

# Utilization and expenditures under Medicaid for Supplemental Security Income disabled

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*Recently available data on major disabling conditions of the Supplemental Security Income disabled are used to examine 1984 patterns of Medicaid expenditures in California, Georgia, Michigan, and Tennessee. Results indicate that 37-58 percent of these expenditures are for enrollees whose major disabling condition involves mental retardation or other mental disorders. This pattern occurs because*

*a high proportion of disabled enrollees have these conditions, rather than high expenses per enrollee. Annual Medicaid expenditures per enrollee were highest for the disabled with neoplasms, blood disorders, and genitourinary conditions. Expenditures per enrollee were higher for younger enrollees and lower for those dually enrolled in Medicare.*

## Introduction

The cost of providing medical care services to disabled enrollees has been a major factor underlying increases in Medicaid expenditures for the last several years. Costs per enrollee have increased much faster for this group than for other enrollee groups. Medicaid expenditures for the disabled totaled almost \$17 billion nationwide in 1987, up from only \$3 billion in 1975. During this same period, the number of disabled recipients increased by 37 percent, from 2.4 to 3.3 million; while the total Medicaid recipient population increased by only 6 percent. Further, the real average annual expenditure per disabled recipient increased at an annual compound growth rate of about 4 percent, and average Medicaid expenditures per recipient under Aid to Families with Dependent Children (AFDC) actually declined slightly during this period.

State and Federal policymakers need to better understand the Medicaid disabled population and the role it plays in overall program expenses. An analysis of a major portion of the disabled on Medicaid—those receiving cash assistance through the Supplemental Security Income (SSI) program—is provided here. Key questions for this study included:

- What disabling conditions cause the disabled to qualify for SSI cash assistance and Medicaid?
- Is there a relationship between the type of disabling condition and the level of Medicaid expenditure per disabled enrollee?
- How do Medicare coverage and age relate to the level of Medicaid expenditure per disabled enrollee?

In this study, sponsored by the Office of Research, Health Care Financing Administration (HCFA), State Medicaid data from four States were analyzed so that detailed enrollment, utilization, and cost information on the disabled could be developed. The study population was limited to the SSI disabled and blind who receive cash SSI assistance in four States:

California, Georgia, Michigan, and Tennessee. They are hereafter referred to as the SSI disabled.

Although the SSI disabled accounted for about 79 percent of disabled Medicaid recipients nationwide in 1987, only 61 percent of total Medicaid expenditures for the disabled, or \$10.3 billion, was attributable to them. The balance of Medicaid expenditures for the disabled went to recipients who do not receive SSI cash assistance. The latter group includes the disabled who qualify through State medically needy provisions and those who are eligible for cash assistance but not receiving it (most often because they were institutionalized). However, as shown in study data, States vary considerably with regard to the proportion of disabled recipients and Medicaid expenditures attributable to the SSI disabled group.

## Study methodology

Linked data from both the Medicaid and SSI programs were used in this study. The Medicaid data base, referred to as "Tape-to-Tape," is a multi-State Medicaid data base developed by the Office of Research and Demonstrations at HCFA. The second data base, derived from the Characteristics Extract Record, is a 10-percent sample from the national data base on SSI recipients and applicants maintained by the Social Security Administration.

## Tape-to-Tape

Historically, detailed State Medicaid data have been available only through State Medicaid Management Information Systems (MMIS). As a consequence, the Federal Government often did not have access to Medicaid data for policy research, particularly access to comparable data across States. To improve the availability of data, HCFA supported a project to convert raw MMIS files from selected States into files readily accessible for research and analysis. This project, commonly called "Tape-to-Tape," began with 1980 data and will eventually include data through 1988.

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The Tape-to-Tape data base includes every Medicaid enrollee and every claim processed on each of the selected State's MMIS since 1980. Through 1984, the data base contained more than 600 million records of Medicaid claims in four States: California, Georgia, Michigan, and Tennessee. The data have been subjected to extensive editing, code mapping, and reformatting to produce uniform, person-based records across the States. The data used for the present study are 1984 data—the most recent available at the time of this study—for California, Georgia, Michigan, and Tennessee.

The format of the Tape-to-Tape data base allows for the use of person-based records. An important aspect of this is the ability to use the person-year method of counting enrollment. With this method, lengths of enrollment for all enrollees include only the portion of the study year that they were actually enrolled. Thus, a person who was enrolled for 6 months contributes 0.5 person-years to the pool of total enrollment. Utilization and expenditure rates are presented on this basis of measuring person-years of enrollment. Expenditures can therefore be compared across subgroups of the study population, controlling for differences in lengths of enrollment.

### Characteristics Extract Record

The Characteristics Extract Record (CER) is a 10-percent research file from the Supplemental Security Record (SSR)—the national master file for all aged, blind, and disabled SSI applicants and recipients maintained by the Social Security Administration (SSA). The sample for the CER is drawn periodically by SSA's Office of Research and Statistics. The national sample is randomly drawn using certain digits from individual social security numbers. The data used for this study are from SSR records for June 1986.

The full set of data in the CER contains numerous demographic, socioeconomic, and program-related variables. Most of these data are used in the SSI eligibility and benefit determination process. CER data on the SSI disabled used in this study include eligibility status for social security disability benefits and date of death.

CER data on the major disabling condition for each SSI recipient were also used in the study. For persons with multiple disabilities, the most significant disabling condition is reported. The disease categories used in coding the type of disability are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)* (Public Health Service and Health Care Financing Administration, 1980). SSA only started to retain these data on disabling conditions in 1982; therefore, they are only available for approximately one-half of the nationwide 10-percent sample.

### Study populations and samples

The 1984 Tape-to-Tape files include enrollment records for the entire population of SSI disabled in each of the four study States, as shown in Table 1.

The Tape-to-Tape files were matched with the CER sample files for the four study States using the individual's social security number, date of birth, and sex. A total of 65,317 SSI disabled enrollees, or 9.4 percent, were matched between the Tape-to-Tape files and the CER data set. The matched samples were distributed by study State, as shown in Table 2.

It was expected that the matched files would fall somewhat short of 10 percent, because the CER files contain data on unsuccessful SSI applicants as well as recipients. It should also be noted that the two files cover different time periods. The Tape-to-Tape files cover calendar year 1984, and the only available CER data were for June 1986. However, because there is relatively low turnover among the SSI disabled, most of the 1984 disabled continued to be eligible for SSI in 1986. A major exception was for those enrollees who died between these two time periods. Because the CER retains records for decedents for some time, this subgroup was in the data. Therefore, the data as applicable to the 1984 sample were derived from the 1986 CER file. Data used from the CER were

**Table 1**  
Number of Supplemental Security Income Medicaid disabled enrollees: California, Georgia, Michigan, and Tennessee, 1984

Study State	Enrollees
Total	694,633
California	416,637
Georgia	102,986
Michigan	86,633
Tennessee	88,377

SOURCE: Health Care Financing Administration, Office of Research and Demonstrations: Data from the Tape-to-Tape project.

**Table 2**  
Number and percent of enrollees in Tape-to-Tape file matched to enrollees in Characteristics Extract Record file: California, Georgia, Michigan, and Tennessee, 1984

State	Enrollees on matched Tape-to-Tape and CER files	Percent matched enrollees
Total	65,317	9.4
California	39,239	9.4
Georgia	9,713	9.4
Michigan	8,065	9.3
Tennessee	8,300	9.4

NOTE: CER is Characteristics Extract Record.

SOURCE: Health Care Financing Administration, Office of Research and Demonstrations: Data from the Tape-to-Tape project; Social Security Administration, Office of Research and Statistics: Data from the Characteristics Extract Record file.

variables not likely to have changed between 1984 and 1986, i.e., major disabling condition and social security status.

As noted, data on major disabling conditions were available for approximately one-half of the CER sample in each of the study States. The actual numbers in the matched State samples are given in Table 3.

**Table 3**

**Number and percent of matched enrollees with data on major disabling condition: California, Georgia, Michigan, and Tennessee, 1984**

State	Number of enrollees	Percent of matched sample
Total	30,087	46.1
California	17,506	44.6
Georgia	5,001	51.5
Michigan	3,499	43.4
Tennessee	4,081	49.2

SOURCE: Social Security Administration, Office of Research and Statistics: Data from Characteristics Extract Record file.

The size of the overall CER samples in each State as well as the smaller samples with information on disabling condition are more than adequate for analysis. When mean expenditures for the samples were compared with those derived from population data for the SSI disabled in each State, the means differed from less than 1 percent to no more than 9 percent. Nonetheless, population data are used where possible. Instances where sample data were unreliable (cell sizes less than 30) are noted within the tables and text.

### Study limitations

There are some limitations to the study data sets that should be noted. The Tape-to-Tape data set is not entirely reliable in identifying dual enrollees—those disabled who are enrolled in both Medicare and Medicaid. Dual enrollees were identified only if they had a service claim dually processed by Medicare and Medicaid. Study data refer to this subset of dual enrollees as Medicare crossovers. It is important to note that the Medicare crossover population used in the study excludes two subgroups of dual enrollees:

- Those who had claims processed under only one program (either Medicaid or Medicare) during the study year.
- Those who received no services during the year paid for by either Medicaid or Medicare.

However, these two excluded groups are believed to be very small. Analysis of the total Tape-to-Tape file suggests that about 85 percent of the disabled eligible for both Medicaid and Medicare are identified in the crossover data.

Specific State limitations also exist. In Michigan, the data identifying Medicare crossovers did not appear to be complete; therefore, all crossover analyses omit this State. In Tennessee, hospital

inpatient and outpatient claims for crossovers could not be separated. As a result, Tennessee data are not presented separately for inpatient hospital and physician or ambulatory services. However, total Medicaid expenditure data are available for Tennessee and comparable to the other study States.

For all States, the analysis takes advantage, where possible, of population data for the SSI disabled. That is, some measures, e.g., overall expenditures by age, can be drawn from the Tape-to-Tape data base alone. Hence, the entire population of SSI disabled enrollees is used. On the other hand, if variables from the CER data file are used, e.g., the type of disabling condition, the analysis draws on the sample of linked enrollees in each study State.

### Eligibility requirements

Before proceeding to the study data, it is helpful to review some background information on SSI and Medicaid for the disabled. Two major steps are involved in meeting the eligibility requirements for SSI and Medicaid disability coverage. First, an applicant must satisfy the disability criteria established by the Social Security Administration. Second, an applicant must satisfy the financial requirements of SSI program eligibility.

Both the SSI program and the Social Security Disability Insurance (SSDI) program use the same definition of disability. According to statute, disabled is defined as “unable to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment expected to result in death or that has lasted or can be expected to last for a continuous period of at least 12 months.” SSA contracts with a disability determination unit in each State (usually a part of the State’s vocational rehabilitation program) to make the actual determination of disability for both SSI and Medicaid program applicants. These units use regulations set forth by SSA that prescribe the types of disabilities that qualify and the process for making a disability determination. In addition to medical information, factors that are taken into consideration for disability determination include whether the applicant is working (and how much money is being earned) or whether the applicant appears to have the capacity to work. Consideration is also given to the age of the applicant because age might affect the applicant’s ability to adapt to new work situations or to do work in competition with others.

If a person satisfies the disability requirements, the next step is seeing whether eligibility for SSDI is possible. To receive disability insurance, a person must have worked and paid into the social security trust fund for a specified period of time.

