and for adolescents living with one parent than for adolescents living with both parents. Further, as shown in table A-4, parental insurance status and the size of family income also are related to the effect of the new questions on the estimated percentage uninsured.

To adjust the data a three-dimensional table is constructed, where the dimensions and cell definitions are (i) living arrangement (alone, one-parent, two-parent), (ii) parental insurance status (uninsured, privately insured, **Medicaid, CHAMPUS, Medicare), and (iii) family income relative to the poverty level (below 150 percent of poverty, between 150 percent and 300 percent of poverty, and 300 percent and above). For each cell the proportion of 15- to 18-year-olds who are reported as uninsured is computed, and the assumption is made that, when adjusted, the same proportion of 10- to 14-year-olds will be uninsured.**

Define:

P10-14,i,j,k = the reported proportion of 10-14 year olds who are uninsured in the March 1988 CPS among adolescents with living arrangement "i" (either no parents, one parent, Or two parents), parental insurance status "j" (either uninsured, private insurance, Medicaid, CHAMPUS, or Medicare), and family income "k" (either below 150% of poverty, 150-300% of poverty, or 300%+ of poverty); and

P15-18,i,j,k = the same quantity for 15- to 18-year-olds.

The data are adjusted by picking a random number from the uniform distribution from 0 to 1 for each uninsured 10- to 14-year-old, and changing that individual's insurance status from uninsured to insured if the random number is greater than P15-18,i,j,k/P10-14,i,j,k. The result of this process will be, on average, that the adjusted P10-14,i,j,k will be equal to P15-18,i,j,k for all combinations of living arrangement, parental insurance status, and family income levels.

This adjustment reduces the estimated number of uninsured 10- to 14-year-olds by 1.2 million people: the unadjusted estimate is that there were 3.6 million uninsured 10- to 14-year-olds in the March 1988 survey, or 21.9 percent of the 10- to 14-year-old age group. The adjusted estimate is that there were 2.4 million, or 14.6 percent of the 10- to 14-year-olds in the survey.

If a similar adjustment were performed for 0- to 9-year-olds, the adjusted estimate of the number of O- to 9-year-olds would be approximately 2.2 million less than the unadjusted estimate; thus, analysis of the new "cover sheet" questions

6 Alternatively, the file could be reweighed to increase the weights on 10- to 14-year-olds who are reported as insured and decrease the weights on 10- to 14-year-olds who are reported as uninsured. This might be slightly preferable to randomly changing responses for some, but is more complicated and not worth the effort for current purposes.

Table A-4.--Health Insurance Status of Adolescents by Age Group, Type of Family, Parental Insurance Status, and Family Income as a Percentage of Poverty, 1987, Unadjusted Data

Type of family	Parental insurance status	Family income as a percentage of poverty*	Age Group: 10-14 years All	Uninsured	Insured[a]	15-18 years All	Unisured	Insured[b]
Two-parent	uninsured	less than 150%	664,105	100.0%	--	395,649	92.2%	7.8%
		150 to 300%	396,771	100.0	--	303,342	82.1	17.9
		300% and above	277,521	100.0	--	163,605	69.1	30.9
	private	less than 150%	936,309	9.8	90.2%	564,070	5.5	94.5
		150 to 300%	3,282,186	4.0	96.0	2,152,360	3.5	%.5
		300% and above	5,276,34?	2.9	97.1	5,218,866	1.2	98.8
	CHAMPUS	less than 150%	92,177	--	100.0	50,451	--	100.0
		150% to 300%	179,671	--	100.0	176,231	--	100.0
		300% and above	224,273	-"	100.0	259,729	--	100.0
	Medicaid	less than 150%	434.750	-"	100.0	238,895	--	100.0
		150 to 300%	63,221	-"	100.0	45,909	--	100.0
		300% and above	15,372	--	100.0	17,674	--	100.0
	Medicare	less than 150%	62,582	90.3	9.7	61,849	64.8	35.2
		150 to 300%	40.643	58.9	41.1	40,035	39.3	60.7
		300% and above	5,118	49.5	50.5	28,239	30.3	69.7
one-parent	uninsured	less than 150%	738,309	100.0	--	482,351	67.9	32.1
		150 to 300%	182,513	100.0	--	182,891	54.6	45.4
		300% and above	53,897	100.0	--	110,759	57.6	42.4
	private	less than 150%	469,140	27.5	72.5	266,489	18.0	82.0
		150 to 300%	674,814	23.6	76.4	712,547	7.4	92.6
		300% and above	527,633	15.4	84.6	696,060	2.7	97.3
	CHAMPUS	less than 150%	22.081	--	100.0	20,944	-"	100.0
		150 to 300%	20,525	-"	100.0	31,806	"-	100.0
		300% and above	10,584	--	100.0	12,112	-"	100.0
	Medicaid	less than 150%	1,319,018	0.1	*99.9*	*774,775*	--	100.0
		150 to 300%	31,607	"-	100.0	15,430	--	100.0
		300% and above	8,329	"-	100.0	10,767	--	100.0
	Medicare	less than 150%	20,190	86.2	13.8	18,418	69.6	30.4
		150 to 300%	11,917	69.3	30.7	18,537	39.0	61.0
		300% and above	1,597	100.0	--	2,570	--	100.0
No parent[c]	uninsured	less than 150%	139,901	100.0	--	61O,W1	57.8	42.2
		150 to 300%	15,149	100.0	"-	81,317	57.0	43.0
		300% and above	18,604	100.0	--	32,953	41.2	58.8
	private	leas than 150%	53,204	100.0	--	71,373	36.5	63.5
		150 to 300%	79,656	97.5	2.5	135,200	36.7	63.2
		300% and above	89,972	100.0	"-	106,055	34.2	.65.8
	CHAMPUS	less than 150%	4,592	100.0	--	22,750	--	100.0
		150 to 300%	4,632	100.0	--	11,341		94.4
		300% and above	2,205	100.0	-"	7,933	38.4	61.6
	Medicaid	leas than 150%	90,936	88.6	11.4	206.307		90.6
		150 to 300%	14,379	51.9	48.1	14,841	32.7	67.3
		300% and above	2,931	74.6	25.4	..	..	
	Medicare	less than 150%	36,963	100.0	--	63.236	64.0	36.0
		150 to 300%	4,790	100.0	--	33,751	22.7	77.3
		300% and above	12,996	100.0	--	20,669	17.4	82.6

