

**THE SURVEY OF INCOME AND
PROGRAM PARTICIPATION**

**THE DYNAMICS OF MEDICAID
ENROLLMENT**

No. 56

**P. Farley-Short, J. A. Cantor and
A. C. Monheitt
National Center for Health Services
Research**

Survey of Income and Program Participation

THE DYNAMICS OF MEDICAID ENROLLMENT

No. 8809 - 56

Pamela Farley-Short, Joel C. Cantor, and
Alan C. Monheit

National Center for Health Services Research
and Health Care Technology Assessment

July 1988

For presentation at the Annual Meetings of the American Public Health Association in New Orleans, October 1987. The views expressed in this paper are those of the authors. No official endorsement by the Department of Health and Human Services or the National Center for Health Services Research and Health Care Technology Assessment is intended or should be inferred. The programming assistance of Kisun Han and Peter Lee of Social and Scientific systems, Inc. of Bethesda, Maryland is gratefully acknowledged. David McMillen of the U.S. Bureau of the Census provided patient and invaluable help with the SIPP files, and Jack McNeil shared with us the Census Bureau's algorithm for attributing CHAMPUS/CHAMPVA coverage to the SIPP sample.

Staff at the Census Bureau appreciate the willingness of our colleagues at the National Center for Health Services Research and Health Care Technology Assessment (NCHSR) to make their work available through the SIPP Working Paper Series.

TABLE OF CONTENTS

Introduction.....	1
Longitudinal Patterns of Medicaid Enrollment.....	6
Characteristics of Short-term and Long-term Enrollees.....	8
Transitions Onto Medicaid.....	9
Leaving Medicaid.....	11
Summary and Policy Implications.....	12

TECHNICAL NOTES

The Survey of Income and Program Participation.....	15
Development of a Longitudinal SIPP File.....	16
Attrition and Adjustment for Nonresponse.....	16
Defining Medicaid and Other Health Insurance Status.....	18

REFERENCES

TABLES

The Dynamics of Medicaid Enrollment

Introduction

In reality, hiding under the umbrella of the Medicaid program, are many different health care programs. Each serves a different population with its own special needs, and each has its own policy concerns and issues. For example, thirty-six percent of Medicaid payments were made to nursing homes in 1986, part of a long term care program that has expanded in complexity and scope under the home and community-based waivers authorized by the Omnibus Budget Reconciliation Act of 1981. However, at the same time and exemplifying the contrasts within the program, Medicaid is equally a program to provide care in pregnancy and early childhood to the poor. It is also a catastrophic health insurance program for those with unusually large medical expenses that claim most of their income, a Medigap program for the elderly poor who are eligible for Medicare, and an interim insurance plan for some families that experience unemployment.

In this paper, considering just the noninstitutionalized population served by Medicaid, we examine another aspect of the program's heterogeneity. Namely, Medicaid operates a long-term program of health care for two-thirds of its enrollees, but a short-term, stop-gap program for the other third. Whether Medicaid was intended primarily to serve as a permanent source of assistance for a hard core of the needy or as a "safety net" for those experiencing temporary hardships--or both--is not explicit in the statutory eligibility criteria. But then, even Medicaid's extensive long term care program is only the implicit result of its statutory spend-down and medically needy provisions.

The legislation passed in 1965 created two groups who were eligible. The first is the "categorically needy," low income persons who receive Aid to Families with Dependent Children (AFDC) or Supplemental Security Income (SSI) for the aged, blind and disabled. AFDC is primarily for single mothers and their children, but states have the option of including two-parent families where the principal wage earner is unemployed in their AFDC or Medicaid plans. The second group eligible for Medicaid, the "medically needy," are considered by the law too poor to pay their medical expenses (especially because their expenses are unusually great) but not poor enough to qualify for welfare.

In light of these eligibility criteria and recent empirical studies showing that the duration of poverty is distinctly bimodal, with the majority of the poor experiencing short spells of poverty and a minority who are persistently poor, it is not surprising that Medicaid also serves both a short-term and a long-term population. From the Panel Study of Income Dynamics (PSID), Bane and Ellwood (1986) report that 44.5 percent of poverty spells lasted a year or less, compared to 12 percent of persons with poverty spells lasting more than 9 years. A recent study of spells of welfare dependency (O'Neill, Bassi, and Wolf 1986), using the National Longitudinal Survey, indicates similarly that the majority of welfare spells are short term (Half of all recipients have spells of one year or less.) and that the probability of remaining on AFDC for more than 5 years is only 18 percent.

