

Six Months of Medicaid Data: A Summary from the National Medical Care Utilization and Expenditure Survey

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This is a summary of the first report in a series of three comprehensive Medicaid program reports based on National Medical Care Utilization and Expenditure Survey data. Preliminary analyses are presented based on data from the first half of 1980 which include the personal characteristics and medical care utilization patterns of noninstitutional Medicaid enrollees and the health insurance coverage of the U.S. noninstitutionalized population. More comprehensive analyses employing full calendar year 1980 data will be available in subsequent reports. The information provided in this summary is useful in appraising the impact of eligibility, benefit package, and reimbursement policy on Medicaid enrollee health care utilization at both the Federal and the State Medicaid level.

Introduction

Despite the expectations of the Medicaid program's architects that it would be smaller and less significant than the Medicare program, the Medicaid program has experienced dramatic growth in the number of recipients and total expenditures since its creation. By early 1980, State Medicaid program expenditures accounted for between 10 and 15 percent of individual State general operating funds. The Medicaid program is continuing to grow relative to State budgets. State budgets have been expanding by only about 9 percent per year, while Medicaid budget expenditures have been expanding at approximately twice that rate.

These factors are forcing States to devise program changes concerning eligibility, benefits, or reimbursement approaches that will enable them to maintain fiscal stability as expenditures increase and the Federal role changes. These problems present a major challenge to policymakers and administrators at both the Federal and State levels. Solutions to these problems are difficult because of the differences in Medicaid programs, the constantly changing character of the Medicaid programs within States, and a lack of data to describe, monitor, and forecast Medicaid pro-

gram activities in a consistent fashion. The National Medical Care Utilization and Expenditure Survey (NMCUES) was designed with these data problems in mind.

Survey Background

The goal of the National Medical Care Utilization and Expenditure Survey (NMCUES) was to collect information that would improve our understanding of the way Americans use and pay for health care. In addition to providing reliable statistical descriptions of the types of health services consumed and the amount of dollars expended for health care by the Nation, NMCUES was designed to permit health policy analysts to investigate a broad range of issues concerning the financing and delivery of health services in the United States.

NMCUES data reflect health care experiences of the civilian noninstitutionalized population during 1980. NMCUES is the seventh in a series of national health care utilization and expenditure surveys that have been conducted from time to time since 1953. The most recent survey prior to NMCUES, the National Medical Care Expenditure Survey (NMCES), was conducted in 1977. NMCUES questionnaire design

and field work procedures evolved from this 1977 national survey, experiences with other national health care utilization and expenditure surveys, and National Center for Health Statistics experiences with the National Health Interview Surveys that they have conducted during the past 25 years. NMCUES differs from previous national health care surveys in that it more directly focuses on the health-related characteristics of Medicare and Medicaid beneficiaries.

NMCUES provides more adequate information on Medicare and Medicaid beneficiaries than ever before possible because it combines field survey information with data collected from Medicare and Medicaid central office program administrative files. Surveys add information collected directly from respondents to existing administrative data systems by providing detailed statistics on beneficiary characteristics and out-of-pocket expenditures that are not available from administrative data systems. This dual aspect of NMCUES is also important to an improved understanding of Medicaid program eligibility issues and reimbursements because in surveys where program coverage and expenditure information is elicited directly from respondents these aspects of the program are subject to reporting error. NMCUES is a particularly important source of Medicaid statistics because existing national level Medicaid statistics are collected in aggregate form and consequently do not allow for detailed analysis of utilization and expenditures at the person level.

NMCUES data were obtained from three survey components:

- A randomly selected national household sample (HHS) of the civilian noninstitutionalized population.
- Randomly selected State Medicaid household samples (SMHS) of the civilian noninstitutionalized Medicaid population in four States: California, Michigan, Texas, and New York.
- A Medicare and Medicaid administrative records survey (ARS) linked to HHS and SMHS Medicare and Medicaid respondents.