[a] In 1987, the Federal poverty level was S9,056 for a family of three.
[b] Includes adolescents with health coverage from my source, public or private.
[c] No parent in family includes those adolescents who do not live with their parents and married adolescents living with their parents.

SOURCE: Office of Technology Assessment, 1989, based on ● stimates from the March 1988 Current Population Survey.

from the March 1988 survey should reduce the estimate of the number of people uninsured from the 35.5 million estimate based on the currently used public use files to approximately 32 million.[7]

Respondents Excluded from Analysis

Due to hardware problems, a small number of records were omitted from the analysis of each March CPS. The omitted records are never more than 0.001 percent of the total (that is, one-tenth of one percent), and for most years are below 0.0005 percent. Nevertheless, tabulations reported here will be marginally different from tabulations of the complete data sets.

Further, all unrelated individuals age 14 or below have been excluded from the analysis because it is likely that the health insurance status for many is incorrectly classified. In the pre-1988 surveys all **such individuals were reported as being uninsured (since there was no adult** present in the household from whom they could derive coverage), even though many are probably foster children and likely are covered by Medicaid. There were 217,000 such individuals in the March 1982 survey, 240,000 in March 1984 and 265,000 in March 1988.

Analysis of Uninsured Adolescents by Size of Firm of Parent's Employer

Finally, a note on methods used to analyze the May/March merged data in 1983. The March 1988 survey gathers information on the number of workers in the firm of each respondent in the labor force, but this information, like the "cover sheet" health insurance questions for 10- to 14-year olds has not yet been released on public use files. The only other CPS source for such information is the May 1983 CPS which asked questions on firm size. The Census Bureau has merged the May 1983 data with March 1983 data to form the so-called May/March merge; this file is used to create tabulations of health insurance coverage by firm size.

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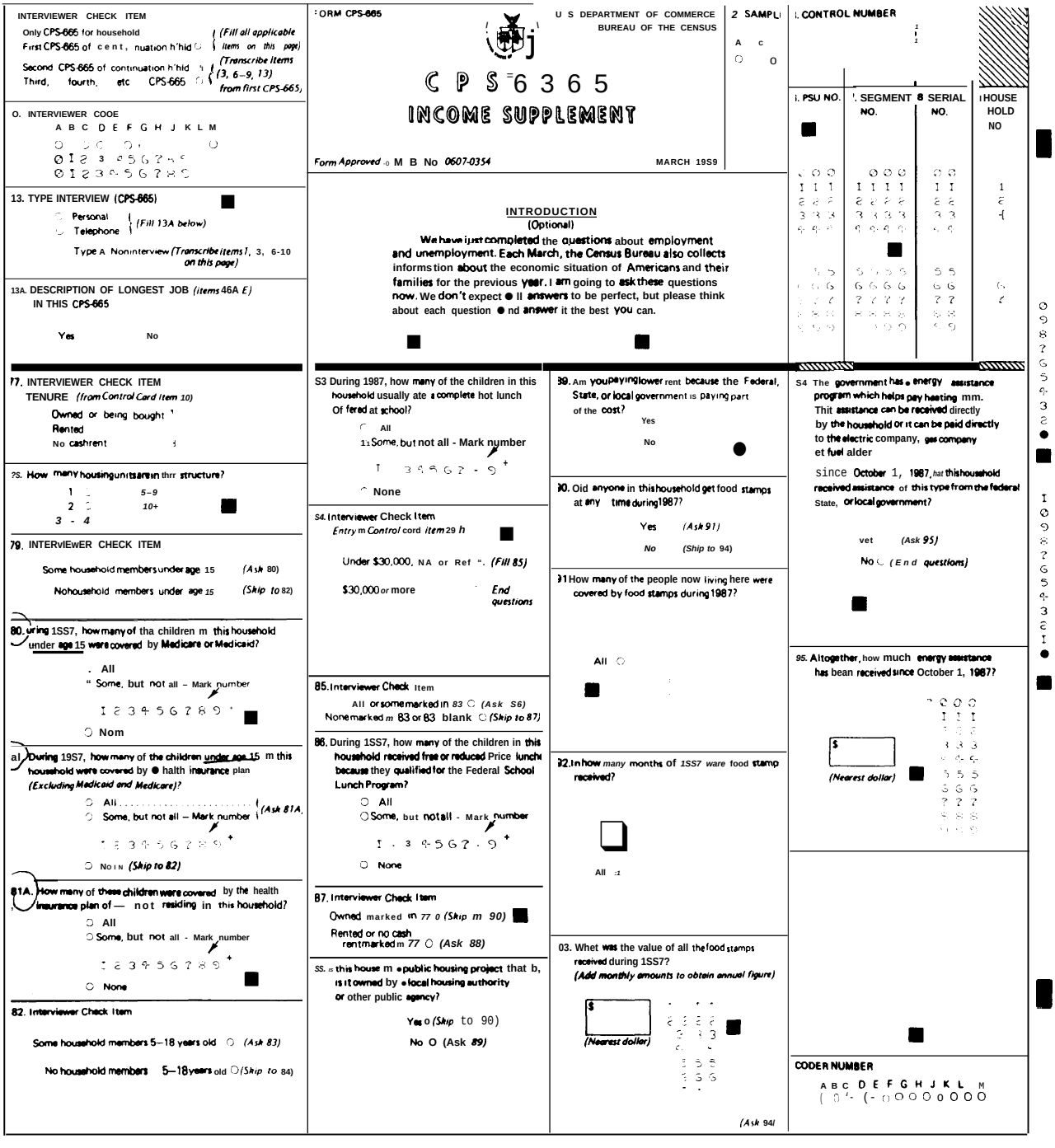
7 Moyer has analyzed a preliminary March 1988 CPS file that contains the cover sheet questions and finds 31.1 million uninsured (Moyer, 1989). The differences between this 31.1 million and the 32 million suggested here are relatively small but deserve further scrutiny.