The intent of the Medicaid program in this regard has not been clarified particularly by the many legislative changes over the past decade but the overall effect is probably to draw in more people on a stop-and-go basis. Early in the 1980's, enrollment was affected by the substantial budget cuts to which most domestic nondefense spending was subjected. In particular, changes to

AFDC eligibility rules affecting primarily the working poor reduced the population eligible for Medicaid by nearly two million persons during 1981 and 1982. These cuts were partly motivated by the fear that government programs were perpetuating welfare dependency, and the conviction that too much long-term help was being offered for too long. Starting in 1984 with the Federal Deficit Reduction Act (DEFRA), the trend recently has been to expand Medicaid eligibility, often to include persons likely to be eligible for a relatively short time such as two-parent families and the unemployed. For example, DEFRA extended mandatory coverage to some financially eligible children in two-parent families and to pregnant women in families with an unemployed parent. In 1986 the link between the categorical welfare programs and Medicaid was substantially loosened, with states now being permitted to extend Medicaid to all pregnant women, infants under the age of one, and (phased in over time) children up to the age of five whose family incomes are below the federal poverty line. By substituting poverty as the criterion for eligibility, instead of the much more narrowly defined criteria of the categorical programs, this change will likely open up the program to many more people on a short-term basis. Working in the opposite direction, the period of eligibility for some people, especially mothers, has been lengthened. DEFRA extended the eligibility of pregnant women, by covering them during their pregnancy if they would qualify when the child was born, and legislation passed in 1985 extended coverage for up to 60 days postpartum when women become eligible based solely on pregnancy.

Making a distinction between short-term and long-term Medicaid enrollees is important on several counts. First, a program that is well designed to serve short-term enrollees must address different objectives, concerns, and health care needs than one designed for long-term enrollees. Financing the

health care of people who need help getting through a temporary financial crisis is quite a different proposition than planning systematically for the health care of people over the long term. In addition, as we show here, short-term and long-term enrollees tend to be at different stages of life, with the very young and the old disproportionately represented among those on Medicaid for a long time. It is not just the health care requirements, but also the organizational requirements, that differ between the two groups. For example, enrolling long-term eligibles in HMOs or other systems of managed care makes much more sense than enrolling short-term enrollees, because of the potential disruption of already established physician-patient relationships, the interruption of care when eligibility is terminated, and the difficulty of setting capitation rates for a patient population that turns over rapidly.

The short-term enrollees also raise special policy concerns. Although expected to leave the program after a relatively short time, they may be discouraged from trying to improve their economic circumstances by the spectre of losing their Medicaid card, especially if the jobs available to them do not offer health insurance. In addition, the fact that a significant number of people are enrolled in Medicaid for only a short time indicates that the program helps to protect the population's access to health care in times of economic difficulty. But how effective is Medicaid as a safety net? What is the likelihood that today's middle class family, and not just the poor, will benefit someday from the program? When people leave Medicaid, are they uninsured and still poor, or do they leave for private health insurance at improved economic circumstances?

Finally, the bimodal distribution of Medicaid enrollment creates problems in interpreting data about the program. Just to count and characterize the population served by Medicaid is a tricky proposition. Long-term enrollees

are over-represented in statistics that focus on the program at a given point in time, because the number of short-term enrollees who flow through the program can only be measured by counting them over time. The longer the frame of reference, the greater is the number of short-term enrollees in relation to the fixed number of permanent enrollees. Greater, too, is the count of both the population served and the probability of ever observing any given individual, especially someone with characteristics typical of short-term enrollees, on Medicaid.

Since the late seventies, annual surveys have provided evidence of the turnover in the Medicaid population and have hinted at the significance of short-term enrollment (Table 1). The 1977 National Medical Care Expenditure Survey (NMCES) revealed that Medicaid enrollment was 20 million people over the course of a year, 25 percent more than the 16 million enrolled at a point in time (Walden, Wilensky, and Kasper 1985). Of those ever enrolled during 1977, 8.6 million or 43 percent were enrolled only part of the year. The latter statistic is not an entirely satisfactory measure of short-term enrollment, however, because it includes people with enrollment periods of a year or more that just happened to begin or end outside of the one-year survey period. The one-year time frame also biases description of the Medicaid population and the probability of enrollment towards long-term enrollment and enrollees, although not so severely as Medicaid data from a single point in time.

In this paper, we study the dynamics of Medicaid enrollment over an even longer time period, nearly three years, with data from the 1984 Panel of the Survey of Income and Program Participation (SIPP). SIPP is a longitudinal survey conducted by the Bureau of the Census, where a nationally representative sample of households was interviewed three times a year about

their economic circumstances and participation in government programs during the preceding four months. For the cohort of persons enrolled in SIPP at the start of the survey, we combined the data from the eight interviews conducted between Fall 1983 and Summer 1986 into a longitudinal data base covering 32 months. (See the Technical Notes for additional information about this file.)

The first section of the paper describes this cohort's enrollment in Medicaid during the 32-month period. It is followed by a comparison of the characteristics associated with short-term and long-term enrollment. Then attention shifts to transitions on and off Medicaid with an examination of the events, such as changes in marital status or employment and earnings, that were associated with enrollment or disenrollment. The income and insurance status of enrollees before and after they were covered by Medicaid is described as well. A final section summarizes these findings and discusses their policy implications.

