

National Medical Care Utilization and Expenditure Survey

Expenditures for the Medical Care of Elderly People Living in the Community Throughout 1980

Data
Report
No. 4



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Data Highlights

Expenditures for the care of nursing home patients and for out-of-pocket health insurance premiums and over-the-counter drugs are not included in these estimates. With those exclusions:

- \$42 billion was spent in 1980 for the medical care of people who were 65 years of age and over and living in the community at the beginning of the year.

5 percent of the elderly died or were institutionalized during the year.

22 percent of the money was spent on their care before the death or institutionalization.

- \$33 billion was spent in 1980 for the medical care of people who were 65 years of age and over at the beginning of the year and still living in the community at the end of the year.

Total per capita expenditures for half of these people were under \$329, and under \$100 for 23 percent.

Out-of-pocket per capita expenditures for half were under \$156 and under \$100 for 38 percent; 13 percent had no out-of-pocket expenditures.

Overview

The high and increasing cost of medical care, particularly medical care for the elderly, is a critical issue. Medicare is expected to run out of funds within a decade. As a result, reimbursement mechanisms are being revised and new means of care, such as hospice care, are being covered.

Much of the debate on expenditures for the medical care for the elderly has focused on the high average cost, which was estimated to be \$3,140 per person 65 years of age and over in 1981 (Health Care Financing Administration, unpublished preliminary data). Of that amount, about 44 percent (\$1,381 per person) was spent on hospital care and 23 percent (\$732 per person) on nursing home care. Therefore, most strategies have focused on reducing the costs for those two inpatient facilities, and much of the research has been devoted to that effort.

Relatively little research, on the other hand, has been done on the distribution of elderly people according to their expenditures for medical care, although there have been a number of studies on the cost of illness in the period preceding death (Gibbs and Newman, 1982; Lubitz and Prihoda, in press; Piro and Lutins, 1973; Scotto and Chiazze, 1976; Timmer and Kovar, 1971). In general, these studies have shown that expenses for people who die are very high. Lubitz and Prihoda found that the 1.3 million Medicare enrollees in their last year of life in 1978 accounted for only 5.2 percent of all enrollees, but for 28.2 percent of program expenditures. The 94.7 percent of enrollees who survived 1978 accounted for 71.8 percent of program expenditures.

The data source for the Lubitz and Prihoda study was Medicare claims, and the research focused on comparisons between decedents and survivors. In contrast, data from the National Medical Care Utilization and Expenditure Survey (NMCUES) include (1) expenditures regardless of whether a claim was filed and (2) information on all people regardless of age or health insurance coverage. The data on expenditures

from NMCUES do have a limitation, however; residents of institutions such as nursing homes are excluded and so is information on their medical care utilization and expenditures (Bonham, 1983).

The purpose of this paper is to present data on the variation in expenditures for elderly (65 years of age and over) people who were living in the community at the beginning of 1980 and who neither died nor became residents of long-term-care institutions during 1980—that is, to show the distribution of expenditures for the vast majority of the elderly population. Data on elderly people who did not remain in the community are included for comparison with other research.

Discussion

Despite the high average expenditure for the medical care of the elderly, many elderly people who were living in households at the beginning of 1980 did not have high expenditures: Sixty percent had total expenditures (excluding nursing home care, out-of-pocket health insurance premiums, and nonprescription drugs) of less than \$500 during the year, and 23 percent had expenditures of less than \$100.

Of the 24 million people who were 65 years of age and over and living in the community at the beginning of 1980, about 1.25 million, or 5 percent, either were institutionalized or died during the year. Not surprisingly, the extremely old people (those 85 years of age and over) were more likely than the younger elderly to die or be institutionalized (Table 1). People whose health status was poor or who were limited in activity at the beginning of the year were also more likely than others to die or be institutionalized.