APPENDIX B.--CPS HEALTH INSURANCE QUESTIONS MARCH 1980-MARCH 1987

NAME (Optional)				
LINE NUMBER (Item 18A)	Page 3	Page 4	Page 5	Page 6
74. INTERVIEWER CHECK ITEM Who worked last year? ("YES" I 29A or 29B)	Yes O No o	Yes o No C	Yes O No C	Yes O No o
Complete 74A—74E for each person with "Yes" in 74) 74A. Other than Social Security did the (any) employer or union that . . . worked for in 1986 have a pension Or other type of retirement plan for any of its employees?	Yes O (Ask 74B) No O Don't know O (Skip to 74C)	Yes O (Ask 74B) No O Don't know O (Skip to 74C)	Yes O (Ask 74B) No O Don't know O (Skip to 74C)	Yes O (Ask 74B) No O Don't know O (Skip to 74C)
74a. Was . included in that plan?	Yes O No O	Yes O N o	Yes O No O	Yes O No o
74C. Was included in e group health insurance plan on the (any) fob he/she held during 1986?	Yes O (Ask 740) No O (Go to 74A for next person with "Yes" in 74 or skip to 75) DK O	Yes O (Ask 740) No O (Go to 74A for next person with "Yes" in 74 or skip to 75) DK O	Yes O (Ask 740) No O (Go to 74A for next person with "Yes" in 74 or skip to 75) DK O	Yes O (Ask 74D) No O (Go to 74A for next person with "Yes" in 74 or skip to 75) DK O
74D. Did . . .'s employer or union pay for ● ll, part, or none of the cost of this health plan?	All c Part O Nom O	All C Part O None U	All J Part (. None ^	All ' Part U None '
74E. Other than ..., who else in this household was covered by this group health insurance plan? 1 (Go to 74A for next person with "Yes" in 74 or go to 75)	Spouse only o Child(ren) only O Spouse and child(ren) O self only o other o	Spouse only . Child(ren) only " Spouse and child(ren) Self only Other	Spouse only O Child(ren) only c Spouse and child(ren) ^ self only O Other J	Spouse only O Child(ren) only J Spouse and child(ren) O self only O other O
75. There are several government programs which provide medical care or help pay medical bills. During 1986 was anyone in this household covered by 75A. Medicare (for the d&b&d and elderly)? Yes 0 7 No O (Skip to 75C)	• ■	■		
75B. Who was that? (Anyone else?) 1	Yes O No O	Yes O No	Yes O No O	Yes C No O
75C. Medicaid (for the needy)? Yes O 7 No O (Skip to 75E)				
75D. Who was that? (Anyone else?) 1	Yes O No O	Yes ^ No	Yes . No .	Yes No C
75E. CHAMPUS, VA, or military health care? Yes O 7 ■ No (Skip m 76A)		■		■
75F. Who was that? (Anyone ● &?)	Yes O No O	Yes O No	Yes O No O	Yes C No O
76A. Did anyone in this household have any (other) health insurance plan at any time during 1986? Do not include accident or disability insurance. Yes O 7 No G (Go m item 77 on page 1)				
76B. Who was that? (Anyone else?)	Yes O No O	Yes O No	Yes ■ No O	Yes O No O
76C. Other than . . . , who else in this household was covered by this plan? (Go to 76C for next person with "-yin " in 766 or item 77 on page 1)	Spouse only O Child(ren) only o Spouse and child(ren) O Self only o Other o	Spouse only O Child(ren) only Spouse and child(ren) . Self only . ■ Other	Spouse only O Child(ren) only O Spouse and child(ren) O self only o Other O	Spouse only O Children only o Spouse and child(ren) o ■ Self only o Other O
NOTES:				

APPENDIX C.--CPS HEALTH INSURANCE QUESTIONS, MARCH 1988



INTERVIEWER CHECK ITEM

Only CPS-665 for household
First CPS-665 of cent, nuation h'hld ○ (Fill all applicable items on this page)

Second CPS-665 of continuation h'hld ○ (Transcribe items (3, 6–9, 13) from first CPS-665)
Third, fourth, etc CPS-665 ○

O. INTERVIEWER COOE

A B C D E F G H J K L M

13. TYPE INTERVIEW (CPS-665)

○ Personal
○ Telephone (Fill 13A below)

Type A Noninterview (Transcribe items 1, 3, 6-10 on this page)

13A. DESCRIPTION OF LONGEST JOB (items 46A E) IN THIS CPS-665

Yes No

77. INTERVIEWER CHECK ITEM
TENURE (from Control Card Item 10)

Owned or being bought
Rented
No cashrent

2S. How many housing units are in thrr structure?