Longitudinal Patterns of Medicaid Enrollment

A total of 25.4 million persons were enrolled in Medicaid at some time during the 32 months covered by the 1984 SIPP panel (Table 2). This figure exceeds enrollment over the first year (Table 1) by 5 million or 23 percent, and enrollment at the first interview by 8 million or 44 percent. Of the 11.1 percent of the U.S. population cohort that was ever covered by Medicaid, 4.8 percent reported coverage at all eight interviews and 6.3 percent were covered only part of the survey period. Thus, a minority of 44 percent of those ever enrolled were covered the entire time. By contrast, and indicative of the bias toward long-term enrollees of statistics referring to a single point in time, the 11 million people who were enrolled throughout the survey period

constituted 62 percent of the enrollment at the first interview.

Overall, Medicaid was reported at an average of 5.3 interviews or for about 21 months (Table 3).¹ The average for those enrolled during only part of the survey was 3.2 interviews or about 13 months. Unfortunately, these figures understate the average length of a spell on Medicaid, because the true enrollment periods for persons coming onto the program before the first interview or leaving after the last interview are truncated.

A somewhat clearer picture of the duration of Medicaid enrollment can be obtained from the cohort of persons who were newly enrolled at the second SIPP interview (Table 4). Although their spell of coverage is right-truncated by the end of the survey period at a maximum of seven interviews, the beginning of the spell is at least delineated. Only one third of these new enrollees reported Medicaid at all of the subsequent interviews. Half of them reported coverage at 5 interviews or fewer, amounting to less than 2 years of coverage. A quarter reported Medicaid at only 1 or 2 interviews, amounting to 8 months of coverage or less. This seems like a surprisingly large percentage of persons with very short periods of Medicaid coverage, and may be explained by the fact that SIPP includes with Medicaid "[any] other public assistance program that pays for medical care" (such as state and county indigent programs). There is also the possibility of some one-time misreporting of Medicaid enrollment by SIPP respondents, although we did examine and correct some apparent errors of this sort (as described in the Technical Notes).

¹We report coverage in terms of the number of interviews where Medicaid was reported for any month in the reference period, because there was a strong tendency among SIPP respondents to report the same coverage for all months covered by an interview and changes in coverage mainly between interviews. See the Technical Notes for a more detailed discussion of the assignment of insurance coverage.

Characteristics of Short-term and Long-term Enrollees

One way of operationalizing the distinction between long-term and short-term Medicaid enrollment is in terms of coverage for the entire survey period and coverage for only part of it. This is a relatively stringent definition of long-term enrollment, since most long-term enrollees defined in this fashion were probably covered for spells even longer than 32 months, which fell partly outside the survey. Conversely, some short-term enrollees according to this definition may have had periods of enrollment of at least 32 months as well, which were truncated by the beginning or end of the survey.

Generally speaking, the population groups most likely to be covered for the entire survey were also the groups most heavily served by Medicaid (Table 5). Thus, 21.4 percent of children under age 6 were ever covered by Medicaid, compared to 11.1 percent of the total population; 46 percent of Medicaid enrollees under age 6, somewhat above the national average, were covered the entire time. Among adults 25 and older, Medicaid most often served the elderly (11.6 percent), the only age group where the majority of enrollees were covered throughout the survey. Blacks were enrolled more than four times as often as whites (31.2 compared to 7.0 percent), and nearly half of black enrollees were covered the entire time. Forty-four percent of persons in families with children headed only by women at the start of the survey, the family type targeted by AFDC, were enrolled in Medicaid. Not only was this considerably more than twice the rate for any other family type, two-thirds of these Medicaid enrollees were covered the entire time. Following the same pattern, those who were poor at the start of the survey, as well as those not in the labor force and their children, were likely to have Medicaid and were more likely to be covered the whole time than other enrollees.

Other population groups were especially likely to have short-term coverage. Two-thirds of enrollees aged 19-24, a time of transition in many lives, were covered only part of the survey period. Two-thirds or more of enrollees in families headed by two parents or receiving unemployment compensation at the start of the survey were also enrolled part-time. In addition, and not at all surprising in view of Medicaid's income eligibility standards, enrollees who were not poor or who were employed at the start of the survey were very unlikely to be covered by Medicaid from the beginning of the survey to the end. Finally, enrollees in states covering pregnant women without children, and to a lesser extent the medically needy, were more likely to be covered temporarily.

Many of these patterns can be traced at a more general level to differences associated with the three types of eligibility criteria qualifying a person or family for Medicaid--those applying to AFDC, SSI, and unemployment compensation. Not surprisingly, AFDC and SSI were generally associated with long-term enrollment, while unemployment was associated with short-term enrollment. Two-thirds of those receiving AFDC at the start of the survey were enrolled throughout the survey. Three-quarters of SSI recipients were enrolled for the entire survey. In dramatic contrast, three-quarters of Medicaid enrollees who received unemployment compensation at the start of the survey were not enrolled the entire time.