The SSI program is federally administered and has a nationwide minimum benefit level for a person with no other sources of income. Unlike SSDI, there is no work history requirement for the disabled under SSI, only the financial requirements. States also have the option to supplement the SSI Federal benefit level.

Thus, the SSI program covers persons not eligible for SSDI benefits, or, if they are, whose benefits are below the Federal benefit level. Among the study States in 1984, Georgia and Tennessee did not supplement the Federal amount, but California and Michigan did (Table 4).

**Table 4**

**Monthly benefit level, including State supplement, for Supplemental Security Income disabled living independently: California, Georgia, Michigan, and Tennessee, 1984**

State	Monthly benefit level
California	\$477
Georgia	314
Michigan	338
Tennessee	314

SOURCE: (Rigby and Ponce, 1984).

Obviously, California's benefit level was more generous than that of the other three study States. The Federal poverty level in 1984 for one person under 65 years of age was \$450 monthly. Thus, the benefit level in California was above the Federal poverty level; the other three States used an income standard that was considerably less.

In the four study States, persons eligible for SSI cash assistance (including those eligible for only a State supplement) are automatically enrolled in Medicaid. Most State Medicaid programs follow this policy.

The Medicaid disabled span all ages. Beginning with the implementation of the SSI program in 1974, children could qualify for cash assistance and Medicaid if they were substantially disabled and if they (or their families) satisfied certain modified income and resource requirements. As mentioned earlier, adult disability determinations are based largely on whether a person is capable of work. For children, disability assessment generally focuses on the impact of a child's handicap on normal daily activities.

Persons 65 years of age or over may also receive SSI cash assistance for the disabled, although this coverage is less widely known. Disabled SSI recipients 65 years of age or over are persons who were originally eligible for SSI as disabled (prior to reaching age 65) and who continue to be classified as disabled after passing their 65th birthday. Thus, there is not an automatic conversion from the "disabled" group to the "aged" group for the SSI and Medicaid disabled.

One area in which there is often confusion about the SSI (and Medicaid) disabled relates to their eligibility for the Medicare program. Only a subset of the disabled fall into the dual enrollee population of persons simultaneously eligible for both Medicaid and Medicare. The disabled under 65 years of age are only eligible for Medicare if they are also eligible for social security benefits. Further, they have to have received

social security disability benefits for 24 months before they become eligible for Medicare Parts A (hospital insurance) and B (supplementary medical insurance). The only exception to this is that States can buy in for Part B Medicare services for any person 65 years of age or over, regardless of whether that person receives Part A Medicare services or not. Thus, all disabled cash enrollees 65 years of age or over would presumably be enrolled in at least Part B of Medicare, because each study State does buy in for this group.

All SSI disabled enrollees within a State Medicaid program are entitled to the same set of services. States have a mandatory set of Medicaid services, as well as optional services that they can elect to offer. Further, States can set utilization limits on specific services, if they wish. As a result, the services included under any one State's Medicaid program can vary. There were some differences among the study States worth noting. Generally, the programs in Tennessee and Georgia were more limited than the programs in California and Michigan during 1984 (Health Care Financing Administration, 1985). Tennessee, for example, limited the number of inpatient hospital days per enrollee to 14 per year, whereas the other three States imposed no limit. Both Georgia and Tennessee limited the number of outpatient hospital visits that could be reimbursed by Medicaid to 12 and 14 visits per year, respectively. These two States also limited the number of physician office visits during the year (12 for Georgia and 24 for Tennessee). Neither California nor Michigan placed any restrictions on outpatient hospital or physician office visits. Although the restrictions in Georgia and Tennessee would not affect the utilization of the majority of disabled enrollees, average measures of hospital and ambulatory services per enrollee may be affected.

The State Medicaid programs used in this study also varied in 1984 with regard to their coverage of optional groups of the disabled in addition to the SSI group. California and Michigan, for example, included the medically needy disabled in their Medicaid programs, but Georgia and Tennessee did not. However, Georgia and Tennessee both extended Medicaid to the disabled who were institutionalized but not receiving cash assistance, providing they satisfied certain special financial criteria.

## Findings

Because Georgia and Tennessee extended Medicaid eligibility to few optional groups in 1984, the SSI disabled accounted for 97 percent of the overall disabled Medicaid population in these States (Table 5). In contrast, the SSI disabled were 78 percent of the overall disabled enrollees in Michigan and 90 percent in California.

As expected, the SSI disabled accounted for a smaller proportion of expenditures than enrollees, as shown in Table 1. In Michigan, the SSI disabled were responsible for 57 percent of the overall Medicaid expenditures for the disabled, compared with

**Table 5**  
**Supplemental Security Income disabled**  
**Medicaid enrollees as a percent of the overall**  
**enrollment and expenditures for the Medicaid**  
**disabled: California, Georgia, Michigan, and**  
**Tennessee, 1984**

Item	California	Georgia	Michigan	Tennessee
Percent of disabled Medicaid enrollees	90	97	78	97
Percent of overall Medicaid expenditures for the disabled	74	86	57	79
Percent of ICF/MR expenditures for the disabled	63	66	51	59
Percent of other long-term care expenditures for the disabled	65	67	54	64

NOTES: ICF/MR is intermediate care facility for the mentally retarded. All data are based on person-years of enrollment.

SOURCE: Health Care Financing Administration, Office of Research and Demonstrations: Data from the Tape-to-Tape project.

74 percent in California, 79 percent in Tennessee, and 86 percent in Georgia. The main reason the SSI disabled accounted for a smaller share of total expenditures than their proportion of the disabled enrollment is that fewer SSI disabled used long-term care institutional services during the year than the disabled not receiving cash assistance. As a result, the SSI disabled accounted for only 51-66 percent of the overall expenditures for the disabled in intermediate care facilities for the mentally retarded (ICF's/MR), and 54-67 percent of other long-term care expenditures (including intermediate care facility, skilled nursing facility, and inpatient psychiatric hospital services) for the disabled across the study

States. Thus, the SSI disabled had a considerable effect on the overall Medicaid expenditures for the disabled in each State, but the disabled not receiving cash assistance had higher expenditures per enrollee, especially for long-term care services.<sup>1</sup>

Summary data on the SSI disabled in each of the study States are presented in Table 6. These data are drawn from both the population and sample data and provide a brief overview of the characteristics of the SSI disabled and their Medicaid patterns. All in all, there is remarkable similarity in the demographic and Medicaid expenditure patterns across the study States:

- Two-thirds or more of the SSI disabled in each State were working age—from 18 to 64 years; only 5-8 percent were under 18 years of age; and the remainder, from 16 percent to 25 percent, were 65 years of age or over.
- The SSI disabled were predominantly female; this ranged only from 58 percent to 62 percent across the four States.
- Only 5-8 percent of the SSI disabled used long-term institutional care during the year. Long-term care institutional services were defined as including intermediate care facilities (ICF's), skilled nursing facilities (SNF's), intermediate care facilities for the mentally retarded (ICF's/MR), and inpatient psychiatric facilities.
- Less than one-half of the SSI disabled in the four States received social security and thus were potentially eligible for Medicare—this varied from 40-45 percent.

<sup>1</sup>In terms of overall Medicaid program expenditures, the disabled accounted for the following percents: 37 in California, 40 in Georgia, 35 in Michigan, and 38 in Tennessee. The corresponding percents for the SSI disabled are: 28 in California, 34 in Georgia, 20 in Michigan, and 30 in Tennessee.

**Table 6**  
**Selected characteristics of Supplemental Security Income disabled Medicaid enrollees:**  
**California, Georgia, Michigan, and Tennessee, 1984**

Characteristic	California	Georgia	Michigan	Tennessee <sup>1</sup>
Age:			Percent	
0-17 years	5	8	6	8
18-54 years	47	45	57	46
55-64 years	23	24	21	24
65 years or over	25	23	16	22
Percent female enrollees	58	62	58	60
Mean length of enrollment (in months) for study year	11.0	10.9	11.3	11.0
Percent Medicaid recipients	92	89	90	85
Percent long-term care users	6	5	8	5
Percent Medicare crossoverers	41	34	NA	30
Percent social security recipients (CER sample)	45	42	40	40
Total	\$2,527	\$2,427	\$3,272	\$1,991
Inpatient hospital	846	729	770	} 718
Physician/ambulatory	193	133	129	
Long-term care	825	699	1,541	
Other	663	867	832	

<sup>1</sup>Unable to separate inpatient and outpatient claims.

NOTES: CER is Characteristics Extract Record. NA indicates not available. All data are based on person-years of enrollment.

SOURCE: Health Care Financing Administration, Office of Research and Demonstrations: Data from the Tape-to-Tape project.

- A somewhat smaller percent of each State's SSI disabled were identified as Medicare crossovers in Tape-to-Tape data—from 30 percent to 41 percent.
- The SSI disabled cost the Medicaid programs from \$1,191 to \$3,272 per enrollee in 1984 across the four study States.
- Long-term care institutional expenditures accounted for 29 percent to 47 percent of expenditures per SSI disabled enrollee, even though only 5-8 percent of enrollees received such services.

These data are consistent with SSA publications that show the majority of the SSI disabled to be 18-64 years of age. National data show comparable percents of the SSI disabled 65 years of age or over and under 18 years of age. The large concentration of disabled 55-64 years of age should be noted—some 21 percent to 24 percent in each State were in this age group.

The findings that about 60 percent of the SSI disabled were female and only about 40 percent received social security benefits are consistent. Females historically have been less attached to the labor force and, even when working, have often worked part time and/or at lower paying jobs. Thus, a woman is more likely to lack social security coverage. Even if she is eligible for social security, the dollar benefits are more likely to be low enough to qualify her for SSI than for her male counterparts.

The percent of Medicare crossovers among the SSI disabled, as discussed earlier, is related to the percent of individuals receiving social security income. As noted, only a subset of these will be dually enrolled in Medicare because of the 2-year waiting period. It is the subset of these dual enrollees who have had service claims jointly processed by Medicare and Medicaid who are identified as crossovers in the Tape-to-Tape data.

Overall, the disabled were enrolled virtually the full year. This suggests that the disabled, once enrolled in SSI and Medicaid, are unlikely to exit the program. About 90 percent of the disabled in each of the study States were Medicaid recipients during the study year, i.e., they used at least one Medicaid service during 1984. The pattern of Medicaid expenditures was remarkably similar across three of the study States—close to \$2,000 annually per enrollee—despite some differences that exist in their Medicaid programs. However, in Michigan, where the use and costs of long-term care were higher, the per enrollee costs were significantly higher—more than \$3,000 annually for Medicaid.

The greatest variation among States for the SSI disabled involved their annual expenditure per enrollee for long-term care institutional services. This varied from \$599 per enrollee in Georgia to \$1,541 in Michigan. Part of the reason Michigan's long-term care expenses per enrollee were so high is that it had the highest rate of long-term care users among its SSI disabled. In Michigan, close to 8 percent of the SSI disabled used institutional long-term care services during the year, compared with 5-6 percent in the other study States.