1 5–9
2 10+
3 - 4

79. INTERVIEWER CHECK ITEM

Some household members under age 15 (Ask 80)

No household members under age 15 (Skip to 82)

80. During 1SS7, how many of tha children m this household under age 15 were covered by Medicare or Medicaid?

. All
" Some, but not all – Mark number

I 2 3 4 5 6 7 8 9 +

○ Nom

al. During 19S7, how many of the children under age 15 m this household were covered by ● halth insurance plan (Excluding Medicaid and Medicare)?

○ All
○ Some, but not all – Mark number (Ask 81A)

I 2 3 4 5 6 7 8 9 +

○ No IN (Skip to 82)

81A. How many of these children were covered by the health insurance plan of — not residing in this household?

○ All
○ Some, but not all - Mark number

I 2 3 4 5 6 7 8 9 +

○ None

82. Interviewer Check Item

Some household members 5–18 years old ○ (Ask 83)

No household members 5–18 years old ○ (Skip to 84)

FORM CPS-665

U S DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

C P S 6 3 6 5
INCOME SUPPLEMENT

Form Approved -0 M B No 0607-0354 MARCH 19S9

2 SAMPLI
A C
○ O

I. CONTROL NUMBER

I. PSU NO.	I. SEGMENT NO.	8 SERIAL NO.	I HOUSE HOLD NO
0 0 0	0 0 0	0 0	
I I I	I I I I	I I	1
2 2 2	2 2 2 2	2 2	2
3 3 3	3 3 3 3	3 3	4
4 4 4	4 4 4 4	4 4	
5 5	5 5 5 5	5 5	
6 6 6	6 6 6 6	6 6	6
7 7 7	7 7 7 7	7 7	7
8 8 8	8 8 8 8	8 8	
9 9 9	9 9 9	9 9	

INTRODUCTION
(Optional)

We have just completed the questions about employment and unemployment. Each March, the Census Bureau also collects informs tion about the economic situation of Americans and their families for the previous year. I am going to ask these questions now. We don't expect ● ll answers to be perfect, but please think about each question ● nd answer it the best you can.

S3 During 1987, how many of the children in this household usually ate a complete hot lunch Of fered at school?

○ All
11 Some, but not all - Mark number

I 3 4 5 6 7 - 9 +

○ None

S4. Interviewer Check Item
Entry m Control cord item 29 h

Under $30,000, NA or Ref ". (Fill 85)

$30,000 or more End questions

85. Interviewer Check Item

All or some marked in 83 ○ (Ask S6)
None marked m 83 or 83 blank ○ (Skip to 87)

86. During 1SS7, how many of the children in this household received free or reduced Price lunch because they qualified for the Federal School Lunch Program?

○ All
○ Some, but not all - Mark number

I . 3 4 5 6 7 . 9 +

○ None

87. Interviewer Check Item

Owned marked in 77 0 (Skip m 90)

Rented or no cash rent marked m 77 ○ (Ask 88)

SS. is this house m ● public housing project that b, is it owned by ● local housing authority or other public agency?

Yes o (Skip to 90)

No O (Ask 89)

89. Am you paying lower rent because the Federal, State, or local government is paying part of the cost?

Yes

No

90. Oid anyone in this household get food stamps at any time during 1987?

Yes (Ask 91)

No (Ship to 94)

91 How many of the people now living here were covered by food stamps during 1987?

All ○

92. In how many months of 1SS7 ware food stamp received?

All :1

03. Whet was the value of all the food stamps received during 1SS7?
(Add monthly amounts to obtain annual figure)

$ (Nearest dollar)

(Ask 94)

S4 The government has ● energy assistance program which helps pay heating mm. Thit assistance can be received directly by the household or it can be paid directly to the electric company, gas company et fuel alder

since October 1, 1987, hat this household received assistance of this type from the federal State, or local government?

vet (Ask 95)

No ○ (End questions)

95. Altogether, how much energy assistance has bean received since October 1, 1987?

$ (Nearest dollar)