Transitions Onto Medicaid

About 7.8 million persons, 4 percent of the population not initially enrolled in Medicaid, came onto the program over 28 months. Among those who

were uninsured, the probability of eventually obtaining Medicaid coverage was 11.8 percent (Table 4). Just 2.9 percent of those on Medicare and 2.4 of those with private health insurance would eventually enroll in Medicaid. However, because of the huge number of privately insured (150 million), 40.9 percent of new Medicaid enrollees came from the ranks of the privately insured (Table 6). A slight majority (56.6 percent) were previously uninsured.

Along similar lines, just about half of new enrollees were poor in the four months prior to obtaining Medicaid coverage. However, nearly a quarter were in the middle and high income categories, so a substantial number of Medicaid enrollees were middle class families benefiting from the social safety net. The near poor and low income families benefited from the safety net as well, as they dropped into or nearer poverty and accounted for the other quarter of new enrollees.

Also fitting into this picture, where some 30 to 40 percent of new enrollment appears to have been related to a drop in economic fortunes, 33 percent of new enrollees (or their parents) experienced a reduction in employment in the four months prior to joining Medicaid (Table 7). Fifteen percent lost their jobs; another 10.9 percent suffered a reduction in hours of 5 hours a week or more; and another 7.1 percent worked the same hours but experienced a reduction in earned income of \$100 a month or more. These changes in employment far outweighed changes in family relationships as a factor accounting for new enrollees. Only four percent of new enrollees (or their parents) had lost their spouse in the preceding four months, and 1.8 percent were members of families that had had their first child.

Leaving Medicaid

Thirty-eight percent of the population covered by Medicaid at the first interview left the program over the next 28 months. The majority (54.5 percent) were subsequently uninsured (Table 8). Forty-three percent were poor. Thus, a substantial number of people were dropped from the program despite their continued economic misfortune. Forty-three percent of those losing Medicaid were subsequently covered by private insurance, and 24.8 percent were middle or high income. This means that the distribution by poverty and insurance status of former enrollees, subsequent to Medicaid, closely resembled that of new enrollees prior to Medicaid. About 55 percent in each case either came from or returned to the ranks of the uninsured. Fifty-one percent were poor before coming onto Medicaid, compared to 42.6 percent of former enrollees who were subsequently poor. The difference between these figures was largely offset by the large number of former enrollees who were near poor and within 125 percent of the poverty line. Consequently, the majority in each case were either poor or near poor.

Consistent with these data on insurance and poverty status, only about a third of ex-enrollees experienced employment gains in connection with leaving Medicaid (Table 9). Of these, relatively fewer were unemployed and acquired a job (8.4 percent) than experienced an increase in hours (11.1 percent) or an increase in hourly wages (14.9 percent). In this context, as well as in coming onto Medicaid, changes in family relationships did not figure

minently. Only 1.3 percent "married off" the program. Two percent of those leaving Medicaid were in families where the children had all moved out.

Summary and Policy Implications

Over approximately three years between Fall 1983 and Summer 1986, Medicaid served 11 percent of the population or 25.4 million people. This figure exceeds the number served by the program over the course of a year by 2 percent and the number served at any particular time by 44 percent. Of the 17.6 million people enrolled in Fall 1983, 62 percent remained on Medicaid for a minimum of 32 months. However, 6.7 million left the program and 7.8 million were newly enrolled, so the long-term enrollees were a minority of 43 percent of those ever on Medicaid. Thus, although the health care needs of long-term enrollees probably shape the operation of the program on any given day, serving the needs of a continuing flow of short-term enrollees is also an important--and somewhat different--program objective. For new enrollees, the median period of enrollment was about 20 months.

Long-term enrollment, defined as coverage for the entire 32-month period, was most common in the population groups targeted by AFDC and SSI. Young children and the families of single mothers who were enrolled in Medicaid were likely to be covered the whole time. The elderly were the only age group where the majority of enrollees were covered the whole time. Sixty-two percent of adults who were not in the labor force at the beginning of the period, along with their children, who were ever enrolled in Medicaid were covered for the entire period. By contrast, nearly half of those coming on or going off the program were employed at the start of the 32 months or were the children of employed parents. Such enrollees were disproportionately the members of intact families with two parents or in families receiving unemployment compensation.

Thus, the substantial turnover in the program was related to the fact that

Medicaid does indeed function as a social safety net for some families that experience economic reversals, and not just as a long-term health care program for the chronically disadvantaged. Roughly 30 to 40 percent of new Medicaid enrollments were related to a decline in economic circumstances. Forty-two percent of new enrollees had private insurance before coming onto Medicaid. A quarter previously had family incomes exceeding 200 percent of the poverty line. A third had experienced a reduction in employment in the preceding 4 months (or were the children of adults experiencing a reduction in employment), usually the complete loss of a job or a reduction in hours of work rather than a reduction in hourly wages. By the same token, roughly 30-40 percent of those departing the program were headed for private insurance, improved employment, and higher incomes.