Approximately 17,900 people representing 6,000 households were included in the HHS component. The four State SMHS samples included approximately 13,700 people representing at least 1,000 Medicaid noninstitutionalized cases in each State. Similar field procedures were used for the HHS and SMHS components. Generally, a single family member supplied the needed information for all members of the household. A series of five interviews, spaced approximately 3 months apart, was conducted with each household to obtain basic sociodemographic, utilization, expenditure, and morbidity data for calendar year 1980. NMCUES also gathered information to support the investigation of special topics such as health care access, health status, out-of-pocket expenditures, diagnoses and surgical procedures, income and employment, and health insurance coverage.

For the ARS component, additional data were abstracted from the Health Care Financing Administration (HCFA) central office and State level administrative records for people who reported Medicare or Medicaid coverage in the household interview. ARS information verified Medicare and Medicaid program eligibility for survey respondents and augmented data collected in the survey for Medicare and Medicaid program beneficiaries.

Three NMCUES data bases are being prepared. The first data base used in this summary presents the first 6 months of calendar year 1980. The 6-month data base was designed to support the development of data-base construction techniques, the creation of survey data analysis procedures, and the distribution of early NMCUES results. The second data base, completed in 1982, contains full calendar year 1980 data. Medicare and Medicaid eligibility are verified and Medicaid enrollee expenditures are imputed in the national HHS sample. A public use version of this data base is expected sometime during 1983. The third data base will merge administrative records information with field survey information for SMHS respondents and it will also be available in 1983.

The Health Care Financing Administration and the National Center for Health Statistics co-sponsored the survey. Data collection was performed by the Research Triangle Institute and its subcontractors, the National Opinion Research Center and Systemetrics, Inc., under Contract No. 233-79-2032.

Study Methodology and Study Areas

Both the HHS and SMHS components contain information on Medicaid enrollees. HHS data can be used to make generalizations to the U.S. noninstitutionalized Medicaid population. SMHS data can be used primarily to compare and contrast Medicaid enrollee characteristics and their utilization across the four SMHS States.

For this summary, utilization rates are compared across various sub-population groups. Utilization rates are person-based and expressed in rates per 1,000 persons (typically Medicare or Medicaid program enrollees). Although the study addresses a variety of utilization measures for inpatient care, ambulatory doctor care, and other health care services, the utilization measures "days of care per 1,000 persons" and "total doctor visits per 1,000 persons" are emphasized in this summary. Days of care reflects overall use of short-stay inpatient facilities, while total doctor visits reflects visits to a medical doctor or doctor of osteopathy, regardless of type of physician, place of visit outside of a hospital, or whether or not a doctor was seen.

For NMCUES, population groups were defined by membership in a given health insurance coverage category, poverty level interval, Medicaid eligibility, and/or sociodemographic group. Health insurance coverage groups used were: Medicaid, Medicare,

Medicare-Medicaid crossover, other covered, and not covered. The poverty level groups were poor, near poor, and nonpoor. The NMCUES Medicaid eligibility groups used were Aid to Families with Dependent Children (AFDC); Aged; Blind and Disabled; and State Only. Sociodemographic variables (and health status measures) used were age, sex, race, ethnicity, education, income, residence, marital status, perceived health status, and activity limitation. Slightly different comparison groups were defined for the HHS and SMHS populations.

Administrative program statistics were used to describe the SMHS State Medicaid programs and Medicaid program recipients in the context of the total national Medicaid program. Central office administrative records provided useful comparative data because they included both institutionalized and noninstitutionalized Medicaid individuals. NMCUES data represent only the latter category of Medicaid enrollees.

In Fiscal Year 1980, 54 percent of total U.S. Medicaid program expenditures were for noninstitutionalized services. The HHS component data, because they exclude the institutionalized population, therefore represent a little more than half of total Medicaid program expenditures. The four SMHS States surveyed (California, Michigan, New York, and Texas) represented 42 percent of total national Medicaid expenditures for services outside long-term care institutions and 34 percent of the Nation's Medicaid recipients in 1980. Although SMHS State data are reflective of a large share of the Nation's Medicaid expenditures, inferences from SMHS State data to other States are limited.

In 1980, New York, California, and Michigan had relatively liberal Medicaid programs. Texas had the lowest State welfare income eligibility levels of all States and the most restrictive Medicaid program of the four SMHS States. To some extent, then, comparisons across the SMHS States can indicate differences between restrictive and nonrestrictive Medicaid programs.