Medical care expenditures for this 5 percent of the elderly were extremely high (22 percent of total expendi-

tures) during the time they were in the community, even though, on the average, they were there for only half of the year. Forty percent of them had expenditures of \$5,000 or more in contrast with 7 percent of the elderly people who lived in the community for the entire year (Table 2). Eighty-eight percent of the money spent for their care was spent on people with expenditures of \$5,000 or more, in contrast with 58 percent for those still in the community at the end of the year. Of all elderly people in the community with expenditures of \$5,000 or more in 1980, 23 percent were in the community for only part of the year. In part, this was due to their high rate of hospitalization and the consequent high expenditures.

From a different perspective, then, these data confirm other results. The elderly people approaching death or institutionalization have very high expenditures for medical care. They constitute a small proportion of the elderly population, but use a relatively large proportion of the medical care dollar.

The vast majority of the elderly people, about 23 million people 65 years of age and over, lived in the community throughout the year. Of these, 62 percent had expenditures under \$500 during 1980, and 76 percent had expenditures under \$1,000 (Table 3). The median expenditure (that is, the point at which half the population is above and half below) was \$329 (Table 4). Because medical care expenditures are, like other financial measures, skewed to the right, the median is a better measure of centrality for many purposes than the mean; both are shown in Table 4. In general, the mean expenditures were about four times the median.

There was little variation in expenditures for subgroups of elderly people when they were classified by demographic, geographic, or income measures. However, the elderly people who were in poor health or unable to perform their usual activity at the beginning

Table 1
People 65 years of age and over according to whether they remained in the community throughout the entire year, by selected characteristics: United States, 1980

| Characteristic | Estimated population in thousands | Total | In the community | |
|---|-----------------------------------|-------|------------------|--------------|
| | | | All year | Part of year |
| Total | 24,018 | 100.0 | 94.9 | 5.14 |
| Age | | | | |
| 65-74 years | 15,319 | 100.0 | 97.3 | 2.69 |
| 75-84 years | 7,224 | 100.0 | 92.0 | 7.97 |
| 85 years and over | 1,475 | 100.0 | 83.2 | 16.77 |
| Sex | | | | |
| Male | 9,760 | 100.0 | 94.0 | 6.01 |
| Female | 14,258 | 100.0 | 95.5 | 4.54 |
| Perceived health status | | | | |
| Excellent | 6,145 | 100.0 | 96.3 | 3.73 |
| Good | 8,723 | 100.0 | 97.1 | 2.88 |
| Fair | 5,994 | 100.0 | 95.0 | 4.96 |
| Poor | 3,032 | 100.0 | 86.9 | 13.10 |
| Limitation of activity | | | | |
| Not limited | 14,128 | 100.0 | 97.2 | 2.82 |
| Some limitation | 1,637 | 100.0 | 96.9 | 3.11 |
| Cannot perform usual activity | 8,253 | 100.0 | 90.5 | 9.51 |

Table 2

People 65 years of age and over and expenditures for them according to whether they remained in the community throughout the entire year, by level of expenditures and whether hospitalized: United States, 1980

| Level of expenditures and whether hospitalized | Estimated population | | | Estimated expenditures | | |
|--|----------------------|--------------|--------------|------------------------|-------------|--------------|
| | All people | All year | Part of year | All expenditures | All year | Part of year |
| Total | 24,018 | 22,784 | 1,234 | \$42,110 | \$33,020 | \$9,090 |
| | | In thousands | | | In millions | |
| Expenditures | | | | Percent distribution | | |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Under \$100 | 22.6 | 23.4 | 9.3 | 0.4 | 0.5 | 0.0 |
| \$100-\$199 | 12.7 | 13.1 | 6.0 | 1.1 | 1.3 | 0.1 |
| \$200-\$499 | 24.9 | 25.8 | 8.1 | 4.7 | 5.9 | 0.4 |
| \$500-\$999 | 13.6 | 14.1 | 3.9 | 5.4 | 6.8 | 0.4 |
| \$1,000-\$2,999 | 12.3 | 11.7 | 23.2 | 13.2 | 15.1 | 6.4 |
| \$3,000-\$4,999 | 4.8 | 4.6 | 9.4 | 10.5 | 12.1 | 4.8 |
| \$5,000 or more | 9.1 | 7.4 | 40.2 | 64.8 | 58.4 | 88.0 |
| Hospitalized | | | | | | |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Yes | 23.1 | 20.2 | 75.7 | 84.5 | 80.5 | 99.1 |
| No | 76.9 | 79.8 | 24.3 | 15.5 | 19.5 | 0.9 |