Michigan's long-term care expenditures were also higher because Michigan had proportionally more users of ICF/MR care than the other States. About 2.3 percent of Michigan's SSI disabled were users of ICF/MR services during 1984, compared with 1.7 percent for Tennessee, 1.4 percent for Georgia, and 1.2 percent for California. ICF/MR is the most expensive type of institutional care. Further, a day of ICF/MR care was more expensive in Michigan than in other States (Burwell et al., 1987). Average annual expenditures per SSI disabled enrollee attributable to ICF/MR services were: \$388, California; \$370, Georgia; \$917, Michigan; and \$440, Tennessee.

## Disabling conditions

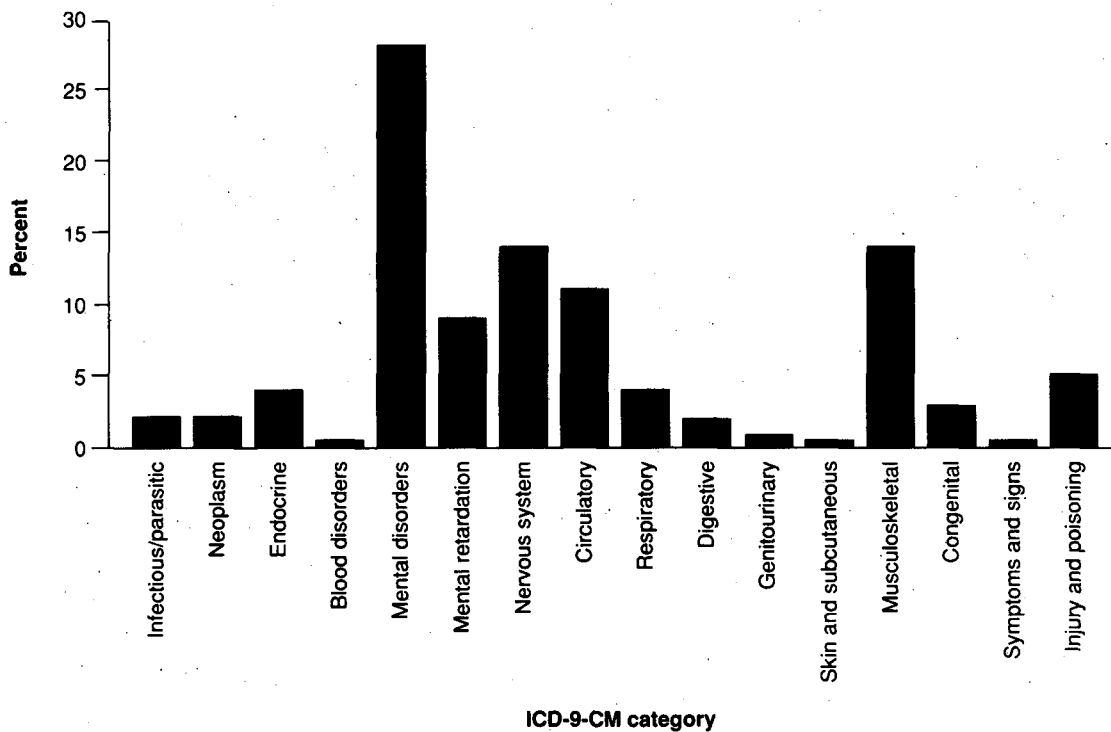
A unique aspect of this study was the ability to examine Medicaid patterns by the major disabling condition of the SSI disabled.

The distribution of SSI disabled by major disease categories, as shown in Figures 1-4, is strikingly similar among the study States. Mental disorders, including psychoses and neuroses but excluding mental retardation, was the leading category of disabling conditions in all four States in 1984. The percent of SSI disabled with mental disorders ranged from 21 percent in Tennessee to 33 percent in Michigan. Georgia was more similar to Tennessee, with 23 percent in this category, and California, with 28 percent, was closer to Michigan's level. The most frequently reported types of mental disorders were schizophrenic disorders, particularly paranoid schizophrenia, and specific delays in development (for example, learning and speech disorders).

Mental retardation was also a leading cause of disability. Here, the pattern was quite different for California vis-a-vis the other three States. In California, only 9 percent of the SSI disabled were reported to have mental retardation as their main disabling condition, compared with 18-20 percent of the SSI disabled in each of the other States. Data do not provide insight to the actual causes of these differences. Potential factors include the underlying incidence of mental retardation, disabling condition reporting practices, and State eligibility criteria. In all States, mild mental retardation was the most frequent form of this disability. Taken together, those with mental impairments, including mental retardation, accounted for 37 percent to 53 percent of the SSI disabled Medicaid enrollees among the study States.

Three other disease categories accounted for a high proportion of the SSI disabled: conditions relating to the nervous, circulatory, and musculoskeletal systems. The incidence of these ranged from 7 percent to 15 percent across all States. Although these three major categories consist of very different specific disabling conditions, the most frequently reported condition within each category was quite similar across the States. In three of the four States, the leading condition among disorders of the nervous system was infantile cerebral palsy. Only in Georgia was hearing loss or deafness slightly more prevalent.

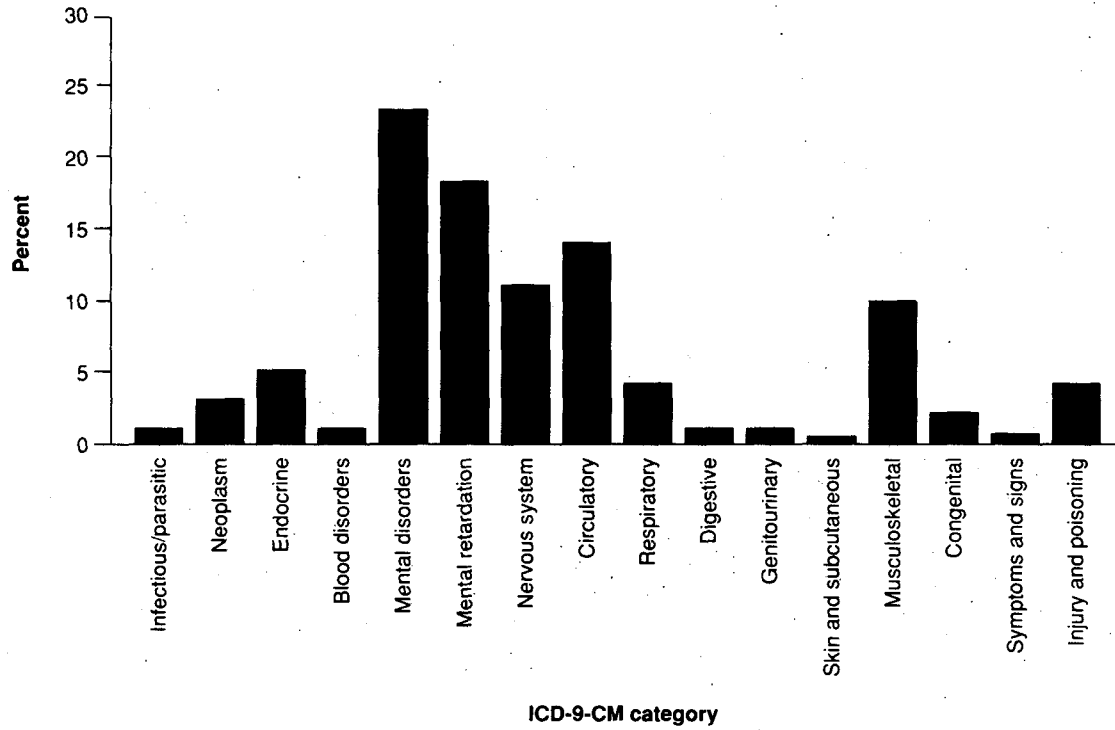
**Figure 1**  
**Percent of total Supplemental Security Income disabled Medicaid enrollees,**  
**by major disabling condition: California, 1984**



NOTES: ICD-9-CM is *International Classification of Diseases, 9th Revision, Clinical Modification*. See Table 4 for complete category titles.

SOURCE: Social Security Administration, Office of Research and Statistics: Data from the Characteristics Extract Record, 1986.

**Figure 2**  
**Percent of total Supplemental Security Income disabled Medicaid enrollees,**  
**by major disabling condition: Georgia, 1984**

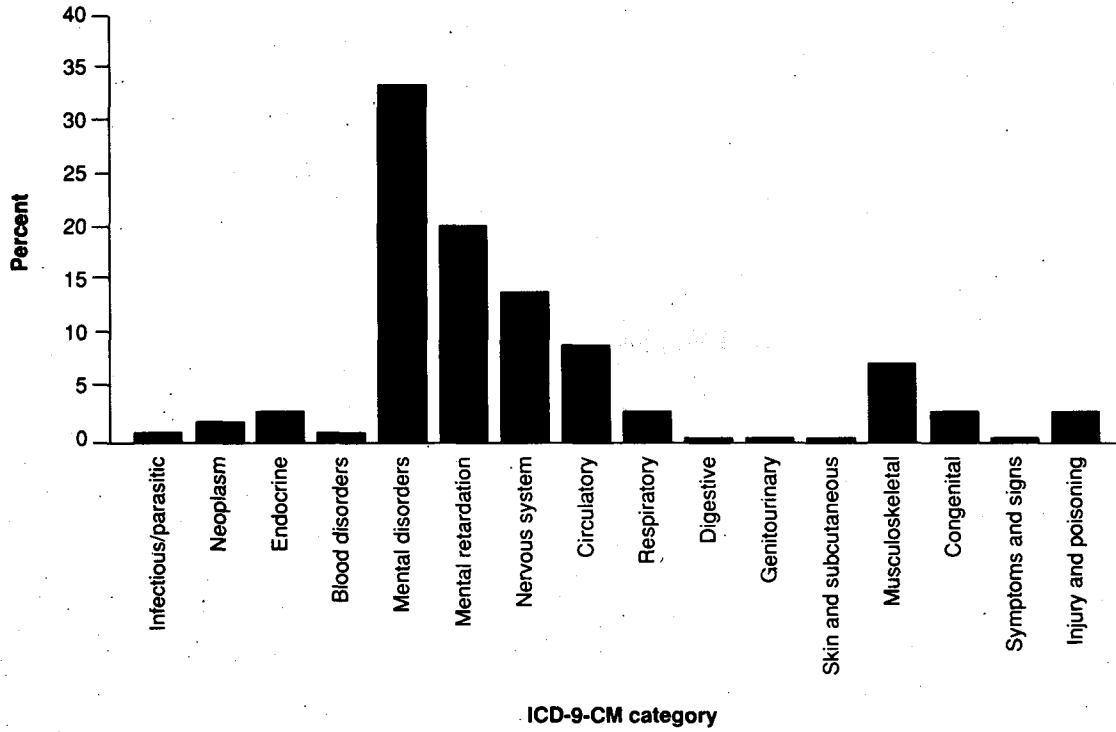


NOTES: ICD-9-CM is *International Classification of Diseases, 9th Revision, Clinical Modification*. See Table 4 for complete category titles.

SOURCE: Social Security Administration, Office of Research and Statistics: Data from the Characteristics Extract Record, 1986.