Five separate study areas are examined:

- HHS and SMHS descriptive statistics such as health insurance coverage, Medicaid eligibility group, and enrollee characteristics.
- Distribution of poverty and Medicaid coverage.
- Analysis of HHS and SMHS utilization data by health insurance coverage and Medicaid eligibility group.
- Analysis of SMHS enrollee utilization by enrollee characteristics.
- Distribution of medical care utilization in the Medicaid Program with an analysis of high user Medicaid enrollees.

The summary concludes with a discussion of the limitations of the data and implications of the findings.

Report Methods and Findings

HHS and SMHS Descriptive Statistics

Data are presented relating the number of persons covered by the Medicaid program to the number covered by other forms of health insurance. The estimate of the proportion of the HHS noninstitutionalized population covered by the Medicaid program is low because when these estimates were developed Medicaid eligibility had not yet been verified with ARS data or imputed from other survey data (e.g., receipt of AFDC welfare payments would indicate Medicaid coverage). Moreover, for full calendar year 1980 data, additional individuals will have reported Medicaid program coverage over the course of the year. Medicaid eligibility group patterns and age and sex characteristics developed from the NMCUES data are quite similar to those available from central office data. Because data on race, ethnicity, education, marital status, family income, perceived health status, and activity limitations are not available from HCFA central office records, NMCUES estimates for the distribution of these characteristics across SMHS Medicaid enrollees represent new information for the 1980 calendar year.

NMCUES respondents (HHS) who reported Medicaid coverage represented 7.1 percent of the U.S. HHS population—6.0 percent reported Medicaid coverage without Medicare coverage and 1.1 percent reported both Medicaid and Medicare coverage. The number reporting Medicaid coverage during the full year, which will be available in later reports, will undoubtedly be higher than that.

SMHS enrollees were distributed over the Medicaid eligibility groups as follows: Aged (12.8 percent), Blind and Disabled (17.4 percent), AFDC (60.3 percent), and State Only (9.5 percent); Texas has no State Only program. Relative to the four SMHS States, Michigan had proportionately more AFDC enrollees (81.1 percent) and Texas had proportionately more Aged enrollees (28.8 percent).

States with more restrictive programs, such as Texas, often have a higher proportion of Aged enrollees. Texas Medicaid eligibles had fewer years of education and lower incomes than the Medicaid eligibles of the other three SMHS States. Analysis of SMHS Medicaid enrollee sociodemographic characteristics suggests that the Medicaid program focuses on the poverty population, as intended, and that more restrictive programs, such as that of Texas, are able to tightly control program eligibility through lower payment standards and by not including the medically needy in the Medicare program.

Distribution of Poverty and Medicaid Coverage

Because Medicaid is a combined Federal and State responsibility, each Medicaid jurisdiction has substantial flexibility in determining how many persons are enrolled in the Medicaid program. The result of such discretion is that individuals with the same financial resources are not necessarily covered equally across States. Some of these variations are explained in the data that follow.

HHS Medicaid enrollees were categorized into the poverty levels of poor, near poor, and nonpoor, following Census Bureau protocols. The income and poverty measures provided in this summary were intended to include transfer payments as well as earned income. As with most other measures of poverty, no attempt was made to adjust for price differences across geographic areas.

The proportion of poor people covered by the Medicaid program was estimated to be 31.5 percent for the 6-month data. This estimate was based on one income figure for the family, which was intended to cover all sources of income including public assistance, and a recording of Medicaid enrollment during the first interview only.

For the 12-month data, preliminary estimates of Medicaid enrollment among the poor ranged from 41 percent to 46 percent. These later figures include responses to Medicaid coverage for each of the interview periods, imputation of Medicaid enrollment where needed, and more detailed reporting of income. In future reports, these figures will be verified.

Considerable variation existed in incidence of poverty and extent of Medicaid coverage across the country. In the SMHS States, the Aged group had the lowest percentage of Medicaid enrollees that were poor and the AFDC group had the highest percentage. Of the HHS Medicaid enrollees, about 61 percent were estimated to be poor and 23 percent were estimated to be near poor for a total of 84 percent for the 6-month data. However, the 12-month estimates show about 49 percent of the HHS Medicaid enrollees to be poor and about 19 percent to be near poor for a total of 68 percent.