CODER NUMBER

A B C D E F G H J K L M

NAME *(Optional)*				
LINE NUMBER *(Item 18.4)*	Page 3	Page 4	Page 5	Page 6
14. There are several government programs which provide medical care or help pay medical bills. During 1987 was anyone in this household covered by: 14A. **Medicare** *(for the disabled and elderly)?* Yes o No ○ *(Skip to 74C)*				
74B. Who was that? *(Anyone else?)*	Yes No ○	Yes ○ No	Yes ○ No	Yes ○ No ○
74C. **Medicaid** *(for the needy)?* Yes ○ No ○ *(Sk@ to 74E)*	■		■	
74D. Who was that? *(Anyone else?)*	Yes ○ No ○	Yes ○ No ○	Yes ○ No ○	Yes ○ No ○
74E. CHAMPUS, VA, or military health care? Yes ○ No ○ *(Skip to 75A)*				
74F. Whom that? *(Anyone else?)*	Yes ○ No O	Yes ○ No ○	Yes . No o	Yes ○ No ○
76A. *(Other than Medicare, Medicaid, or military health insurance)* during *1487*, was anyone in this household covered by a health insurance plan? Yes o No ○ *(Skip to 76)*	● m ■	■		
75B. Who was that? *(Anyone else?)*	Yes II No ○	Yes ○ No	Yes No ○	Yes No O
(Complete 75C–F for each person with a "Yes" in 758) 75C. ...'s health insurance coverage from • plan in . . . "s own name?	Yes ○ *(Ask 750)* No ○ (Go *to next person with a "Yes" in 75B or Skip to 76)*	Yes ○ *(Ask 750)* No ○ (Go *to next person with a "Yes" in 75B or Skip to 76)*	Yes (Ash 750) No (Go *to next person with a "Yes" in 75B or Skip to* 76)	Yes > (Ask 750) No ○ (Go to *next person with a "Yes" in 758* or Sk@ to 76)
75D. Was this health insurance plan offered through .'s current or former employer or, union?	Yes ○ (Ask 75E) ■ No ○ (Skip to *75F)*	Yes . *(Ask 75E)* No ○ *(Skip to 75F)*	Yes . (Ask 75E) ■ No ○ *(Skip to 75F)*	Yes . (Ask *75E)* No ○ *(Skip to 75F)*
75E. *id.* .'s employer or union pay for all, *put.* or none of the cost of this plan?	All ○ Part ○ None ○	All ○ Part o None ○	All ○ Pact ○ None ○	All ○ Part ○ None ○
75F. t other persons were covered by this health insurance plan? *(Mark all that apply)* *(Go to 75C for next person with "Yes" in 75B or go to 76)*	Spouse o Child(ren) m household ○ Child(ren) not m the household O other o No one o	Spouse ○ Child(ren) in household ○ Child(ren) not in the household ○ ■ Other c No one c	Spouse o Child(ren) m household ○ Child(ren) not in the household ○ Other o No one O	Spouse c Child(ren) in household o Child(ren) not in the household C ■ other o No one o
76. Interviewer Check Item Who worked last year? *(Yes in* 29A *or 29B)*	Yes ○ No O	Yes ○ No ○	Yes ○ No O	Yes ○ No O
(Complete 76A-76B for each person with "Yes" in 76) 76A. Other than Social Security did the (any) employer Or union that worked for in 1987 have a pension or other type of retirement plan for any of ifs employees?	Yes O (Ask *76B)* No O (Go *to next person with "Yes" in* 76 or *Skip to 77 on page1)*	Yes O (Ask 766) No O (Go *to next person with "Yes" in* 76 or *Skip* to 77 *on page* 1) ■	Yes ○ (Ask *76B)* No ○ (Go *to next person with "Yes" in* 76 or skip to *77 on page* 1)	Yes ○ (Ask 768) No ○ (Go *the next person with a "Yes" in* 76 or *Skip to 77 on page1)* ■
748. Was included in that plan? *(Go to 76A for next person with "Yes" in item* 76 or *Skip to item* 77011 *Page* 1)	Yes o No O	Yes o f400	Yes o No o	Yes ○ No o

NOTES:

SOURCE: U.S. Department of Commerce, Bureau of the Census, Form *CPS-665*, March 1988.

APPENDIX D.--BIVARIATE RELATIONSHIPS AMONG INSURANCE STATUS AND SELECTED SOCIODEMOGRAPHIC CHARACTERISTICS OF UNINSURED ADOLESCENTS

Appendix D analyzes the bivariate relationships between a number of demographic and household factors and the likelihood of an adolescent being without health coverage. These include: parent's insurance status, poverty and family income, adolescents' living arrangements, race and ethnicity, parent's marital status, parent's education region and residence, and parent's work status and other employment characteristics.

Many of these demographic and socioeconomic characteristics of adolescents are intercorrelated, and most are correlated with family income. When family income is controlled, the strength of many of the relationships diminishes. Section 3 of this Background Paper assesses the relationships of these demographic and social characteristics with health insurance status independent of family income.

Parent's[1] Insurance Status

Virtually all adolescents who have private health insurance are covered as a dependent on a parent's policy. Most adolescents (81 percent) live with an insured parent and almost all such parents insure their adolescent dependent(s); only 3 percent of adolescents living with an insured parent are uninsured (see figure 1 in Executive Summary). To a large extent, then, the problems of uninsured adolescents are the problems of uninsured parents. Twelve percent of all adolescents live with uninsured parents and more than three-quarters of those who do are also uninsured. Almost two out of three uninsured adolescents (64 percent) live with parents who are also uninsured (figure 1 in Executive Summary).

Poverty and Family Income[2]

Family income is closely associated with adolescent health insurance status. Adolescents in poor or near-poor families[3] (i. e., with **family incomes below 150 percent of the Federal poverty level) are much more likely to be uninsured than others; approximately 29 to 32 percent are without public or private coverage (table D-l). In contrast, less than 5 percent of adolescents in families at 300 percent of poverty or above are uninsured. Note also that while** the poor and near-poor comprise less than 30 percent of the overall adolescent population, they account for twice the proportion (i.e., 60 percent) of all uninsured adolescents.

Despite the strong relationship between low family income and the likelihood of being uninsured, it should be recognized that for adolescents, as for adults, it is by no means true that all the uninsured are poor. While 41 percent of uninsured adolescents live below the Federal poverty level, one-third are between 100 and 199 percent of poverty, and more than a quarter are at 200 percent of poverty or above.

Although similar proportions of those below 50 percent of poverty and those between 100 and 149 percent of poverty are without health insurance (i.e., 31 and 29 per-

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1 Note that, throughout this paper, references to the parent reflect the characteristics of the household head unless only the spouse had employment-based health coverage. The "household head" is designated after a discussion between the interviewer and the respondent following certain rules (E. Welniak, personal communication, July 24, 1989) .

Q Poverty status is expressed in relation to the official Federal poverty level. In 1987, the Federal poverty level was $9,056 for a family of three. See appendix E for Federal poverty levels from 1979 through 1988.

3 "Poor" refers to those whose family incomes are below the Federal poverty level; "near-poor" describes family incomes between 100 and 149 percent of the Federal poverty level; and very poor is equal to or less than 50 percent of the Federal poverty level.