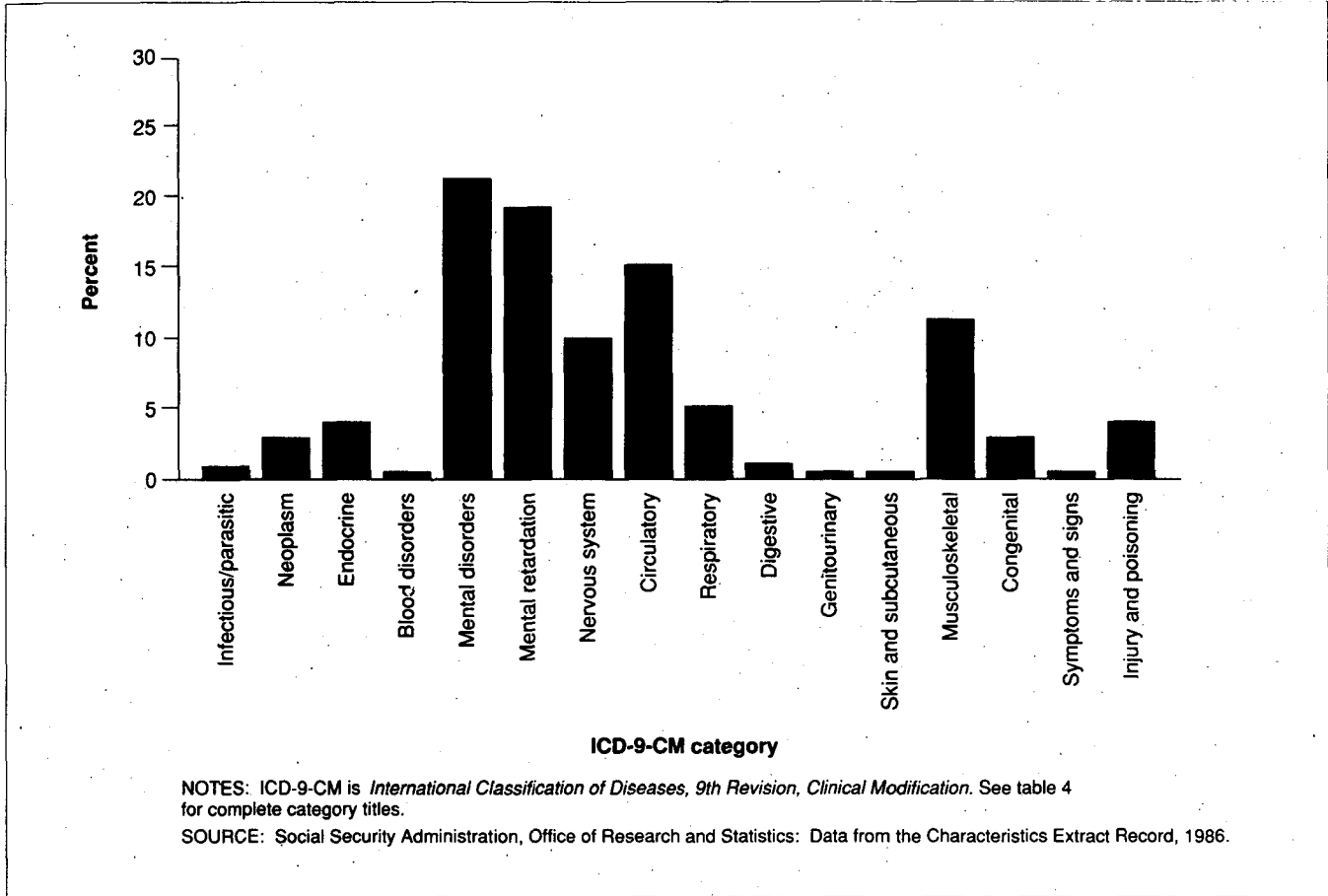
**Figure 3**  
**Percent of total Supplemental Security Income disabled Medicaid enrollees,**  
**by major disabling condition: Michigan, 1984**



NOTES: ICD-9-CM is *International Classification of Diseases, 9th Revision, Clinical Modification*. See Table 4 for complete category titles.

SOURCE: Social Security Administration, Office of Research and Statistics: Data from the Characteristics Extract Record, 1986.

**Figure 4**  
**Percent of total Supplemental Security Income disabled Medicaid enrollees,**  
**by major disabling condition: Tennessee, 1984**



There were similar patterns within the category of circulatory problems. In general, myocardial infarction was the leading condition in each State; however, in Georgia, essential hypertension was more frequently reported. Among the musculoskeletal disorders, either joint diseases due to hormonal disorders or rheumatoid arthritis were the most frequently reported conditions in all States.

### Expenditures by disabling conditions

As shown in Table 7, the most expensive enrollees across all study States were those with disabling conditions in the general categories of neoplasms, blood, and genitourinary disorders. Although cell sizes were small in some States, these categories were the most expensive to Medicaid in all four States. Enrollees whose major disabling condition related to neoplasms, for example, had annual Medicaid expenditures ranging from \$3,539 in Tennessee to \$6,599 in California. These expenditure levels were almost 200 percent higher than the average expenditure per SSI disabled in California and almost 100 percent higher in Tennessee.

Although neoplasms or cancerous conditions were the most expensive in California, blood disorders were the most expensive per enrollee for the Medicaid program in Georgia, with per enrollee expenditures of \$4,638. Although the data must be interpreted with caution, the means for Michigan and Tennessee suggest blood disorders were also the most expensive condition per enrollee for their programs. The

disabled with blood disorders were generally in the youngest age group and had an anemia related to the sickle cell trait.

A remaining category with significantly higher than average expenditures is that of genitourinary conditions. In all States, the leading condition in this category was chronic renal failure. In California, the expenditure per person in this category, \$5,713, was more than two times the average expenditure per disabled enrollee. In Georgia, the dollar expenditures were not quite as great in either absolute or relative terms; sample means for the other two States are reported, but must be used with caution.

High Medicaid expenditures for enrollees with chronic renal failure are somewhat surprising given that Medicare's End Stage Renal Disease (ESRD) program covers the dialysis costs of most disabled with this condition. In 1972, special provisions were enacted extending Medicare coverage to most individuals with chronic renal failure. As a result, about 93 percent of individuals with end stage renal disease qualify for Medicare (Committee on Ways and Means, 1989). The special provisions waive, for example, the 2-year waiting period for Medicare for SSDI beneficiaries. Persons who are spouses or dependent children of social security beneficiaries can also be eligible for Medicare and ESRD coverage if they are medically determined to suffer from end stage renal disease. Nevertheless, some of the SSI disabled with chronic renal failure are not eligible, making the average expense per enrollee for Medicaid very high, in spite of the Medicare ESRD coverage.

Table 7

### Annual Medicaid expenditure per Supplemental Security Income disabled Medicaid enrollee, by major disabling condition (using ICD-9-CM categories): California, Georgia, Michigan, and Tennessee, 1984

ICD-9-CM category	California	Georgia	Michigan	Tennessee
Infectious and parasitic	\$2,488	\$1,630	\$3,419	\$1,507
Neoplasms	6,599	4,323	<sup>1</sup> 5,127	3,539
	(1)	(3)	(3)	(2)
Endocrine, nutritional, metabolic, and immunity	3,367	2,259	3,393	2,351
Blood	6,389	4,638	<sup>1</sup> 12,115	<sup>1</sup> 3,730
	(2)	(1)	(1)	(1)
Mental disorders: Psychoses and neuroses	1,960	2,081	4,107	2,101
Mental retardation	2,977	2,361	2,789	1,507
Nervous system, eye, and ear	2,217	1,615	2,020	1,476
Circulatory	1,737	1,969	3,246	1,542
Respiratory	2,315	2,179	3,670	1,804
Digestive	2,410	2,031	<sup>1</sup> 2,523	1,732
Genitourinary	5,713	4,388	<sup>1</sup> 9,520	<sup>1</sup> 3,138
	(3)	(2)	(2)	(3)
Skin and subcutaneous	972	<sup>1</sup> 1,939	<sup>1</sup> 1,688	1,746
Musculoskeletal	1,136	1,569	2,007	1,241
Congenital	2,545	2,958	1,971	2,572
Symptoms, signs, and ill-defined	2,250	2,111	1,317	<sup>1</sup> 2,317
Injury and poisoning	2,269	3,533	2,083	1,529
		Number of persons		
Population average	2,527	2,427	3,272	1,991

<sup>1</sup>These expenditure data should be interpreted with caution because of small sample size (<30).

NOTES: ICD-9-CM is *International Classification of Diseases, 9th Revision, Clinical Modification*. Numbers in parentheses below expenditure amount indicate three most expensive conditions for each State. All data are based on person-years of enrollment.

SOURCE: Health Care Financing Administration, Office of Research and Demonstrations: Data from the Tape-to-Tape project; Social Security Administration, Office of Research and Statistics: Data from the Characteristics Extract Record file.

Of interest, the disabled who were reported to have mental retardation as their primary disabling condition did not have higher than average expenses in most States. This was particularly surprising because of the high per enrollee expenses and proportion of Medicaid dollars paid for ICF/MR services. However, there are many SSI disabled who are mentally retarded who are not institutionalized and do not have relatively high Medicaid expenditures, thus reducing the expense per mentally retarded enrollee. In each of the study States except California, the mentally retarded had annual Medicaid expenditures below the overall average.

### **Expenditure variation**

The differences in the per enrollee expenditures for the various types of disabling conditions were hypothesized to be due to many factors. The relative use of long-term care, as noted, would be expected to significantly affect expense patterns. In addition, the need for hospitalization, if varying among conditions, would make some relatively more expensive. Study data shown in Table 8 indicate that the conditions that were more expensive per enrollee resulted from higher hospital use in general. For example, the hospital expenditures for those with neoplasms and blood disorders were from four to six times the average hospital expenditure level. On the other hand, the long-term care expenditure levels for these conditions were lower than average.

The use of long-term care was only found to be a major factor in determining the relative expense of serving the disabled with mental retardation. Across all disabling conditions, the category covering the mentally retarded showed the highest average expenditure per enrollee for long-term care (except for Michigan, where the long-term care expenditures for the disabled with mental disorders were slightly higher).

One reason for higher than average hospitalization expenditures is the severity of the illness—for example, those disabled in their last year of life. Given the complexity and intensity of treatments used in the last year of life, a large percent of decedents would account for major differences in expenditures by disabling condition. As expected, data presented in Table 9 show the SSI disabled with neoplasms were much more likely to be in their last year of life. This pattern held across all study States. For the remaining high expenditure conditions, however, the percent dying in 1984 was not significantly higher than that for other conditions.

Data in Table 8 show that the relatively higher expenses of those with genitourinary conditions were not related to long-term care nor to hospital usage. Rather, these higher expenses reflect expenses for other services.

These other services no doubt include dialysis services provided to those SSI Medicaid disabled not eligible for Medicare's ESRD program. As discussed earlier, these individuals may not have the required

work history for eligibility or may be in their 2-year waiting period. This result suggests that this and certain other types of conditions may be more expensive because of other aspects of services received and coverage of costs. This may include expensive drugs, frequent outpatient or physician visits, or other services. It is also true that other characteristics of individuals, such as crossover status and age, will affect per enrollee expenditure variation.

### **Crossover status**

One characteristic that should strongly affect the relative expenditure patterns among the Medicaid disabled is that of Medicare crossover status. As described earlier, crossovers were identified in the study data as having dual coverage (Medicare and Medicaid) if they had claims processed by both programs. Although earlier studies (Lubitz and Pine, 1986) found dually enrolled Medicare disabled to be higher users and more expensive enrollees than their Medicare-only disabled counterparts, none of these studies were able to include the Medicaid experience of these enrollees. Because Medicare would be the first payer for many of the health care services provided to this group, the expectation is that they would be less expensive for Medicaid to serve than those covered only by Medicaid.