These findings indicate that the Medicaid program does indeed focus on poor and near poor individuals. Nonpoor Medicaid enrollees are probably those who either "spend down" into the Medicaid program because large medical expenditures occur relative to their incomes or those who have been enrolled in Medicaid for part of the year and have had enough income during the remainder of the year to elevate their annual income above the poverty level. At the regional level, the South contained the highest proportion of poor people. It was also the region with the smallest proportion of poor people covered by Medicaid.

National aggregate Medicaid statistics indicate that AFDC enrollees are decreasing as a proportion of total Medicaid enrollees over time.¹ Because AFDC enrollees are relatively poor compared with Aged enrollees, the Medicaid program will eventually cover proportionately fewer poor people as representation of Aged enrollees increases over time. Considering increasingly tight resource constraints and the relatively low proportion of the poor now covered by the Medicaid program, eligibility criteria will undoubtedly be controversial in future years.

HHS and SMHS Utilization Data

The comparison of utilization rates (e.g., total doctor visits per 1,000 Medicaid enrollees and days of care per 1,000 Medicaid enrollees) across various populations is a central focus of the 6-month data. Comparison of utilization rates across health insurance categories from both the HHS and SMHS components indicates the degree to which Medicaid enrollees are relatively high users of medical resources.

For utilization comparisons, the following health insurance coverage groups are used: Medicaid (not Medicare), Medicare (not Medicaid), Medicare/Medicaid crossovers, and the U.S. nonbeneficiary population (e.g., omitting all persons with either Medicare or Medicaid including crossovers). Comparing Medicaid or Medicare with the nonbeneficiary population provides an indication of the relative use of the other health insurance coverage groups to some known base. The U.S. nonbeneficiary population is a decidedly low-use group relative to Medicare and Medicaid beneficiaries, because it is predominantly under 65 years of age and not disabled. Thus, comparisons using this group as a base are influenced by large differences in age and health status. However, from a planning perspective, such comparison is useful because it indicates the relative levels of health care required by the older and/or sicker Medicare and Medicaid beneficiaries to those required by the majority of community residents who are not covered by Medicare or Medicaid.

Analysis of Medicaid enrollee utilization across the four SMHS States indicates how enrollees differ in their use of health care. It is clear that the mix of health care services used varies dramatically across the SMHS States. The data highlight the extent to which such State variation in use results from differences in eligibility group composition and to differences in enrollee characteristics—age, race, sex, ethnicity (Hispanic origin), income, education, residence

¹Muse, D.: National annual Medicaid statistics, FY 1973 through 1979. *Program Statistics*. HCFA Pub. No. 03133. Office of Research and Demonstration, Health Care Financing Administration. Washington, U.S. Government Printing Office, Aug. 1982.

(SMSA or Non-SMSA), and perceived health status. Regression methods were used to standardize SMHS utilization for each NMCUES Medicaid eligibility group for these enrollee characteristics.

Analysis of HHS health care utilization data by health insurance category indicates that Medicaid enrollees were heavy users of health care services. Nationally, the Medicaid population reported 64 percent more total doctor visits per 1,000 persons than the U.S. nonbeneficiary population (omitting all Medicare or Medicaid enrollees). However, when the Medicaid population exclusive of Medicare/Medicaid crossovers was compared with the U.S. nonbeneficiary population, the Medicaid population reported only 38 percent more total doctor visits per 1,000 persons and 56 percent more hospital days per 1,000 persons. This is not entirely unexpected, because the HHS Medicare/Medicaid crossovers, representing about 15 percent of Medicaid enrollees, are primarily aged and disabled individuals who tend to be very high users of health care.

The HHS Medicare/Medicaid crossover population reported 178 percent more total doctor visits per 1,000 persons and 563 percent more hospital days per 1,000 persons than the U.S. nonbeneficiary population. In contrast, the crossover group used 65 percent more days of care and 57 percent more total doctor visits per 1,000 persons than the Medicare (not Medicaid) population. Medicaid enrollees were relatively high users of clinic, outpatient, and emergency room facilities, compared with the U.S. nonbeneficiary population.