of 1980 had significantly higher expenditures than did those who were in excellent health or were not limited in activity. The median expenditure for those in poor health was \$647, in contrast with \$200 for those in excellent health (Table 4).

Medicare, private health insurance, and other third-party payers helped to alleviate the burden of paying for medical care. The majority (57 percent) of the elderly people had out-of-pocket expenditures of under \$200, and 94 percent had out-of-pocket expenditures of under \$1,000 (Table 5). The median out-of-pocket expenditure was \$156 (Table 6). These estimates would certainly be somewhat higher if over-the-counter drugs and health insurance premiums were included, but these are usually family expenditures that cannot be attributed to specific individuals in a family.

In general, elderly people in families below the poverty level appeared to have lower out-of-pocket expenditures than did those at higher income levels, although the difference was not statistically significant. Poor elderly people did not receive significantly less medical care: On the average, elderly people below the poverty level made 5.0 visits during 1980 to physicians (including visits to offices, outpatient departments, and emergency rooms where a doctor was seen), whereas elderly people at 300 percent of the poverty level or above made 5.4 such visits. Sixteen percent of those below the poverty level and 19 percent of those at 300 percent of the poverty level or above were hospitalized during the year. As shown in Tables 3 and 4, their total charges were not significantly different.

A somewhat lower proportion of all charges were out-of-pocket charges in the poor families. On the aver-

age, out-of-pocket charges were 53 percent of all charges for elderly people below the poverty level and 61 percent of all charges for elderly people at 300 percent of the poverty level or above (Table 7). However, the median out-of-pocket charge of \$116 for an elderly person in a family below the poverty level was a much heavier burden than an out-of-pocket charge of \$178 in a family at 300 percent or more of the poverty level.

On the average, out-of-pocket charges for medical care amounted to 15 percent of the 1980 family income for elderly people below the poverty level, but only 2 percent of the 1980 family income for elderly people at 300 percent of the poverty level or above. In interpreting these figures, two things should be borne in mind. First, although 32 percent of all elderly people lived alone or with nonrelatives in 1980, 63 percent of the elderly below the poverty level were unrelated individuals, including 53 percent who were unrelated women (U.S. Bureau of the Census, 1982). Thus, for a majority of the elderly people below the poverty level, the total family income was the income of an individual. Second, the income reported here and used to construct the poverty level is money income only; assets such as home ownership are not included, nor are nonmonetary benefits such as lower tax rates on income and real estate, subsidized housing, and food stamps. Other data from the Current Population Survey show that about 58 percent of all poor households received one or more means-tested noncash benefits in 1980 (U.S. Bureau of the Census, 1982).

Table 3

People 65 years of age and over living in the community for the entire year with health care expenditures under specified amount, by selected characteristics: United States, 1980