Data in Table 10 confirm the expected pattern of lower Medicaid expenditures for crossover enrollees. The dollar differences are significant. Annual Medicaid expenditures per crossover enrollee ranged from \$1,364 in California to \$1,842 in Georgia, and those for the Medicaid-only ranged from \$2,229 in Tennessee to \$3,349 in California.

The lower expenses to the Medicaid program for crossovers existed for most types of service. In addition, these savings occurred despite the relatively higher usage of some services by crossovers. For example, crossovers in California and Georgia were much more likely to use inpatient hospital services than the Medicaid-only disabled.<sup>2</sup> Because of coverage of the majority of these expenses under the Medicare program, Medicaid hospital expenses for crossovers were around 30-40 percent of those for Medicaid-only enrollees.

Crossover status is not as important in the area of long-term care expenses. Medicare covers only a small portion of SNF services and does not cover ICF or ICF/MR services at all. Hence, the long-term care expenditures for crossovers were not always lower than those for Medicaid-only enrollees. Lower long-term care expenditures for crossovers, where observed among the study States, were more related to utilization patterns than to Medicare coverage of services received.

<sup>2</sup>The Medicaid-only user rates may be somewhat biased because they include in the denominator all enrollees who did not use any services during the year. Some of these nonusers were probably dually enrolled in Medicare, but they could not be identified in study data. The pattern would hold, however, even if these nonusers were removed from the Medicaid-only group.

Table 8

Annual Medicaid expenditure per Supplemental Security Income disabled Medicaid enrollee, by type of service and major disabling condition (using ICD-9-CM categories): California, Georgia, Michigan, and Tennessee, 1984

ICD-9-CM category	California			Georgia			Michigan			Tennessee <sup>1</sup>		
	Total <sup>2</sup>	Hospital	Long-term care	Total <sup>2</sup>	Hospital	Long-term care	Total <sup>2</sup>	Hospital	Long-term care	Total <sup>2</sup>	Hospital	Long-term care
Infectious and parasitic	\$2,488	\$1,217	\$526	\$1,630	\$ 694	\$ 13	\$3,419	\$2,529	\$ 134	\$1,507	NA	\$876
Neoplasms	6,599	4,793	211	4,323	2,596	9	5,127	3,641	26	3,539	NA	27
Endocrine, nutritional, metabolic, and immunity	3,367	1,729	161	2,259	1,077	2	3,393	1,306	491	2,351	NA	79
Blood	6,389	3,923	591	4,638	2,968	0	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	NA	( <sup>3</sup> )
Mental disorders: Psychoses and neuroses	1,960	553	623	2,081	555	512	4,107	373	2,803	2,101	NA	672
Mental retardation	2,977	345	2,065	2,361	498	1,151	2,789	210	2,027	1,507	NA	707
Nervous system, eye, and ear	2,217	783	590	1,615	655	168	2,020	534	733	1,476	NA	337
Circulatory	1,737	728	143	1,969	760	157	3,246	1,664	450	1,542	NA	72
Respiratory	2,315	1,222	127	2,179	986	27	3,670	2,122	157	1,804	NA	171
Digestive	2,410	1,439	104	2,031	886	0	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	1,732	NA	311
Genitourinary	5,713	1,438	38	4,388	1,252	0	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	NA	( <sup>3</sup> )
Skin and subcutaneous	972	311	14	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	NA	( <sup>3</sup> )
Musculoskeletal	1,136	468	57	1,569	522	147	2,007	862	282	1,241	NA	65
Congenital	2,545	994	464	2,958	1,628	372	1,971	884	341	2,572	NA	1,583
Symptoms, signs, and ill-defined	2,250	982	347	2,111	642	462	1,317	415	152	( <sup>3</sup> )	NA	( <sup>3</sup> )
Injury and poisoning	2,269	1,176	290	3,533	2,274	134	2,083	1,027	138	1,529	NA	164
							Number of persons					
Population average	2,527	846	825	2,427	729	699	3,272	770	1,541	1,991	NA	680

<sup>1</sup>Unable to separate inpatient and outpatient claims in Tennessee.

<sup>2</sup>Total includes physician, ambulatory, and other expenditures, in addition to hospital and long-term care costs.

<sup>3</sup>Sample size too small (<30) for analysis.

NOTES: ICD-9-CM is *International Classification of Diseases, 9th Revision, Clinical Modification*. NA indicates data not available. All data are based on person-years of enrollment.

SOURCE: Health Care Financing Administration, Office of Research and Demonstrations: Data from the Tape-to-Tape project; Social Security Administration, Office of Research and Statistics: Data from the Characteristics Extract Record file.

Overall, study data showed crossover status for the SSI disabled to be important to State Medicaid programs. Because Medicare is the first payer for many of the services used by the disabled, their annual per enrollee expenses were close to \$1,000 less in the three study States. Although crossovers comprised 30-41 percent of the SSI disabled, other data from the study showed that they accounted for only 21-26 percent of Medicaid expenditures on the SSI disabled among the study States.

## Age and disabling conditions

Earlier studies have shown age to be an important determinant of Medicaid expenditures for the disabled (Rymer and Burwell, 1987). Rymer and Burwell reported that the disabled 65 years of age or over were less expensive and attributed this to their greater likelihood of dual enrollment (Medicare) and their lower use of expensive forms of long-term care (ICF/MR). Study data are used to analyze whether these patterns are related to underlying differences in disabling conditions of the various age groups.

**Table 9**  
**Percent decedents among Supplemental Security Income disabled Medicaid enrollees, by major disabling condition (using ICD-9-CM categories): California, Georgia, Michigan, and Tennessee, 1984**

ICD-9-CM category	California	Georgia	Michigan	Tennessee
	Percent decedents			
Infectious and parasitic	3	8	0	0
Neoplasms	15	12	11	12
Endocrine, nutritional, metabolic, and immunity	3	<1	5	2
Blood	1	0	( <sup>1</sup> )	( <sup>1</sup> )
Mental disorders: Psychoses and neuroses	1	<1	1	1
Mental retardation	<1	<1	<1	1
Nervous system, eye, and ear	1	1	1	1
Circulatory	3	2	4	3
Respiratory	5	2	2	3
Digestive	5	4	( <sup>1</sup> )	4
Genitourinary	3	3	( <sup>1</sup> )	( <sup>1</sup> )
Skin and subcutaneous	2	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
Musculoskeletal	1	2	2	1
Congenital	1	2	3	1
Symptoms, signs, and ill-defined	3	0	3	( <sup>1</sup> )
Injury and poisoning	1	2	1	2
Sample average	2	1	1	1

<sup>1</sup>Sample size too small (<30) for analysis.

NOTES: ICD-9-CM is *International Classification of Diseases, 9th Revision, Clinical Modification*. All data are based on person-years of enrollment.

SOURCE: Social Security Administration, Office of Research and Statistics: Data from the Characteristics Extract Record file.

**Table 10**  
**Selected characteristics of Supplemental Security Income disabled Medicaid enrollees, by Medicare crossover status: California, Georgia, and Tennessee, 1984**

Characteristic	California		Georgia		Tennessee <sup>1</sup>	
	Crossover	Medicaid only	Crossover	Medicaid only	Crossover	Medicaid only
	Percent					
Inpatient hospital users	27	15	34	21	NA	NA
ICF/MR users	<1	2	<1	2	<1	2
Other long-term care users	4	4	5	3	5	2
	Annual Medicaid expenditure per enrollee					
Total	\$1,364	\$3,349	\$1,842	\$2,727	\$1,428	\$2,229
Inpatient hospital	384	1,172	390	902	} 406	} 850
Physician and ambulatory	43	300	28	186		
ICF/MR care	32	640	11	554	54	604
Other long-term care	248	571	380	303	335	199
Other	657	667	1,034	781	633	576

<sup>1</sup>Unable to separate inpatient and outpatient claims.

NOTES: NA indicates data not available. ICF/MR is intermediate care facility for the mentally retarded. All data are based on person-years of enrollment.

SOURCE: Health Care Financing Administration, Office of Research and Demonstrations: Data from the Tape-to-Tape project.

Data in Table 11 show the distribution of major disabling conditions by age. There is a marked difference in the incidence of disabling conditions between the two younger age groups and the two older ones. For example, although mental retardation generally accounted for one-fourth or more of enrollees in the younger age groups, it dropped to a frequency of 12 percent or less for the age group 55-64 years and to 2 percent or less of enrollees for the group 65 years of age or over. As mentioned earlier, the mentally retarded have a lower life expectancy than average. It is also a condition which is usually diagnosed in childhood.

Mental disorders other than mental retardation were the dominant disabling condition in the cohort 18-54 years. The relative incidence of mental disorders for those 18-54 years was 29-31 percent in Tennessee and Georgia, and 40-42 percent in Michigan and California.

For the two age cohorts 55-64 years and 65 years or over, diseases of the circulatory system were the leading cause of disability in three of the four study States. As noted, these generally included myocardial infarction and hypertension. Musculoskeletal disorders (rheumatoid arthritis and other joint disorders) were the most frequently reported condition for the two older age groups in California.

Thus, the patterns of disability clearly vary by age. The next question is whether these patterns of disabling conditions are related to the differences in Medicaid expenditure levels by age. Given the different types of conditions by age, is there variation in the types and amounts of services received by the different age groups?

### **Age and expenditure variations**

Data in Table 12 show the overall expenditure patterns by age as well as the hospital and long-term care components. These data confirm that expenditures generally decline with the age of the SSI disabled enrollee. Comparing disabled children with the aged disabled, the differences are dramatic. Annual Medicaid expenditures per enrollee for SSI disabled children under 18 years of age ranged from \$2,174 in Tennessee to \$4,838 in California, and expenditures for the SSI disabled 65 years of age or over ranged from only \$1,335 in California to \$1,970 in Michigan.

Although the two younger groups were generally more expensive than the older groups for both hospital and long-term care, the differences for long-term care were more pronounced. In California, for example, the two younger groups incurred from \$1,205 to \$2,113 per enrollee for long-term care services versus only \$308 to \$369 for the two older groups. This is consistent with the pattern of disabling conditions by age in that the younger groups were more likely to have mental retardation or other mental impairments requiring institutional care services.

Data in Table 13 further indicate that the use of long-term care was related to the age of the disabled enrollee. However, it was not the overall use that varied but the types of services. The youngest age groups were far more likely to use ICF/MR services. Their ICF/MR user rate varied from 3 to 6 percent in the four States, and this rate for those 65 years of age or over was less than 1 percent in each study State. This, again, reflects the dominance of mental retardation in the younger age groups; and, as noted, the mentally retarded have a lower than average life expectancy.

Thus, different age groups among the disabled use different types of care, and this has a pronounced impact on Medicaid expenditure patterns for long-term care. It should be noted that the likelihood of using ICF/MR care declines with age for the mentally retarded because ICF/MR care is only supposed to be provided when "active treatment" is warranted. There is evidence that older mentally retarded enrollees are transferred to other types of long-term care, including ICF and SNF care (Burwell et al., 1987).