However, Medicaid is also a program directed at the chronically disadvantaged, and here our new, longitudinal perspective yields still further evidence of Medicaid's known inadequacies. Not only were fewer than half the poor ever enrolled in Medicaid; nearly half of the people leaving the program were still poor after they had lost their Medicaid coverage. In addition, for those who were uninsured at the start of the period, the probability of ever having Medicaid was 11.8 percent, not even a percentage point above the national average. Making matters worse, 55 percent of former enrollees became uninsured when they surrendered their Medicaid card. This means that Medicaid's eligibility rules, admittedly before the relaxation of the categorical requirements in the 1986 legislation, sent 4 million people into the ranks of the uninsured over the 32-month survey period.

The danger of working oneself off Medicaid--only to be without insurance and without access to health care--was consequently substantial. This is an important issue for consideration in the context of welfare reform. A gradual

phasing out of Medicaid coverage, perhaps by allowing the working poor to buy into Medicaid at income-related rates, would eliminate the work disincentives now existing in the program. Furthermore, it does not appear that many people currently are going to work and subsequently getting off the program. On about 8 percent of former enrollees were newly employed; more commonly, former enrollees experienced an increase in wages or hours in connection with leaving Medicaid. On the other side of the coin, over 70 percent of those enrolled for the entire 32-month survey period were adults not in the labor force at the outset of the survey, along with their children.

Finally, and also relevant to the issue of welfare reform, there is no evidence that Medicaid is part of a system that "lifts" enrollees to improved economic circumstances and the mainstream of privately insured health care. The circumstances from which people came onto the program were largely the circumstances under which they left. Fifty-seven percent of new enrollees were either poor or within 125 percent of the poverty line before qualifying for Medicaid; 54 percent of those leaving the program were subsequently either poor or near poor, although there was a slight shift from the lower category to the next. Over half of new enrollees were uninsured before qualifying for Medicaid; over half of those leaving the program were subsequently uninsured. Thus, in addition to the substantial number of enrollees who remained on the program for an extended time because of their continuing economic plight, there were many others who would have been enrolled for so long if enrollees maintained their Medicaid eligibility until their circumstances truly improve.

TECHNICAL NOTES

The Survey of Income and Program Participation

The data used in this study were obtained from the 1984 Panel of the Survey of Income and Program Participation (SIPP), conducted by the U.S. Bureau of the Census (U.S. Bureau of the Census 1987). SIPP is a longitudinal household survey designed to provide detailed information on the economic circumstances of households and persons representing the noninstitutionalized population of the United States. Persons living in group quarters, such as dormitories and rooming houses, are included, as are some Armed Forces personnel (those not living in military barracks). The households that are sampled are interviewed every 4 months over a period of roughly 3 years, with the four-month period prior to each interview month as the reference period. All persons 15 years of age or older at the initial interview are eligible for the entire length of the survey, and are followed to their new location if they move. Adults living with originally sampled persons at subsequent interviews are also eligible. The data concerning adults includes data about their children, so the survey covers the entire population.

Within a given panel, the sampled households are divided into 4 replicate subsamples or rotation groups of approximately equal size, and one rotation group is interviewed each month. One cycle of interviewing for the entire sample (i.e., one interview for each rotation group) is called a wave. In Wave One of the 1984 Panel, the first rotation group was interviewed in October 1983 with June as the first reference month; the last rotation group was interviewed in January 1984 with September as the first reference month. Nine interviews were completed for the first two rotation groups, and eight

for the last two, covering 36 and 32 months respectively.

Development of a Longitudinal SIPP File

The Census Bureau releases a public use file for each wave as it is completed. For the analyses presented here, the wave files were merged to form a 32-month, longitudinal database for the cohort of adults and children about whom data were collected in Wave 1. Members of the Armed Forces included in SIPP were dropped from this cohort, in order to facilitate comparison to other surveys that are typically limited to the civilian noninstitutionalized population. Given the staggered start of SIPP, the 32-month period covers different calendar months depending on the rotation group (see Table A1). Using the sampling weights provided by the Census Bureau for each person in the first month of their participation in the survey, estimates from this database can be interpreted as if from a longitudinal study of the entire U.S. population, where approximately a quarter of the population was enrolled each month from June 1983 to September 1983. The weighted population total (or total enrollment in the "national longitudinal study") is 229,314,000.

Attrition and Adjustment for Nonresponse

In actual practice, not everyone interviewed in Wave One of SIPP completed eight interviews. The Census Bureau deliberately and randomly reduced the size of the 1984 panel by approximately 15 percent in Waves 5 and 6. Some persons dropped out because they were no longer in the scope of the survey. They died, moved into military barracks, moved overseas, or were

institutionalized. Others refused at least one interview or moved and could not be located. Data from completed interviews are missing in a few instances from the SIPP public use files because of data processing errors, and a handful of persons whose identification numbers change from wave to wave on the public use files were dropped from our database because of the data processing difficulties that they present. Of the 53,456 persons in the original cohort, there are 32,381 complete cases in our longitudinal database with either 32 months of data or data for those months when the person was in scope. Thus, taking into account the deliberate reduction by Census, the unintended attrition of the sample was 24 percent or about 3 percent per wave.