| Characteristic | Estimated population in thousands | Expenditures under— | | | | | |
|---|-----------------------------------|----------------------------------|-------|-------|---------|---------|---------|
| | | \$100 | \$200 | \$500 | \$1,000 | \$3,000 | \$5,000 |
| Total | 22,784 | 23.4 | 36.4 | 62.2 | 76.3 | 88.0 | 92.6 |
| | | Cumulative percent of population | | | | | |
| Age | | | | | | | |
| 65-74 years | 14,908 | 25.9 | 39.5 | 62.8 | 77.8 | 89.5 | 93.7 |
| 75-84 years | 6,648 | 17.9 | 31.0 | 61.2 | 73.2 | 84.7 | 89.8 |
| 85 years and over | 1,228 | 21.9 | 28.7 | 60.9 | 75.4 | 87.7 | 93.6 |
| Sex | | | | | | | |
| Male | 9,173 | 26.3 | 40.2 | 64.0 | 75.6 | 87.4 | 91.7 |
| Female | 13,611 | 21.4 | 33.9 | 61.0 | 76.9 | 88.5 | 93.2 |
| Race | | | | | | | |
| White | 20,528 | 22.4 | 35.6 | 61.5 | 75.8 | 87.8 | 92.6 |
| All other | 2,256 | 32.1 | 44.2 | 69.0 | 80.9 | 89.6 | 92.6 |
| Region | | | | | | | |
| Northeast | 4,440 | 26.6 | 37.9 | 64.5 | 78.2 | 86.3 | 91.4 |
| North Central | 5,563 | 23.2 | 38.2 | 65.5 | 77.5 | 88.9 | 92.9 |
| South | 7,704 | 22.3 | 35.8 | 60.8 | 75.4 | 87.9 | 92.8 |
| West | 5,078 | 22.2 | 34.2 | 58.8 | 74.9 | 88.8 | 93.0 |
| Residence | | | | | | | |
| SMSA | 14,819 | 22.3 | 34.6 | 62.1 | 76.3 | 87.4 | 92.4 |
| In central city | 7,063 | 23.3 | 34.2 | 62.5 | 76.9 | 88.1 | 92.2 |
| Outside central city | 7,756 | 21.4 | 35.0 | 61.8 | 75.7 | 86.8 | 92.5 |
| Outside SMSA | 7,965 | 25.3 | 39.8 | 62.5 | 76.4 | 89.2 | 92.9 |
| Family income in 1980 | | | | | | | |
| Under \$5,000 | 5,162 | 22.2 | 34.7 | 63.9 | 77.6 | 88.4 | 94.4 |
| \$5,000-\$7,999 | 3,101 | 22.6 | 36.0 | 62.2 | 80.1 | 86.4 | 91.9 |
| \$8,000-\$9,999 | 4,091 | 23.5 | 37.6 | 63.1 | 76.5 | 88.0 | 92.6 |
| \$10,000-\$14,999 | 4,405 | 23.8 | 38.9 | 61.4 | 73.7 | 88.8 | 92.3 |
| \$15,000-\$24,999 | 3,645 | 22.7 | 34.8 | 60.7 | 74.9 | 88.0 | 91.5 |
| \$25,000 or more | 2,381 | 26.8 | 36.6 | 61.1 | 75.5 | 87.8 | 91.6 |
| Poverty status in 1980 | | | | | | | |
| Below poverty level | 4,609 | 25.0 | 38.3 | 66.1 | 79.3 | 89.4 | 94.3 |
| 100-149 percent | 4,710 | 19.5 | 32.0 | 60.2 | 76.0 | 86.3 | 92.6 |
| 150-199 percent | 4,168 | 26.5 | 42.3 | 64.5 | 77.1 | 89.4 | 93.5 |
| 200-299 percent | 4,658 | 23.0 | 34.9 | 61.1 | 75.1 | 88.5 | 91.9 |
| 300 percent or more | 4,639 | 23.1 | 35.3 | 59.7 | 74.3 | 86.8 | 90.7 |
| Perceived health status | | | | | | | |
| Excellent | 5,916 | 33.5 | 49.6 | 72.3 | 83.2 | 92.1 | 94.5 |
| Good | 8,472 | 24.6 | 37.1 | 62.5 | 78.1 | 90.2 | 94.7 |
| Fair | 5,697 | 15.8 | 30.3 | 60.2 | 72.8 | 86.3 | 90.8 |
| Poor | 2,635 | 13.6 | 17.9 | 43.5 | 62.1 | 75.1 | 84.9 |
| Limitation of activity | | | | | | | |
| Not limited | 13,729 | 28.1 | 43.0 | 69.3 | 82.7 | 92.2 | 95.8 |
| Some limitation | 1,586 | 19.7 | 30.3 | 57.1 | 67.2 | 85.8 | 90.3 |
| Cannot perform usual activity | 7,469 | 15.4 | 25.7 | 50.5 | 66.7 | 80.9 | 87.2 |