### **Age and crossover status**

Another factor behind the differences seen by age is the strong relationship that crossover status bears to age of the enrollee; those who are older have had longer periods over which to work and achieve eligibility for social security and, hence, Medicare coverage. Generally, disabled children under 18 years of age are not eligible for Medicare enrollment because they would not satisfy the work history requirements for SSDI benefits. On the other hand, the disabled 65 years of age or over are usually Medicare crossovers because they automatically become eligible for at least Medicare Part B upon attaining age 65. Shown in Table 14 is the Medicare crossover status for the two age groups in between. As expected, the likelihood of dual enrollment in Medicare was higher for those 55-64 years compared with those 18-54 years. This reflects the greater likelihood of acquiring sufficient work credits to qualify for SSDI benefits and eventually Medicare coverage.

Thus, some of the foregoing analyses by age should be reviewed again to assess the impact of crossover status. Data in Table 15 show that the pattern of declining expenditures by age is not consistently found once crossover status is introduced.

In none of the States did average Medicaid expenditures per enrollee decline by age for Medicare crossovers. This pattern is difficult to analyze because all crossovers under 65 years of age get both Medicare A and B, and some crossovers 65 years of age or over are eligible for only Part B services. For Medicaid-only enrollees, the pattern of declining expenditures by age was not consistent across all States. It occurred in California and Georgia, but not in Tennessee. Thus, the overall decline in average Medicaid expenditures by age for the SSI disabled appears more strongly related to crossover status than to age.

Table 11

**Percent of Supplemental Security Income disabled Medicaid enrollees, by age group and major disabling conditions  
(using ICD-9-CM categories): California, Georgia, Michigan, and Tennessee, 1984**

ICD-9-CM category	California				Georgia				Michigan				Tennessee			
	0-17 years	18-54 years	55-64 years	65 years or over	0-17 years	18-54 years	55-64 years	65 years or over	0-17 years	18-54 years	55-64 years	65 years or over	0-17 years	18-54 years	55-64 years	65 years or over
	Percent															
Infectious and parasitic	1	1	2	2	1	1	1	1	<1	1	1	1	1	1	1	1
Neoplasms	2	2	3	2	4	3	4	2	2	2	3	2	3	3	4	2
Endocrine, nutritional, metabolic, and immunity	2	3	6	5	2	3	7	6	1	2	6	5	1	3	5	6
Blood	2	<1	<1	<1	4	1	<1	<1	(?)	(?)	(?)	(?)	(?)	(?)	(?)	(?)
Mental disorders: Psychoses and neuroses	17	142	18	11	18	131	15	13	17	140	124	21	15	129	14	13
Mental retardation	128	13	2	<1	130	24	11	2	137	24	5	1	136	25	12	2
Nervous system, eye, and ear	26	15	10	14	123	12	6	9	27	14	7	7	23	11	5	7
Circulatory	1	5	20	21	1	7	123	132	<1	4	23	126	1	8	125	132
Respiratory	1	1	7	6	2	2	6	7	1	2	7	9	2	3	9	8
Digestive	<1	1	2	2	1	1	2	2	(?)	(?)	(?)	(?)	<1	1	1	1
Genitourinary	1	1	1	1	1	2	1	1	(?)	(?)	(?)	(?)	(?)	(?)	(?)	(?)
Skin and subcutaneous	<1	<1	<1	1	(?)	(?)	(?)	(?)	(?)	(?)	(?)	(?)	(?)	(?)	(?)	(?)
Musculoskeletal	1	7	123	128	1	6	18	18	<1	3	16	20	2	7	17	20
Congenital	14	2	1	1	12	2	1	1	10	2	<1	1	12	2	1	1
Symptoms, signs, and ill-defined	2	1	1	1	2	1	1	1	1	1	1	1	(?)	(?)	(?)	(?)
Injury and poisoning	1	5	5	5	1	4	4	3	1	3	3	3	1	5	4	5

<sup>1</sup>Most frequently reported conditions by age cohort.

<sup>2</sup>Sample size too small (<30) for analysis.

NOTE: ICD-9-CM is *International Classification of Diseases, 9th Revision, Clinical Modification*. All data are based on person-years of enrollment.

SOURCE: Social Security Administration, Office of Research and Statistics: Data from the Characteristics Extract Record file.



**Table 12**

**Annual Medicaid expenditure per Supplemental Security Income disabled Medicaid enrollee, by type of service and age: California, Georgia, Michigan, and Tennessee, 1984**

Age	California			Georgia			Michigan			Tennessee <sup>1</sup>		
	Total <sup>2</sup>	Hospital	Long-term care	Total <sup>2</sup>	Hospital	Long-term care	Total <sup>2</sup>	Hospital	Long-term care	Total <sup>2</sup>	Hospital	Long-term care
Total	\$2,527	\$ 846	\$ 825	\$2,427	\$ 729	\$699	\$3,272	\$ 770	\$1,541	\$1,991	NA	\$680
0-17 years	4,838	1,573	2,113	3,140	1,369	953	4,142	828	2,510	2,174	NA	995
18-54 years	3,008	886	1,203	2,573	758	846	3,651	707	1,949	2,142	NA	823
55-64 years	2,404	1,082	308	2,417	783	433	3,023	1,251	641	2,057	NA	385
65 years or over	1,335	423	370	1,929	409	610	1,970	348	949	1,536	NA	590

<sup>1</sup>Unable to separate inpatient and outpatient claims in Tennessee.

<sup>2</sup>Total includes physician, ambulatory, and other expenditures, in addition to hospital and long-term care costs.

NOTES: NA indicates data not available. All data are based on person-years of enrollment.

SOURCE: Health Care Financing Administration, Office of Research and Demonstrations: Data from the Tape-to-Tape project.

**Table 13**

**Percent of Supplemental Security Income disabled Medicaid enrollees, by type of long-term care use and age: California, Georgia, Michigan, and Tennessee, 1984**

Age	ICF/MR				Other long-term care <sup>1</sup>			
	California	Georgia	Michigan	Tennessee	California	Georgia	Michigan	Tennessee
	Percent long-term care users							
Total	1	1	2	2	4	4	6	3
0-17 years	6	3	3	4	2	1	5	1
18-54 years	2	2	4	3	4	2	5	2
55-64 years	<1	<1	<1	<1	4	5	5	3
65 years or over	<1	<1	<1	<1	5	7	7	6

<sup>1</sup>Includes skilled nursing facilities, other intermediate care facilities, and inpatient psychiatric services.

NOTES: ICF/MR is intermediate care facility for the mentally retarded. All data are based on person-years of enrollment.

SOURCE: Health Care Financing Administration, Office of Research and Demonstrations: Data from the Tape-to-Tape project.

**Table 14**

**Percent of Supplemental Security Income disabled Medicaid enrollees, by age and Medicare crossover status: California, Georgia, Michigan, and Tennessee, 1984**

Age	California	Georgia	Michigan	Tennessee
	Percent Medicare crossovers			
18-54 years	24	19	NA	17
55-64 years	34	27	NA	24

NOTES: NA indicates data not available. All data are based on person-years of enrollment.

SOURCE: Health Care Financing Administration, Office of Research and Demonstrations: Data from the Tape-to-Tape project.

Table 15

**Annual Medicaid expenditure per Supplemental Security Income disabled Medicaid enrollee, by age and Medicare crossover status:  
California, Georgia, Michigan, and Tennessee, 1984**

Age	California			Georgia			Michigan <sup>1</sup>	Tennessee		
	Overall	Medicare crossover	Medicaid only	Overall	Medicare crossover	Medicaid only	Overall	Overall	Medicare crossover	Medicaid only
Total	\$2,527	\$1,364	\$3,349	\$2,427	\$1,842	\$2,727	\$3,272	\$1,991	\$1,428	\$2,229
0-17 years	4,838	( <sup>2</sup> )	4,838	3,140	( <sup>2</sup> )	3,140	4,142	2,174	( <sup>2</sup> )	2,174
18-54 years	3,008	1,406	3,521	2,573	1,462	2,836	3,651	2,142	1,115	2,355
55-64 years	2,404	1,166	3,049	2,417	1,491	2,761	3,023	2,057	1,067	2,372
65 years or over	1,335	1,335	( <sup>2</sup> )	1,929	1,929	( <sup>2</sup> )	1,970	1,536	1,536	( <sup>2</sup> )

<sup>1</sup>Michigan data did not permit analysis by Medicare crossover status.

<sup>2</sup>All children under 18 years of age were assumed to be Medicaid-only enrollees, and all the disabled 65 years of age or over were considered to be Medicare crossovers.

NOTE: All data are based on person-years of enrollment.

SOURCE: Health Care Financing Administration, Office of Research and Demonstrations: Data from the Tape-to-Tape project.

An additional factor to consider in examining age-related differences in expenditures is the disabling condition of the enrollee. As is shown in Table 16, Medicaid expenses for the younger age cohorts were generally greater than those for the older age groups when controlling for selected disabling conditions. However, this was not a strong nor perfectly consistent pattern. The pattern of declining expense by age was stronger for those with circulatory disease or musculoskeletal disorders than it was for those with mental retardation and other mental disorders.

In summary, study results confirmed that age and crossover status are strongly related to Medicaid expenditure patterns for the disabled. Two factors help to explain this. First, the probability of dual enrollment in Medicare increases with age, thus significantly reducing Medicaid expenditures, especially for hospital services. Second, the younger age cohorts among the SSI disabled are more likely to use ICF/MR services, and ICF/MR care is relatively more expensive than other types of long-term care. This utilization pattern was related to the much higher prevalence of mental retardation among the youngest age group. However, study data on expenses by age within the same disabling conditions suggest that Medicaid expenses decline with age. Additional research should explore whether other factors related to age, such as approaches to treatment, severity of the disabling condition, less ability to cope, or need for long-term care services, are part of these patterns.

## Conclusions

The foregoing analysis revealed many similarities across four States in the Medicaid experience of the SSI disabled. In particular, there were consistent findings with regard to the distribution of the SSI disabled across the major disabling conditions. Mental disorders other than mental retardation were the most frequently reported disability across States. Mental retardation and other mental disorders together clearly dominated the overall distribution. However, based on expenditures per enrollee, those with mental retardation or other mental disorders were not the most expensive to State Medicaid programs. Rather, the disabled with conditions related to neoplasms, blood, and genitourinary systems incurred the highest annual expenses on average.

To provide a summary picture of the relative expenditures by disabling conditions in each study State, the overall distribution of Medicaid dollars by major condition is presented in Figures 5-8. As seen in these figures, some of the most expensive conditions on a per enrollee basis did not account for a large proportion of overall Medicaid expenditures for the disabled because these conditions occurred among only a small proportion of the SSI disabled. The impact of different disabling conditions on State Medicaid expenditures is determined by the combination of the per enrollee expenses and the relative incidence of each condition.

Expenditures for mental disorders clearly dominate each State's total set of expenditures. From 22 percent in Georgia to 41 percent in Michigan of overall Medicaid expenditures for the SSI disabled went to medical services for enrollees with mental disorders other than mental retardation. As shown earlier in Figures 1-4, the percent of SSI disabled with mental disorders ranged from 21 percent in Tennessee to 33 percent in Michigan. Among the study States, the mentally retarded accounted for 12 percent to 20 percent of the overall Medicaid expenditures for the SSI disabled, and they accounted for 9 percent to 20 percent of the population.