Table D-l --- HealthInsuranceStatus of Adolescents, Age 10-18 by Selected Demographic and Household Characteristics, 1987

Selected demographic and household characteristics	Total[b]	No health insurance coverage	Insured: private and public		
			Private only	Medicaid only	Other[c]
Parentis insurance status:[d]					
not living with parents	100.0%	41.0%	37.9%	16.8%	4.4%
parent not insured	100.0	77.0	21.8	0.8	0.4
parent is insured	100.0	3.3	79.8	10.7	6.1
Family income as a percentage of poverty:[e]					
less than 50 percent	100.0	30.9	16.6	48.4	4.2
50 to 99 percent	100.0	32.2	23.6	38.1	6.1
100 to 149 percent	100.0	29.4	53.4	10.7	6.5
150 to 199 percent	100.0	21.5	69.2	3.1	6.2
200 to 299 percent	100.0	10.3	82.8	1.0	6.0
300 percent and above	100.0	4.6	90.7	0.2	4.6
Living arrangement:					
living with both parents	100.0	10.7	**80.3**	**3.2**	**5.8**
living with father only	100.0	18.4	67.7	7.4	6.5
living with mother only	100.0	20.1	45.8	30.5	3.7
not living with parent[d]	100.0	41.0	37.9	16.8	4.4
Race/ethnicity:					
white, non-Hispanic	100.0	11.5	78.7	4.7	5.1
black: non-Hispanic	100.0	19.2	47.2	27.1	6.5
Hispanic	100.0	31.2	46.2	18.8	3.7
other	100.0	17.5	59.4	14.9	8.1
Region:[f]					
Northeast	100.0	9.2	76.6	10.9	3.3
Midwest	100.0	9.3	76.1	11.1	3.6
South	100.0	19.7	64.7	8.8	6.7
West	100.0	18.6	65.4	9.4	6.7
Residence:					
central city	100.0	17.5	58.2	19.2	5.0
other MSA[g]	100.0	12.4	77.7	5.1	4.7
nonMSA[g]	100.0	16.7	67.8	10.3	5.2
not identified	100.0	14.1	72.6	6.2	7.1
Sex:					
male	100.0	14.3	70.6	9.9	5.3
female	100.0	15.5	69.4	9.9	5.3
Parent's work status:[h,i]					
full-year, full-time	100.0	9.5	86.4	0.9	3.1
full-year, part-time	100.0	22.9	59.0	11.2	6.7
part-year	100.0	25.0	48.2	20.8	6.0
nonworker	100.0	18.2	13.2	51.9	16.7
Parent self-emloyed[h]					
self-employed	100.0	25.8	**66.6**	**3.1**	**4.5**
not self-employed	100.0	11.2	81.2	3.8	3.8
nonworker	100.0	18.2	13.2	51.9	16.7
Size of parent's employer[i]					
fewer than 25 emloyees	100.0	24.8	64.7	3.7	6.8
25 to W employees	100.0	17.0	72.3	1.8	8.9
100 to 499 employees	100.0	13.3	77.4	0.9	8.5
500 to 999 employees	100.0	12.5	78.6	1.9	7.0
1000 employees or more	100.0	9.8	81.2	0.6	8.4

Table D-1.--Health Insurance Status of Adolescents, Age 10-18 by Selected Demographic and Household Characteristics, 1987 (cont'd)

Selected demographic and household characteristics	Total[b]	No health insurance coverage	Insured: private and public		
			Private only	Medicaid only	Other[c]
Industry of parentis emloyer[n]					
public administration	100.0%	4.9%	84.1%	1.5%	9.5%
durable goods	100.0	8.1	87.2	1.8	2.9
mining	100.0	8.6	87.3	0.9	3.1
transportation	100.0	9.0	85.6	1.5	3.9
finance	100.0	10.6	86.2	1.1	2.2
professional services	100.0	10.8	82.4	4.0	2.9
nondurable goods	100.0	11.0	83.2	3.0	2.8
wholesale trade	100.0	11.3	83.2	2.7	2.8
entertainment	100.0	15.8	74.3	3.4	6.4
business services	100.0	19.5	66.7	8.7	5.1
nonworker/other	100.0	20.9	15.0	49.1	15.0
retail trade	100.0	21.1	66.6	8.1	4.1
construction	100.0	22.5	66.8	5.2	5.6
agriculture	100.0	29.4	62.0	4.4	4.3
personal services	100.0	30.5	52.8	14.1	2.6
Parentis education:[h]					
less than 9 years	100.0	30.1	39.3	27.2	3.3
9 to 11 years	100.0	21.7	49.3	23.6	5.3
high school graduate	100.0	12.5	73.9	8.5	5.0
some college	100.0	10.5	77.6	4.6	7.3
college graduate	100.0	6.8	86.7	1.8	4.7
post graduate	100.0	3.9	90.6	0.5	5.1
Parent's marital status:[h]					
married	100.0	10.9	79.8	3.4	5.8
widowed	100.0	29.2	51.3	14.0	5.5
divorced	100.0	18.9	57.9	19.0	4.2
separated	100.0	20.2	44.5	33.0	2.3
never married	100.0	15.3	24.6	56.7	3.3

[a] Characteristics are of household head unless only the spouse had employment-based health coverage.
[b] Percentages may not total 100 percent due to rounding.
[c] Includes adolescents with CHAMPUS, Medicare, or any combination of public and private coverage.
[d] Includes adolescents not living with their parents and married adolescents living with their parents.
[e] In 1987, the Federal poverty level was $9,056 for a family of three.
[f] Northeast includes: Connecticut, Maine, Massachusetts, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.
Midwest includes: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, Swth Dakota, and Wisconsin.
South includes: Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.
West includes: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.
[g] MSA = Metropolitan Statistical Area.
[h] Includes only unmarried adolescents living with their parents.
[i] Full-year, full-time refers to workers who worked for at least 35 hours per week for at least 50 weeks. Full-year, part-time refers to workers who were employed for at least 50 weeks and worked less than 35 hours in a typical week. Part-year workers worked or sought work during the year, but for less than so weeks during the year. Nonworkers neither worked nor sought work during 1987.
[j] Data are from the 1983 Current population Survey. More current data are not available.