Table 4

Health care expenditures for people 65 years of age and over living in the community for the entire year, by selected characteristics:
United States, 1980

| Characteristic | Estimated population in thousands | Number in sample | Mean | Standard error | Expenditures at selected percentiles | | | | |
|---|--------------------------------------|------------------------|---------|-------------------|---|-------|-------|-------|---------|
| | | | | | 10th | 25th | 50th | 75th | 90th |
| Total | 22,784 | 1,774 | \$1,328 | \$82.6 | \$15 | \$111 | \$329 | \$900 | \$3,607 |
| Age | | | | | | | | | |
| 65-74 years | 14,908 | 1,150 | 1,193 | 79.0 | 8 | 94 | 310 | 858 | 3,078 |
| 75-84 years | 6,648 | 525 | 1,652 | 161.3 | 31 | 159 | 359 | 1,045 | 5,022 |
| 85 years and over | 1,228 | 99 | 1,209 | 196.1 | 13 | 160 | 373 | 912 | 3,194 |
| Sex | | | | | | | | | |
| Male | 9,173 | 735 | 1,381 | 120.0 | 0 | 89 | 293 | 954 | 4,134 |
| Female | 13,611 | 1,039 | 1,292 | 100.9 | 26 | 131 | 352 | 874 | 3,320 |
| Race | | | | | | | | | |
| White | 20,528 | 1,622 | 1,345 | 79.1 | 18 | 122 | 339 | 920 | 3,607 |
| All other | 2,256 | 152 | 1,170 | 292.0 | 0 | 60 | 235 | 756 | 3,627 |
| Region | | | | | | | | | |
| Northeast | 4,440 | 356 | 1,398 | 229.8 | 0 | 75 | 295 | 833 | 4,471 |
| North Central | 5,563 | 440 | 1,297 | 157.4 | 22 | 114 | 294 | 823 | 3,215 |
| South | 7,704 | 600 | 1,268 | 131.3 | 22 | 113 | 345 | 955 | 3,552 |
| West | 5,078 | 378 | 1,389 | 163.4 | 14 | 130 | 376 | 1,005 | 3,307 |
| Residence | | | | | | | | | |
| SMSA | 14,819 | 1,155 | 1,347 | 94.0 | 12 | 127 | 340 | 900 | 3,673 |
| In central city | 7,063 | 550 | 1,348 | 137.9 | 0 | 121 | 342 | 866 | 3,700 |
| Outside central city | 7,756 | 605 | 1,346 | 108.8 | 20 | 131 | 339 | 949 | 3,666 |
| Outside SMSA | 7,965 | 619 | 1,291 | 157.4 | 20 | 99 | 314 | 896 | 3,440 |
| Family income in 1980 | | | | | | | | | |
| Under \$5,000 | 5,162 | 389 | 1,129 | 121.4 | 23 | 125 | 303 | 828 | 3,293 |
| \$5,000-\$7,999 | 3,101 | 243 | 1,375 | 173.2 | 12 | 110 | 367 | 741 | 4,308 |
| \$8,000-\$9,999 | 4,091 | 321 | 1,633 | 246.6 | 14 | 109 | 329 | 955 | 3,581 |
| \$10,000-\$14,999 | 4,405 | 349 | 1,377 | 158.2 | 8 | 107 | 329 | 1,059 | 3,440 |
| \$15,000-\$24,999 | 3,665 | 286 | 1,305 | 104.0 | 15 | 115 | 346 | 1,030 | 3,711 |
| \$25,000 or more | 2,381 | 186 | 1,112 | 177.4 | 5 | 82 | 317 | 888 | 3,467 |
| Poverty status in 1980 | | | | | | | | | |
| Below poverty level | 4,609 | 347 | 1,115 | 133.0 | 20 | 99 | 282 | 754 | 3,078 |
| 100-149 percent | 4,710 | 372 | 1,368 | 153.0 | 25 | 133 | 365 | 955 | 4,218 |
| 150-199 percent | 4,168 | 326 | 1,422 | 201.5 | 8 | 79 | 307 | 866 | 3,190 |
| 200-299 percent | 4,658 | 367 | 1,455 | 176.0 | 0 | 109 | 333 | 917 | 3,618 |
| 300 percent or more | 4,639 | 362 | 1,285 | 151.3 | 18 | 125 | 364 | 1,045 | 4,347 |
| Perceived health status | | | | | | | | | |
| Excellent | 5,916 | 455 | 881 | 86.0 | 0 | 63 | 200 | 558 | 2,335 |
| Good | 8,472 | 668 | 1,151 | 106.2 | 8 | 101 | 329 | 817 | 2,960 |
| Fair | 5,697 | 443 | 1,550 | 167.5 | 49 | 166 | 359 | 1,266 | 4,726 |
| Poor | 2,635 | 203 | 2,436 | 285.1 | 40 | 269 | 647 | 2,982 | 6,645 |
| Limitation of activity | | | | | | | | | |
| Not limited | 13,729 | 1,066 | 919 | 76.1 | 0 | 81 | 251 | 640 | 2,371 |
| Some limitation | 1,586 | 124 | 1,470 | 237.6 | 25 | 139 | 432 | 1,256 | 4,870 |
| Cannot perform usual activity | 7,469 | 584 | 2,047 | 184.3 | 40 | 185 | 488 | 2,090 | 6,321 |