Analysis showed that expenditures for the mentally retarded and those with other mental disorders were largely for disabled enrollees in the younger age groups who lacked Medicare coverage and who tended to be intense users of very expensive ICF/MR long-term care services. The two younger age groups were dominated by the diagnoses of mental retardation and other mental impairments. Because of the lack of work history, they were far less likely to qualify for Medicare coverage.

On the other hand, the analysis showed the older age groups had disabling conditions that were neither the most expensive on a per enrollee basis nor the highest in overall incidence. The conditions that most characterized the older age groups, i.e., circulatory and musculoskeletal diseases, accounted for 7-15 percent of SSI disabled enrollees, and, as is seen in Figures 5-8, 4-14 percent of overall expenditures. The older SSI disabled were much more likely to have Medicare coverage for most services received and, hence, to be less expensive to Medicaid programs than the Medicaid-only enrollees. Crossover status, or dual coverage under Medicare, was perhaps the most important factor in explaining differences in per enrollee expenditures.

Study findings can be used by States to better understand their patterns of Medicaid expenditures for the SSI disabled. The age-related results suggest, for example, that a State experiencing relatively greater growth in enrollment of the younger SSI disabled will experience relatively greater growth in Medicaid expenditures. To the extent services provided during prenatal or neonatal periods could help prevent disabling conditions among the young, these would appear extremely cost effective given present results.

The crossover analysis underscores the importance to States of carefully monitoring the Medicare status of the disabled. Some States have reported problems in promptly enrolling the disabled in Medicare at the end of their 2-year waiting period. These delays can be very expensive to a State's Medicaid program. Further analysis of utilization during initial versus later periods of enrollment would add more information regarding the nature of these costs to Medicaid programs.

The data are very informative for any State considering a capitated method for payment under Medicaid. They highlight the level and composition of

Table 16

**Annual Medicaid expenditure per Supplemental Security Income disabled Medicaid enrollee, by age and Medicare crossover status for selected disabling conditions: California, Georgia, Michigan, and Tennessee, 1984**

Disabling condition and age	California			Georgia			Michigan <sup>1</sup>		Tennessee	
	Overall	Medicare crossover	Medicaid only	Overall	Medicare crossover	Medicaid only	Overall	Overall	Medicare crossover	Medicaid only
<b>Mental retardation</b>										
0-17 years	\$3,553	( <sup>a</sup> )	\$3,553	\$2,336	( <sup>a</sup> )	\$2,336	\$2,253	\$1,505	( <sup>a</sup> )	\$1,505
18-54 years	2,794	\$1,070	3,365	2,612	\$1,270	2,904	3,053	1,577	\$705	1,731
55-64 years	2,800	2,405	3,317	1,573	1,403	1,635	1,095	1,348	( <sup>a</sup> )	1,482
65 years of over	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )
<b>Other mental disorders</b>										
0-17 years	3,784	( <sup>a</sup> )	3,784	2,717	( <sup>a</sup> )	2,717	10,001	3,548	( <sup>a</sup> )	3,548
18-54 years	2,072	986	2,531	1,989	1,289	2,161	4,189	1,889	1,505	1,969
55-64 years	1,494	884	2,273	2,169	1,230	2,709	1,990	2,311	1,552	2,745
65 years or over	769	769	( <sup>a</sup> )	1,876	1,876	( <sup>a</sup> )	1,337	1,765	1,765	( <sup>a</sup> )
<b>Circulatory</b>										
0-17 years	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )
18-54 years	2,588	1,196	3,853	2,587	2,061	2,830	3,985	2,458	1,427	2,856
55-64 years	2,066	863	3,486	1,990	1,443	2,216	3,749	1,569	1,106	1,807
65 years or over	933	933	( <sup>a</sup> )	1,489	1,489	( <sup>a</sup> )	1,515	832	832	( <sup>a</sup> )
<b>Musculoskeletal</b>										
0-17 years	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )
18-54 years	1,664	780	2,413	2,571	1,085	3,166	2,796	1,658	796	1,962
55-64 years	1,316	711	2,283	1,324	1,488	1,193	1,661	1,310	680	1,817
65 years or over	654	654	( <sup>a</sup> )	960	960	( <sup>a</sup> )	1,368	698	698	( <sup>a</sup> )
<b>Population average</b>										
0-17 years	4,838	( <sup>a</sup> )	4,388	3,140	( <sup>a</sup> )	3,140	4,142	2,174	( <sup>a</sup> )	2,174
18-54 years	3,008	1,406	3,521	2,573	1,462	2,836	3,651	2,142	1,115	2,355
55-64 years	2,404	1,166	3,049	2,417	1,491	2,761	3,023	2,057	1,067	2,372
65 years or over	1,335	1,355	( <sup>a</sup> )	1,929	1,929	( <sup>a</sup> )	1,970	1,536	1,536	( <sup>a</sup> )

<sup>1</sup>Michigan data did not permit analysis by Medicare crossover status.

<sup>2</sup>All children under 18 years of age were assumed to be Medicaid-only enrollees, and all disabled 65 years of age or over were considered to be Medicare crossoverers.

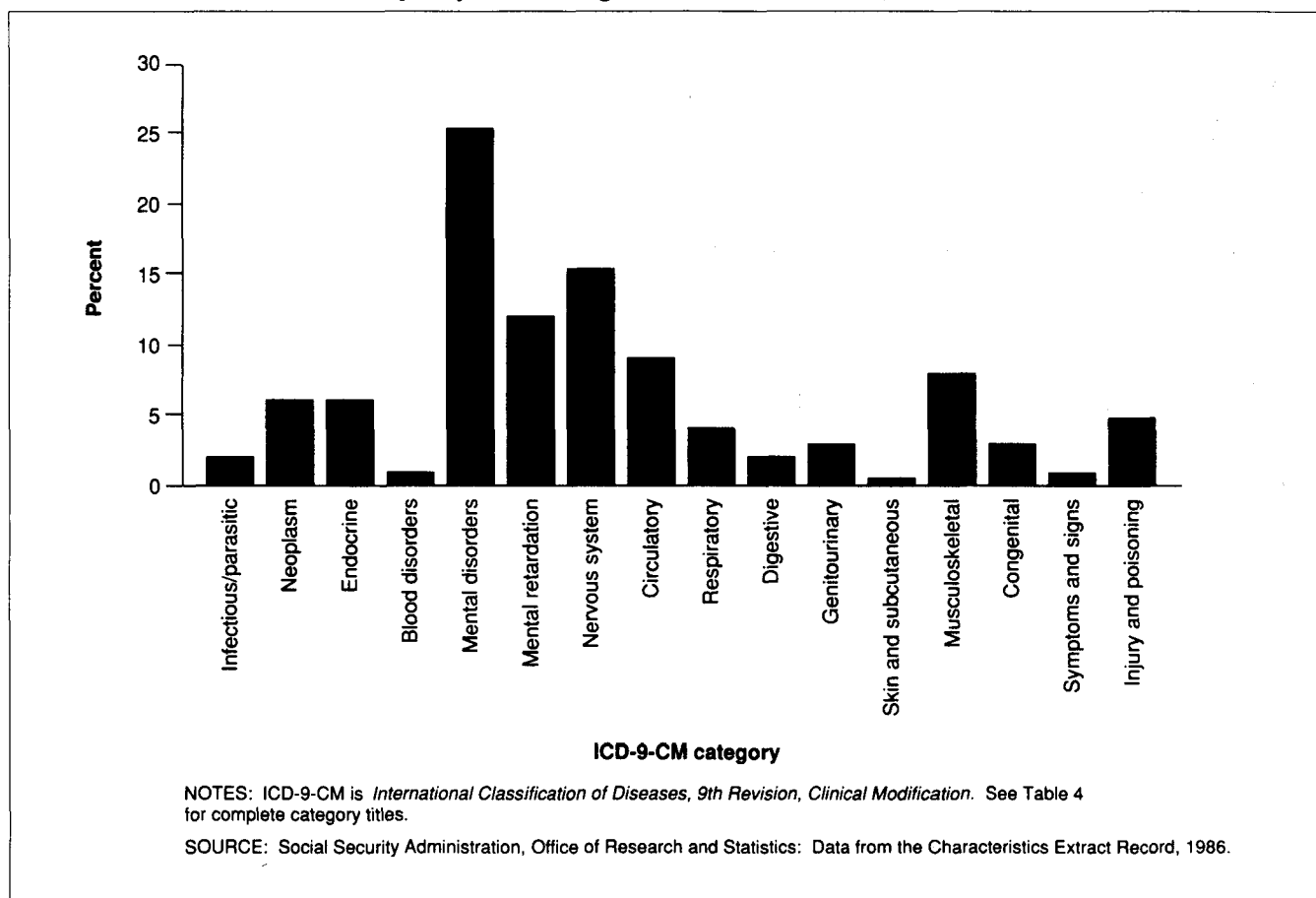
<sup>3</sup>Sample size too small (<30) for analysis.

NOTE: All data are based on person-years of enrollment.

SOURCE: Health Care Financing Administration, Office of Research and Demonstrations: Data from the Tape-to-Tape project; Social Security Administration, Office of Research and Statistics: Data from the Characteristics Extract Record file.

Figure 5

Percent of total Medicaid expenditures for Supplemental Security Income disabled Medicaid enrollees, by major disabling condition: California, 1984



services used by the SSI disabled and how this varies by age. More important, they highlight the role the disabling condition plays in determining the set of services used. The analysis could be used to identify specific disabling conditions that might benefit from special case management strategies to control expenditures. The fact that the costs of hospitalization are relatively more important than long-term care for high-cost conditions is important.

Because study data were for 1984, they did not yet fully reflect the impact of the acquired immunodeficiency syndrome (AIDS) epidemic on the SSI caseload and Medicaid expenditures. Because State Medicaid programs are bearing the primary public burden of paying for health care services to persons with AIDS, Medicaid expenditures for the disabled will most likely expand significantly in the years to come. Study data demonstrated how dual eligibility for Medicare can substantially reduce Medicaid expenditures for the disabled. Low-income persons with AIDS are especially expensive to State Medicaid programs because even those eligible for SSDI are unlikely to survive beyond the 2-year waiting period for Medicare. No doubt the AIDS epidemic will bring pressure on Congress and the