SOURCE: Office of Technology Assessment, 1989, based on estimates from the March 1988 Current Population Survey.

cent respectively) the source of coverage differs markedly for these two groups. Those under 50 percent of poverty **who are** insured are most likely to be covered by Medicaid while those between 100 to 149 percent of poverty with coverage are more likely to be enrolled in a private health insurance plan.

Living Arrangement and Parent's Marital Status

Whether an adolescent has health coverage is also related to whom he or she lives **with** and parent's marital status. Half of all uninsured adolescents live in two-parent families (figure D-1), and those who live in two-parent families are also more likely than other adolescents to be insured (table D-l). About **11 percent of adolescents in two-parent families are without health coverage.** In contrast, about 20 percent of adolescents who live with only one parent are uninsured. Adolescents living with widowed, divorced, separated, or never married parents are more likely to be uninsured than those living with married parents; 29, 19, 20, and 15 percent, respectively, do not have health insurance (table D-l). Those adolescents who do not live with at least one of their parents, 6 percent overall (figure D-2), are at greatest risk for being uninsured; 41 percent are without coverage (table D-1).[4]

Race and Ethnicity

There are considerable differences in insurance status among white, **black, and** Hispanic adolescents.[5] More than 30 percent of Hispanic adolescents, 19 percent of blacks, and 12 percent of whites do not have health coverage (table D-l). Race and ethnicity are also correlated with type of coverage; relative to whites, insured black and Hispanic adolescents are much more likely to be covered by Medicaid than by a private health plan.

Parent's Education

The likelihood of being insured increases sharply as parent's education increases. More than one out of five adolescents whose parents were not graduated from high school are uninsured. In contrast, less than 7 percent of adolescent dependents of college graduates are without coverage (table D-l).

Region and Place of Residence

The proportion of adolescents without health insurance varies across region. Almost one out of five Southern and Western adolescents are uninsured while less than one out of ten Northeastern and Midwestern adolescents are without coverage.

Note also that urban (i.e., central **city)** and rural (i.e., non-metropolitan statistical area) adolescents are more likely to be uninsured than those who live in suburban areas (table D-l).

Parent's Work Status and Other Employment Characteristics

Adolescents living with nonworkers, part-year workers, or part-time workers are more likely than adolescents living with full-year, full-time workers to be uninsured (table D-l). Nevertheless, approximately half of all the uninsured adolescents who live with a parent live with a full-year, full-time worker

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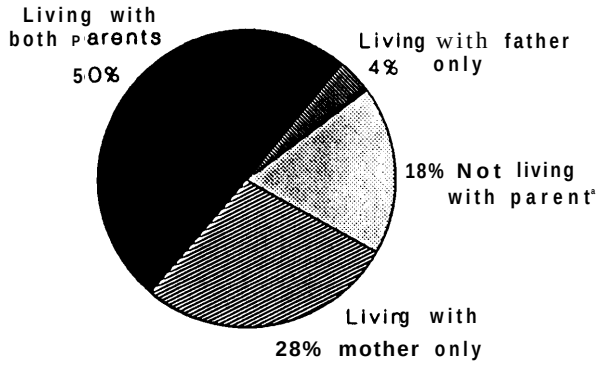
4 The category "adolescents not living with their parents" includes adolescents who live with "other relatives" (i. e., grandchildren, nieces, nephews, etc.) or unrelated individuals, those living on their own (or with their own spouse and/or children), and married adolescents who reside with their parent(s). Married adolescents are categorized this way because the U.S. Census Bureau assumes that most private health insurance plans exclude them from their parent's policies. Of the 6.4 percent of adolescents 'not living with their Parents", approximately half live with "other relatives", 1.1 percent with unrelated individuals, and the remainder are in other categories.

5 The racial and ethnic distribution of adolescents in 1987 is shown in figure D-3. Hispanic includes both black and white adolescents of Hispanic origin. "White" and "black" are non-Hispanic only.

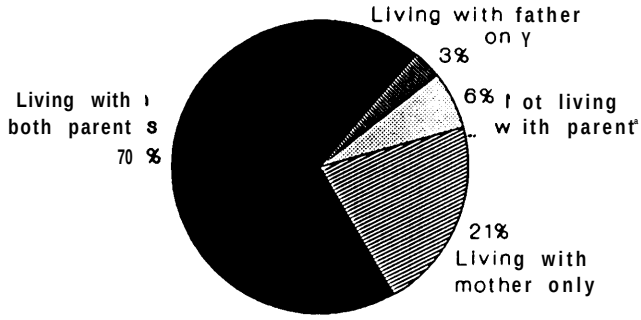
Figure D-1 --- Living Arrangements of Uninsured Adolescents Only



[a]Includes adolescents not living with their parents and married adolescents living with their parents.

SOURCE: Office of Technology Assessment, 1989, based on estimates from the March 1987 Current Population Survey.

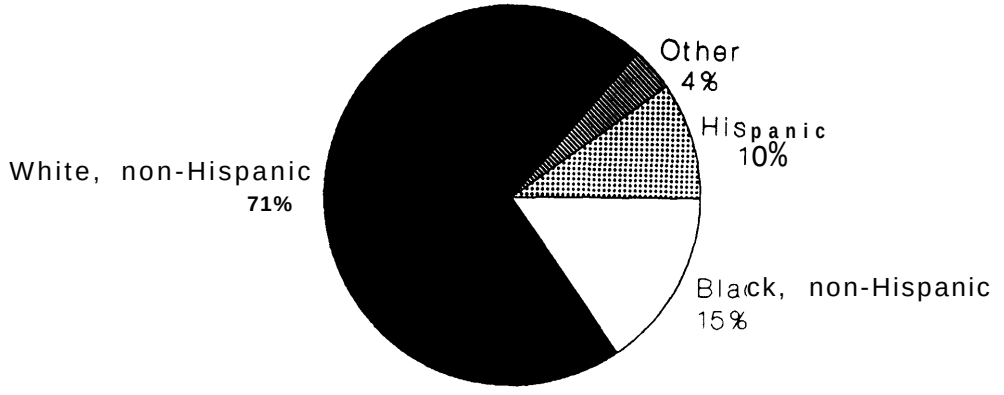
Figure D-2--- Living Arrangements of All Adolescents, Insured and Uninsured



[a]Includes adolescents not living with their parents and married adolescents living with their parents.