Table 5

People 65 years of age and over living in the community for the entire year with out-of-pocket health care expenditures under specified amount, by selected characteristics: United States, 1980

| Characteristic | Estimated population in thousands | No expend- itures | Out-of-pocket expenditures under— | | | | | |
|---|-----------------------------------|-------------------|-----------------------------------|-------|-------|-------|-------|---------|
| | | | \$100 | \$200 | \$300 | \$400 | \$500 | \$1,000 |
| Cumulative percent of population | | | | | | | | |
| Total | 22,784 | 12.1 | 38.0 | 57.3 | 70.4 | 78.5 | 84.2 | 94.3 |
| Age | | | | | | | | |
| 65-74 years | 14,908 | 13.1 | 40.0 | 59.8 | 72.2 | 79.0 | 84.3 | 94.6 |
| 75-84 years | 6,648 | 9.3 | 32.0 | 51.7 | 66.4 | 76.7 | 82.9 | 93.7 |
| 85 years and over | 1,228 | 14.9 | 45.8 | 57.8 | 70.1 | 83.1 | 90.5 | 95.4 |
| Sex | | | | | | | | |
| Male | 9,173 | 15.9 | 41.9 | 60.8 | 73.2 | 80.9 | 86.0 | 93.8 |
| Female | 13,611 | 9.4 | 35.3 | 55.0 | 68.5 | 77.0 | 83.0 | 94.7 |
| Race | | | | | | | | |
| White | 20,528 | 11.1 | 36.2 | 56.0 | 69.4 | 77.9 | 83.6 | 94.0 |
| All other | 2,256 | 20.5 | 53.8 | 69.2 | 79.3 | 84.8 | 89.9 | 97.1 |
| Region | | | | | | | | |
| Northeast | 4,440 | 14.7 | 40.7 | 62.2 | 75.0 | 82.6 | 87.3 | 95.1 |
| North Central | 5,563 | 9.9 | 34.6 | 57.2 | 71.7 | 78.9 | 87.1 | 95.9 |
| South | 7,704 | 10.1 | 35.9 | 54.2 | 66.1 | 76.0 | 81.2 | 93.6 |
| West | 5,078 | 15.0 | 42.3 | 58.1 | 71.4 | 78.6 | 83.1 | 93.3 |
| Residence | | | | | | | | |
| SMSA | 14,819 | 13.7 | 38.1 | 58.2 | 71.2 | 79.2 | 84.4 | 94.2 |
| In central city | 7,063 | 14.8 | 41.1 | 59.9 | 74.6 | 82.4 | 87.9 | 94.9 |
| Outside central city | 7,756 | 12.6 | 35.3 | 56.6 | 68.1 | 76.3 | 81.3 | 93.7 |
| Outside SMSA | 7,965 | 9.0 | 37.8 | 55.8 | 69.0 | 77.3 | 83.9 | 94.6 |