To correct for the approximately 21,000 nonrespondents with incomplete data, we developed a longitudinal weight similar to that developed by the Census Bureau for its 1983-1984 Longitudinal Research File (Coker et al.; Singh 1986). Weighting groups were defined as a cross-classification of sex, race (black, not black), age (under 5, 5-14, 15-24, 25-34, 35-44, 45-54, 55-64, and 65 or older), average monthly household income in Wave 1 (under \$1200, \$1200-3999, \$4000 or higher), and household receipt of unemployment compensation or means-tested transfers in Wave 1. The latter two variables are especially important in controlling for the differential attrition of low income persons from the sample, which is known to be greater than for others (McArthur and Short 1985). Weighting groups were collapsed where necessary to ensure at least 20 respondents in each cell. A nonresponse adjustment ratio was then calculated for each cell by dividing the sum of the Wave 1, Month 1 weights provided by the Census Bureau of persons in the original cohort by the sum of the weights of persons with complete data. The longitudinal weight was then formed for those with complete data by multiplying their Wave 1, Month 1 weight by the adjustment ratio for their weighting group.

Defining Medicaid and Other Health Insurance Status

Monthly indicators of Medicaid status are provided on the SIPP public use files. However, the monthly variables do not provide a reliable indication of either the timing of transitions in coverage or the exact duration of enrollment because of the tendency of respondents to report the same status for the four months covered by each interview. Thus, most transitions in enrollment occur between interviews, and the number of months of coverage tends decidedly towards multiples of 4. (NOTE: This phenomenon in the SIPP data has been noted in a number of other contexts, e.g., Burkhead and Coder 1985, Hill and Hill 1986.) We consequently choose to measure Medicaid and all other insurance coverage in terms of the number of interviews where Medicaid was reported for any month in the reference period. This does not provide as finely calibrated a measure of the enrollment period as monthly status, and it may ignore some very short-lived changes in coverage. However, these are the reporting biases of SIPP respondents and are implicit in the monthly indicators, whether we acknowledge them or not.

Although SIPP is a panel survey, many of the questions asked during the interview do not make explicit reference to information provided at the preceding interview. The Census Bureau also imputes missing data for each wave without reference to the data provided by the person in other waves. Both factors mean that the true extent of change between waves tends generally to be overstated by comparison of one file to the next. However, Medicaid data are not subject to much suspicion on either count. First, enrollment is indeed updated in relation to coverage reported at the previous interview. Second, the amount of imputation bias is trivial. The Census Bureau reports only 19 anomalies due to imputation out of 900 persons with Medicaid reported

REFERENCES

- Bane, Mary Jo, and David T. Ellwood (1986). "Slipping Into and Out of Poverty: The Dynamics of Spells," Journal of Human Resources 21(1): 1-23, Winter.
- Coder, John F., Dan Burkhead, Angela Feldman-Harkins, and Jack McNeil (1987). "Preliminary Data from the SIPP Longitudinal Research File, SIPP Working Paper Series, No. 8702.
- Hill, Martha S., and Daniel H. Hill (1986). "Labor Force Transitions: A Comparison of Unemployment Estimates from Two Longitudinal Surveys," Survey of Income and Program Participation 1986: Selected Papers given at the 1986 Annual Meeting of the American Statistical Association in Chicago, Illinois. Washington, D.C.: U.S. Bureau of the Census.
- McArthur, Edith, and Kathleen Short (1985). "Characteristics of Sample Attrition in the Survey of Income and Program Participation," Survey of Income and Program Participation 1985: Selected Papers given at the 1985 Annual meeting of the American Statistical Association in Las Vegas, Nevada. Washington, D.C.: U.S. Bureau of the Census.
- O'Neill, J.A., L.J. Bassi, and D.A. Wolf (1987). "The Duration of Welfare Spells," Review of Economics and Statistics 69(2): 241-248, May.
- Singh, Rajendra P. (1986). "SIPP Longitudinal Weighting for Persons. Mimeo provided to the Washington SIPP Users Group.

U.S. Bureau of the Census (1987). Survey of Income and Program Participation Users' Guide.

Walden, Daniel C., Gail R. Wilensky, and Judith A. Kasper (1985). Changes in Health Insurance Status: Full-Year and Part-Year Coverage. NHCES Data Preview 21. Rockville, MD: National Center for Health Services Research and Health Care Technology Assessment, DHHS Publication No. (PHS) 85-3377.

in the 1983-1984 Longitudinal Research File. We made no attempt specifically to identify and correct such imputation problems.