SOURCE: Office of Technology Assessment, 1989, based on estimates from the March 1987 Current Population Survey.

Figure D-3.-- Race/ethnicity of Adolescents, 1987



SOURCE: Office of Technology Assessment, 1989, based on estimates from the March 1988 Current Population Survey.

(figure D-4).[6] Further, most adolescents (70 percent) live with parents who have a significant attachment to the labor force (i.e., full-year, full-time workers) (figure D-5).

More than one-quarter of adolescents whose parents are self-employed are without health coverage (table D-1). There are two likely explanations. First, Federal tax treatment of health insurance contributions favors employees over the self-employed. While no portion of an employer's health insurance contribution is counted as taxable income for the employee, the self-employed may only deduct 25 percent of health insurance premium expenses from taxable income. Second, self-employed parents may not have access to the group health market in which health plans are typically less costly than nongroup policies.

Adolescents' likelihood of being without health coverage increases as the size of their parent's employer decreases. Approximately one out of four adolescents whose parents work for small businesses (i.e., fewer than 25 employees) are uninsured, while only 10 percent of those whose parents work in a firm of 1,000 or more employees are uninsured (table D-1).[7] Although adolescents with parents in small firms are more likely than others to be uninsured, lack of health insurance is not confined to those whose parents work for small businesses. Almost 40 percent of uninsured adolescents have parents who work in firms with 100 or more employees, and an additional 12 percent have parents who work in firms with 25 to 99 employees.

The industry of parent's employers is also related to health insurance status. Coverage rates are lowest in personal services and agriculture, and highest in public administration (i. e., government), durable goods manufacturing, and mining (table D-1).

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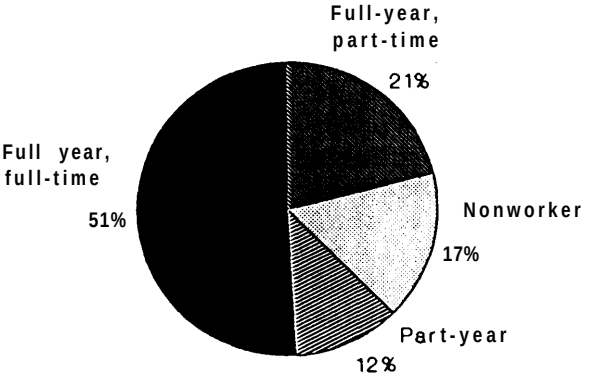
6 Full-year, full-time is defined as at least 35 hours per week for at least 50 weeks of the year.

7 These data are drawn from the March 1983 CPS which provides the most current CPS information on firm size. Although the March 1988 CPS included questions concerning firm size, these data are not yet available.

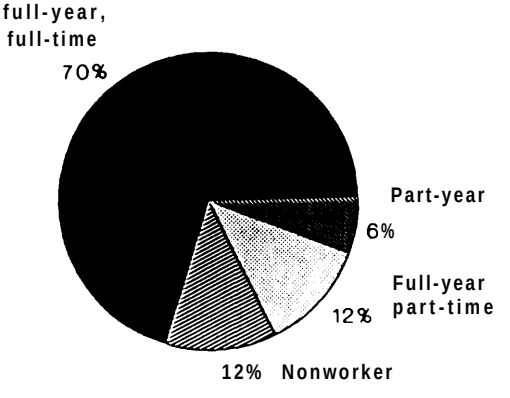
Figure D-4.--Parent's Work Status of Uninsured Adolescents Only[ab]



[a]Refers t. the work status of the household head unless the spouse is providing insurance to the adolescent.
[b]Full-year, full-time refers to workers who worked for at least 35 hours per weeks for at least 50 weeks. Full-year, Part-time refers to workers who were employed for at least 50 weeks and worked less than 35 hours in a typical week. Part-year workers worked or sought work during the year, but for less than 50 weeks during the year. Nonworkers neither worked nor sought work during 1987.

SOURCE: Office of Technology Assessment, 1989, based on estimates from the March 1988 Current Population Survey.

Figure D-5.--Parent's Work Status of All Adolescents[ab]



[a]Refers t. the work status of the household head unless the spouse is providing insurance to the adolescent.
[b]Full-year full-time refers to workers who worked for at least 35 hours per weeks for at (east 50 weeks. Full-year, part-time refers to workers who were employed for at least 50 weeks and worked less than 35 hours in a typical week. Part-year workers worked or sought work during the year, but for less than 50 weeks during the year. Nonworkers neither worked nor sought work during 1987.

SOURCE: Office of Technology Assessment, 1989, based on estimates from the March 1988 Current Population Survey.

Federal Poverty Level for a Family of Three, 1979-1988

Year	Poverty level for a family of three
1979	$5,784
1980	6,565
1981	7,250
1982	7,693
1983	7,938
1984	8,277
1985	8,573
1986	8,738
1987	9,056
1988	9,431

SOURCE: U.S. Department of Commerce, Bureau of the Census, Poverty and Wealth Branch.

APPENDIX F.--ACKNOWLEDGMENTS AND OTA's ADOLESCENT HEALTH ADVISORY PANEL

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