Analysis of SMHS Medicaid enrollee utilization by State and by Medicaid eligibility group reveals that great variation in service mixes and utilization levels existed among the four SMHS States. This is expected as SMHS States represent different regions of the country and different approaches to Medicaid program coverage. Preliminary analysis indicates that the differences in enrollee eligibility group mix (e.g., Michigan's relatively high proportion of AFDC versus Texas' relatively high proportion of Aged) accounted for much of the observed difference in overall utilization rates among the SMHS States. An important finding is that adjustments for enrollee sociodemographic characteristics did not account for much of the remaining difference in utilization within the eligibility group across the SMHS States.

Analysis of eligibility group utilization indicates that the Aged and the Blind and Disabled were the highest users of inpatient hospital care. State Only enrollees were relatively moderate users of both ambulatory and inpatient care. AFDC enrollees were the lowest users of health care. Analysis of NMCUES eligibility groups among the SMHS States indicates that no one State or no one eligibility group always represented the highest or lowest rate of medical care utilization for a given utilization measure.

An analysis of SMHS utilization data adjusted across SMHS State and eligibility groups indicates that although Michigan was the overall lowest use State for total doctor visits per 1,000 enrollees, it was next to the lowest use State for each individual eligibility group (AFDC, Aged, Blind and Disabled, and State Only). Concerning days of care per 1,000, Michigan Aged and AFDC eligibility groups were the highest users of days of care per 1,000 persons. The reason Michigan could be lowest overall for a given utilization measure, yet have relatively high use within eligibility group, is that Michigan was heavily represented by the AFDC population which is a very low-use population.

California Medicaid recipients were moderate users of both total doctor visits and days of care, except for the California Aged whose use of total doctor visits was the highest among the SMHS States. California AFDC had a days-of-care rate that was the lowest among the SMHS States.

New York enrollees were relatively high users of total doctor visits per 1,000 enrollees (particularly outpatient department and emergency room services) and relatively low users of days of care per 1,000 persons. This may reflect a substitution of ambulatory doctor care for hospital days of care on the part of New York Medicaid enrollees.

Overall, Texas exhibited essentially the opposite pattern from New York with relatively high days-of-care rates (especially for the Blind and Disabled) and relatively low total doctor visits. However, Texas Aged was a relatively low hospital use group. Texas Aged, Blind and Disabled, and AFDC enrollees exhibited the lowest ambulatory care use within eligibility groups of the four SMHS States.

The SMHS utilization analyses strongly indicate that SMHS States make it possible for Medicaid enrollees to obtain treatment, but that their approaches to the selection of who should be treated and how services should be provided are quite varied. The differences in State policy were reflected by eligibility group mix and utilization within eligibility groups that were markedly different.

SMHS Enrollee Utilization

Analysis of SMHS utilization by enrollee characteristics was conducted on data aggregated across the four SMHS States. Univariate analyses are presented which cross tabulate utilization variables with age, sex, race, ethnicity, education, family income, poverty level interval, marital status, perceived health status, and activity limitation. The standardization procedure used in the cross-State SMHS utilization analyses indicates that differences in sociodemographic and health status among the States do not explain a great deal of the variation in Medicaid recipient health care use. Age, race, sex, and perceived health status appear to be the most influential variables. An expanded

analysis of the race and ethnicity variables within the Medicaid eligibility group indicated that, after adjusting for other sociodemographic variables, nonminority populations (white or non-Hispanic people) had a slightly higher utilization of days of hospital care than minority populations (black or Hispanic people). Further, white AFDC enrollees in Texas used 96 percent more hospital care than black AFDC enrollees.

Similar analyses of total doctor visits per 1,000 enrollees also showed that the nonminority populations reported more utilization than the minority populations did. In California, the non-Hispanic Aged, Blind and Disabled, and State Only eligibility groups used between 30 percent and 80 percent more ambulatory care than Hispanics did in corresponding categories. Conversely, white State Only enrollees used 27 percent less ambulatory care than black State Only enrollees in California. In Michigan, white Aged, AFDC, and State Only eligibility groups used 34 percent, 49 percent and 230 percent more ambulatory care, respectively, than comparable black groups. Texas white and non-Hispanic AFDC and Aged enrollee groups used more ambulatory care (between 30 and 100 percent) than their black, other racial group, and Hispanic counterparts. Texas was the State with the highest number of cases where minority health care utilization was exceeded by that of corresponding nonminority groups.