However, we did edit Medicaid coverage longitudinally in other respects. First, there were about 300 persons who reported coverage at only one interview in the middle of the survey (when, unlike at the first or last interview, that coverage could not have been part of a longer period of enrollment outside the survey). It seems unlikely that periods of Medicaid enrollment of four months or fewer are this common. We dropped the one wave of coverage reported by about 80 of these people, who never reported any type of welfare or categorical income and never had even one month's income below the poverty line. We attribute much of the coverage reported by the remainder to state and local public assistance programs other than Medicaid, which SIPP includes with Medicaid. There were also about 220 persons who reported a one-wave lapse in coverage between two periods of enrollment. We created a single, longer period of coverage for approximately 150 of these people, whose family income was basically unchanged over the lapse in coverage or who reported welfare during the period. We also corrected a handful of anomalies apparently associated with proxy reporting. All together, there are BLANK persons in our longitudinal file with Medicaid at one or more interviews.

Information on coverage by Medicare, Medicaid, and private health insurance is collected at each SIPP interview. However, it is also necessary to know about coverage under CHAMPUS/CHAMPVA in order to identify the uninsured. Since respondents to SIPP were not asked about such coverage, assigned CHAMPUS/CHAMPVA according to an algorithm developed by the Census Bureau. An individual was assigned CHAMPUS/CHAMPVA if he/she was a dependent of a person on active military duty, the recipient or dependent of a person receiving military retirement coverage, or the dependent of a person receiving more than \$1000 per month in veteran's benefits.

Table 1. Annual Estimates of the noninstitutionalized Medicaid population (1977, 1980, 1984).

	Number (thousand)	Percent of U.S. Population	Source
<u>1977</u>			
Ever enrolled	20,121	9.5	NMCES ^a
All year	11,549	5.4	
Part year	8,572	4.0	
Point in time ^b	16,078	7.6	
<u>1980</u>			
Ever enrolled	25,185	11.3	NMCUES ^c
All year	16,493	7.4	
Part year	8,692	3.9	
Point in time ^d	20,340	9.2	
<u>1983-84</u>			
Ever enrolled in year	20,687	9.0	SIPP ^e
All year	14,253	6.2	
Part year	6,434	2.8	
Point in time ^f	17,666	7.7	

^aNational Medical Care Expenditure Survey. ^bNMCES Round 1 interview, January - March. ^cNational Medical Care Utilization and Expenditure Survey. ^dNMCUES Round 1 interview, January - March. ^eLongitudinal file created by the authors from the Survey of Income and Program Participation. ^fLongitudinal SIPP file, Wave 1 interview, June - September.

Table 2. Longitudinal estimates of Medicaid enrollment over 32 months in the civilian noninstitutionalized population (1984 SIPP Panel).

	Numbers (thousands)	Percent
Total population cohort	229,314	100.0
Ever enrolled	25,442	11.1
Always enrolled	10,951	4.8
Enrolled part time	14,491	6.3
At first interview	6,715	2.9
At last, not first interview	4,255	1.9
Other	3,521	1.5

Table 3. Number of interviews (out of 8) where Medicaid was reported (1984 SIPP Panel).

	Average number of interviews
Ever enroll	5.3
Enrolled part time	3.2

Table 4. Percent distribution of the cohort newly enrolled in Medicaid at the second interview, by number of interviews with Medicaid (1984 SIPP Panel).

	Percent distribution
All new enrollees	100.0
Number of interviews with Medicaid	
1	16.8
2	9.6
3	11.8
4	9.1
5	9.1
6	11.2
7	32.4
	Average number of interviews
All new enrollees	4.4

Table 5. Medicaid enrollment over 32 months, by population characteristics at initial interview (1984 SIPP Panel).

	Number (thousands)	Percent of population			Percent of enrollees enrolled at time
		Ever enrolled	Enrolled part time	Enrolled whole time	
Total population cohort ^a	229,314	11.1	6.3	4.8	57.0
<u>Age</u>					
under 6	21,100	21.4	11.6	9.9	54.0
6 - 18	45,837	15.6	9.1	6.6	58.0
19 - 24	24,185	11.2	7.5	3.7	67.1
25 - 54	90,245	7.5	4.2	3.3	56.6
55 - 64	22,070	6.0	3.7	2.3	60.9
65 and older	25,878	11.6	5.6	5.9	48.8
<u>Ethnic/racial background</u>					
White	182,862	7.0	4.3	2.7	61.7
Black	26,892	31.2	16.1	15.1	51.6
Hispanic	13,369	23.6	13.1	10.5	55.5
<u>Family type</u>					
No children	163,845	8.4	4.9	3.5	58.0
One adult	16,026	11.4	5.1	6.3	44.7
Two or more adults	51,658	4.8	2.5	2.3	52.3
<u>Children present</u>					
Female house- holder only	10,395	43.9	14.7	29.	33.4
Male and female householders	73,761	5.1	3.5	1.	67.4
Other	77,473	16.5	10.7	5.8	64.9

Table 5. Medicaid enrollment over 32 months, by population characteristics at initial interview (1984 SIPP Panel) -- continued