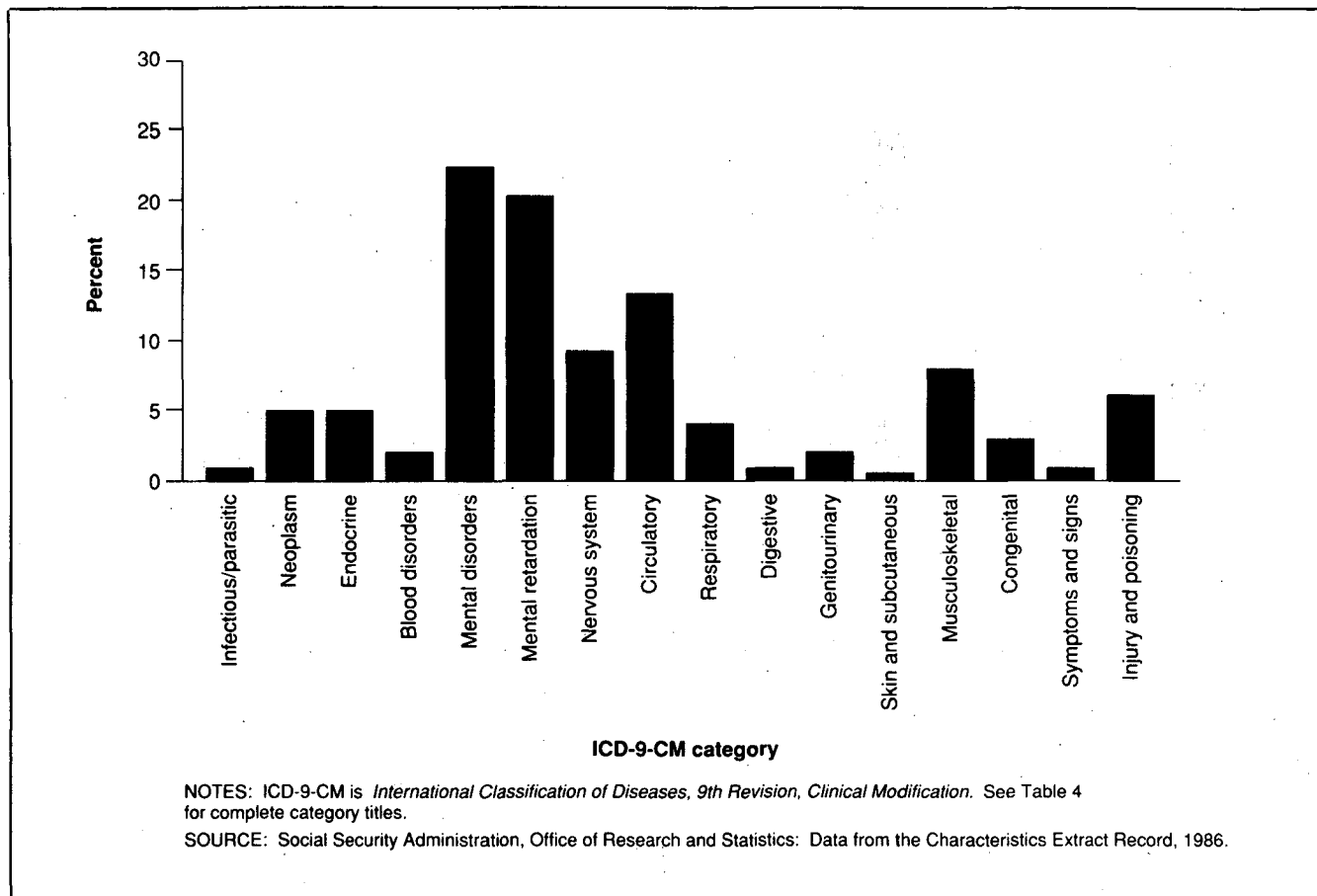
Administration to reconsider Medicare eligibility policies for the disabled.

Study data also provide a baseline for analysis of the Medicaid disabled prior to the implementation of the Medicare Catastrophic Coverage Act of 1988. This legislation makes several changes of significance to the disabled crossover population. Under this act, Medicare's coverage of services under its hospital and supplementary medical insurance programs is scheduled to expand. Although some provisions of the act, e.g., coverage of outpatient prescription drugs, are now being reconsidered, full or partial implementation would reduce Medicaid expenses for the dually enrolled SSI disabled.

Finally, the next few years are expected to bring renewed calls to expand Medicaid and Medicare financing for the low-income disabled not currently eligible for benefits. Although much of the impetus comes from the AIDS epidemic, there are other groups, such as the severely disabled children, the developmentally disabled, and the SSDI disabled who, in the course of their 2-year waiting period for Medicare benefits, could lobby for change. The families of these disabled individuals are experiencing severe financial stress and are more aware of how and

Figure 6

Percent of total Medicaid expenditures per Supplemental Security Income disabled Medicaid enrollees, by major disabling condition: Georgia, 1984



where insurance coverage is inadequate. Indeed, there is a renewed concern for gaps in insurance and the uninsured population, nationwide. Providers are more vocal about uninsured expenses because cost-containment efforts have been initiated by private

payors, and cross-subsidization is less viable. Study data have demonstrated that the costs of expanding coverage will vary significantly for Medicaid, depending on age, disabling condition, and Medicare status of the groups covered.

**Figure 7**

**Percent of total Medicaid expenditures per Supplemental Security Income disabled Medicaid enrollees, by major disabling condition: Michigan, 1984**

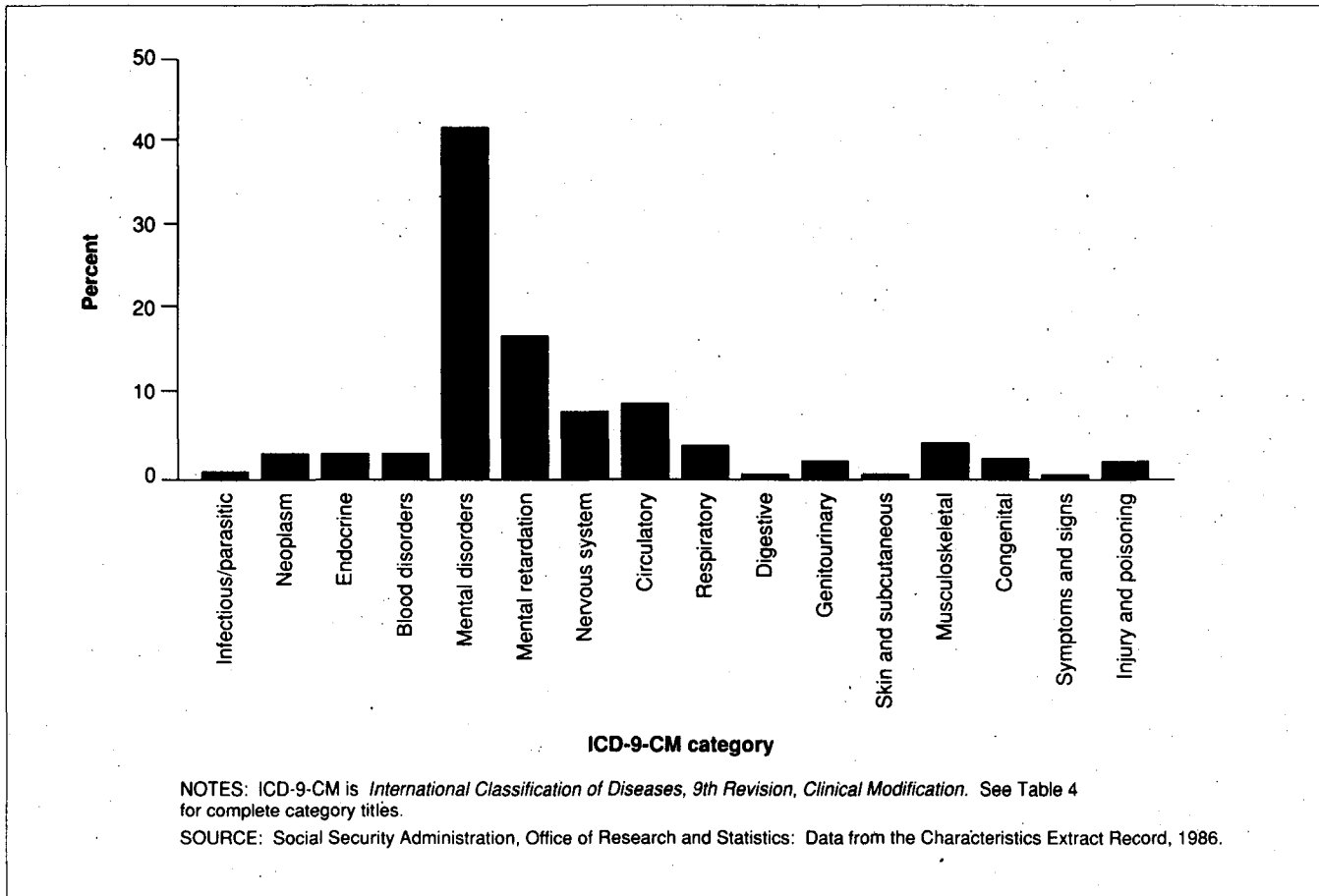
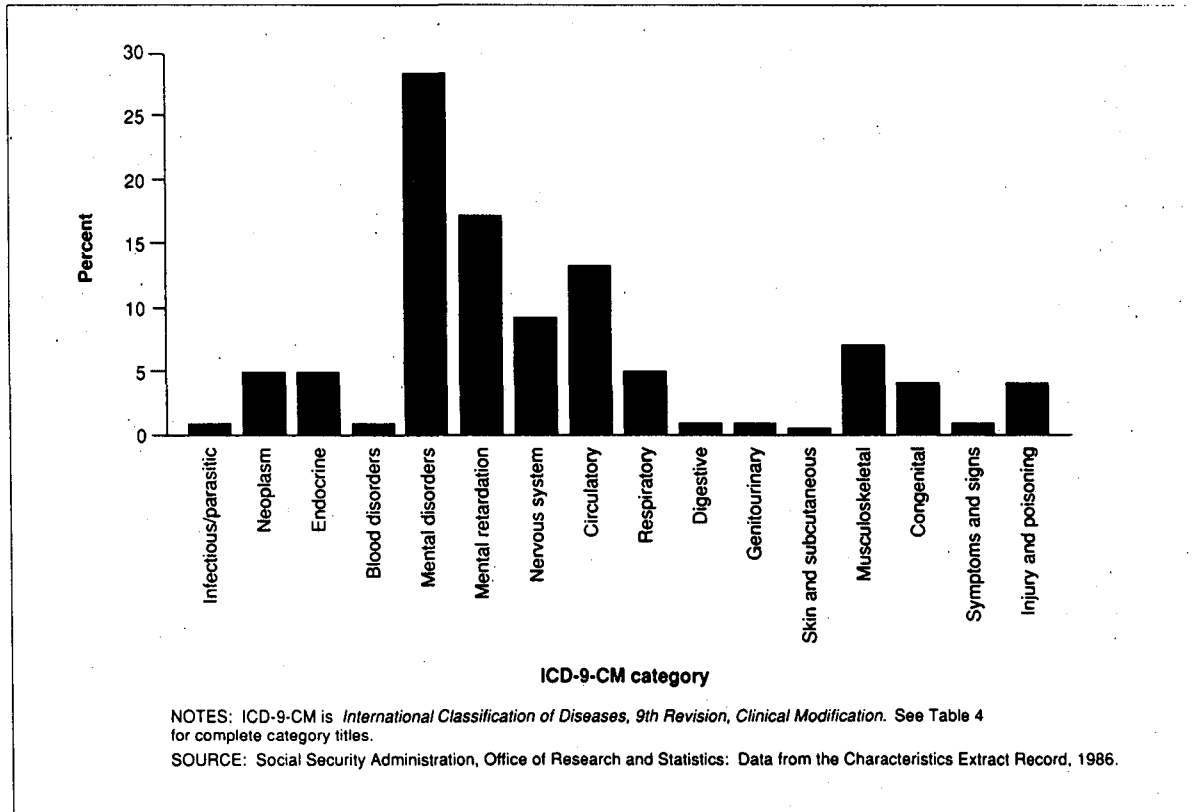


Figure 8

Percent of total Medicaid expenditures per Supplemental Security Income disabled Medicaid enrollees, by major disabling condition: Tennessee, 1984



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