High User Medicaid Enrollees

Prior studies have shown that health care utilization is not randomly distributed across the population, but rather is heavily used by relatively few individuals. Average measures of use, such as the utilization rates previously discussed, do not describe the distribution of health care use. Analysis of Medicaid enrollee utilization data indicates that this is especially true of the Medicaid population's use of hospital care.

An estimated 4.9 percent of U.S. Medicaid enrollees in 1980 used 80.6 percent of the total volume of Medicaid hospital days of care and also used 12.8 percent of total doctor visits. In contrast, 88.3 percent of Medicaid enrollees used no hospital days of care. Of those Medicaid enrollees who used at least 1 day of care (i.e., recipients), 5.1 percent used 29.7 percent of the total volume of days of care.

Of total Medicaid enrollees, 5.3 percent used 29.5 percent of the total volume of doctor visits in addition to 22.3 percent of the reported total volume of Medicaid hospital days of care. Only 34.1 percent of Medicaid enrollees reported no doctor visits. Of those Medicaid enrollees who reported at least one doctor visit, 5.5 percent used 22.9 percent of total doctor visits.

Limitations and Implications

The analysis and findings presented are limited to respondent reports on utilization of health care services for the first 6 months of 1980. Future reports will address the full calendar year 1980 data, and will therefore present utilization patterns that are free from bias resulting from seasonal variation in health care use. They will also include more detailed information on program coverage, health care expenditures, and other topics such as out-of-pocket coverage, health care access, diagnoses and surgical procedures, alternative measures of health status, and income and employment.

Aside from the possible influence of seasonal variation, the Medicaid enrollee health care utilization rates presented in this summary are subject to one other important source of bias related to the measurement of program coverage. SMHS samples were drawn from November 1979 Medicaid State enrollment files. SMHS respondents were "flagged" as Medicaid enrollees for the entire 6-month period if they were Medicaid eligible as of that time. Undoubtedly, some of these Medicaid enrollees were disenrolled from the program at some point within the study period. As a consequence, the Medicaid utilization rates presented may be altered to some degree by the inclusion of utilization by persons not covered when service use was reported. Future reports will construct utilization rates that account for this potential bias using the "person year" equivalent method of rate construction. This method attributes utilization to Medicaid enrollee groups only for those periods when program coverage is verified.

The construction of comparison groups will also be improved in future reports in that Medicare and Medicaid program coverage will be verified for each round of the survey. Such verification will also permit the construction of program turnover rates, the degree to which people move on and off publicly financed health care programs.

The stratification of Medicaid enrollee samples into four eligibility groups—AFDC, Aged, Blind and Disabled, and State Only—is also an obvious simplification. Additional subgroupings could not be considered because of sample size constraints. However, the differences in use rates per 1,000 enrollees across the four eligibility groups does suggest that the eligibility groups selected contain very different types of enrollees. Future work will refine current eligibility group definitions by distinguishing between enrollees who receive cash assistance and those who do not.

Perhaps the single greatest limitation of NMCUES data is that it does not include enrollees residing in institutions. While institutionalized persons represent

only 6 percent of the Medicaid recipient population, a disproportionate 46 percent of total Medicaid reimbursements are for institutionalized individuals. However, noninstitutionalized individuals represent about 94 percent of Medicaid recipients, so the NMCUES data relate to the vast majority of persons covered by the Medicaid program.

This summary provides a preliminary examination of the 1980 NMCUES Medicaid data. Although estimates of Medicaid utilization rates will be improved in future reports and other study areas will be explored, the findings to date indicate the following:

- NMCUES data correspond rather well with central office data in those instances where the data sets are comparable.
- The degree to which the poverty population is covered by Medicaid.
- Which types of Medicaid enrollees are relatively high users of Medicaid care services.
- The importance of the eligibility group in the analyses of Medicaid utilization.
- The degree to which the use of Medicaid-financed services is skewed toward relatively few users.