	Number (thousands)	Percent of population			Percent of enrollees
		Ever enrolled	Enrolled part time	Enrolled whole time	Enrolled part time
<u>Health insurance</u>					
Uninsured	28,312	11.8	11.8	100.0	NA
Medicaid	17,666	100.0	38.0	62.0	38.0
Medicare, not Medicaid	24,358	2.9	2.9	100.0	NA
Private only	149,699	2.4	2.4	100.0	NA
CHAMPUS/other	4,825	1.3	1.3	100.0	NA
<u>Family Income Status</u>					
Poor	36,139	43.3	20.3	23.0	46.8
Near poor (101- 125% of poverty)	12,069	19.4	12.7	6.7	65.3
Near poor (126- 150% of poverty)	11,623	11.3	7.4	4.0	65.1
Other low income	24,335	7.8	5.9	1.8	76.5
Middle income	85,575	3.8	3.0	0.7	80.4
High income	59,574	1.7	1.2	0.5	71.5
<u>Reciprocity of^b</u>					
AFDC	9,474	97.4	31.2	66.1	32.0
SSI	5,185	87.8	21.6	66.2	24.6
Unemployment compensation	4,643	21.0	15.7	5.3	74.7
None of the above	211,269	5.6	4.8	0.9	84.7
<u>Employment status</u>					
Full-time	156,130	4.0	3.6	0.4	89.1
Part-time	16,368	12.7	9.6	3.1	75.7
Unemployed	11,528	39.9	22.6	17.3	56.6
Not in labor force	45,256	27.6	10.4	17.2	37.8

Table 5. Medicaid enrollment over 32 months, by population characteristics at initial interview (1984 SIPP Panel) -- continued

	Number (thousands)	Percent of population			Percent of enrollees
		Ever enrolled	Enrolled part time	Enrolled whole time	Enrolled part time
<u>State program includes:</u>					
Medically needy					
yes	143,617	12.0	7.0	5.0	58.5
no	78,037	9.7	5.2	4.5	53.5
Pregnant women without children					
yes	181,839	12.0	6.7	5.3	55.5
no	47,475	7.6	5.0	2.6	65.5
Families with unemployed parent					
yes	138,369	12.5	7.0	5.5	56.3
no	90,945	9.0	5.2	3.7	58.3

^aIncludes persons with other/unknown race/ethnicity, employment status, or state program characteristics not shown below. ^bChildren under 18 are assigned reciprocity according to family income sources. This explains why AFDC, for example, is not always associated with Medicaid enrollment. ^cChildren under 18 are assigned the employment status of their mother, their father if not living with their mother, or the householder if not living with parents.

Table 6. Prior income and insurance of new Medicaid enrollees (1984 SIPP Panel).

	Percent distribution
Total	100.0
<u>Health insurance</u>	
Uninsured	56.6
Medicare	1.7
Private only	40.9
CHAMPUS	0.9
<u>Family income</u>	
Poor	51.4
Near poor (101-125% of poverty)	6.3
Near poor (126-150% of poverty)	7.3
Other low income	13.1
Middle income	18.8
High income	3.1

Table 7. Events associated with Medicaid enrollment of persons under age 65 (1984 SIPP Panel).

	Percent distribution
Total transitions onto Medicaid	100.0
<u>Event</u> ^a	
Loss of spouse	3.9
First child enters household	1.8
Reduced employment ^b	33.1
Job loss	15.1
Reduced hours	10.9
Reduced hourly wage	7.1
More than one of above	1.6
None of the above	59.7

^aPerson experienced event between interview with Medicaid and prior interview without Medicaid. Transitions of children under 18 are classified according to the events experienced by their mother, their father if not living with their mother, or the householder if not living with a parent. ^bReductions in employment are classified according to the first applicable category shown.

Table 8. Income and insurance of former Medicaid enrollees (1984 SIPP Panel).

	Percent distribution
Total	100.0
<u>Health insurance</u>	
Uninsured	54.5
Medicare	2.1
Private only	43.0
CHAMPUS	0.4
<u>Family income</u>	
Poor	42.6
Near poor (101-125% of poverty)	11.6
Near poor (126-150% of poverty)	97.7
Other low income	13.3
Middle income	20.3
High income	4.5

Table 9. Events associated with Medicaid disenrollment of persons under age 65 (1984 SIPP Panel).

	Percent distribution
Total transitions off Medicaid	100.0
<u>Event</u> ^a	
Marriage	1.3
Children leave household	2.1
Improved employment ^b	34.4
Newly employed	8.4
Increased hours	11.1
Increased hourly wage	14.9
More than one of above	2.2
None of the above	60.0

^aPerson experienced event between last interview with Medicaid and subsequent interview without Medicaid. Transitions of children under 18 are classified according to the events experienced by their mother, their father if not living with their mother, or the householder if not living with a parent.

^bImprovements in employment are classified according to the first applicable category shown.