| Family income in 1980 | | | | | | | | |
| Under \$5,000 | 5,162 | 14.0 | 44.8 | 61.3 | 74.6 | 82.6 | 86.6 | 95.1 |
| \$5,000-\$7,999 | 3,101 | 11.5 | 37.4 | 55.9 | 72.6 | 79.9 | 87.4 | 96.2 |
| \$8,000-\$9,999 | 4,091 | 12.0 | 34.2 | 57.0 | 68.8 | 77.4 | 82.5 | 90.7 |
| \$10,000-\$14,999 | 4,405 | 11.7 | 36.3 | 55.6 | 70.7 | 78.1 | 83.8 | 95.3 |
| \$15,000-\$24,999 | 3,645 | 11.1 | 36.1 | 54.8 | 65.9 | 73.7 | 82.3 | 93.7 |
| \$25,000 or more | 2,381 | 10.8 | 36.3 | 58.3 | 67.5 | 78.4 | 81.7 | 95.8 |
| Poverty status in 1980 | | | | | | | | |
| Below poverty level | 4,609 | 14.1 | 47.1 | 65.8 | 76.8 | 83.5 | 87.9 | 96.5 |
| 100-149 percent | 4,710 | 11.3 | 37.3 | 54.9 | 71.9 | 80.1 | 86.2 | 93.8 |
| 150-199 percent | 4,168 | 12.5 | 36.1 | 57.4 | 70.6 | 79.7 | 85.1 | 94.9 |
| 200-299 percent | 4,658 | 12.6 | 37.1 | 55.5 | 69.2 | 76.3 | 82.0 | 92.6 |
| 300 percent or more | 4,639 | 9.8 | 32.2 | 53.2 | 63.5 | 73.2 | 80.0 | 94.0 |
| Perceived health status | | | | | | | | |
| Excellent | 5,916 | 14.3 | 44.6 | 63.8 | 76.7 | 84.5 | 89.1 | 95.2 |
| Good | 8,472 | 12.7 | 38.4 | 57.8 | 70.4 | 78.3 | 83.4 | 95.8 |
| Fair | 5,697 | 8.9 | 32.6 | 54.1 | 68.8 | 77.1 | 83.5 | 92.8 |
| Poor | 2,635 | 12.2 | 34.2 | 48.4 | 60.1 | 69.1 | 77.7 | 91.2 |
| Limitation of activity | | | | | | | | |
| Not limited | 13,729 | 13.2 | 41.3 | 62.3 | 75.2 | 82.6 | 87.3 | 96.1 |
| Some limitation | 1,586 | 7.9 | 26.0 | 50.7 | 62.9 | 73.3 | 78.1 | 90.3 |
| Cannot perform usual activity | 7,469 | 10.9 | 34.5 | 49.6 | 63.2 | 72.1 | 79.9 | 91.9 |

Table 6

**Out-of-pocket health care expenditures for people 65 years of age and over living in the community for the entire year,
by selected characteristics: United States, 1980**

| Characteristic | Estimated population in thousands | Number in sample | Mean | Standard error | Expenditures at selected percentiles | | | | |
|---|-----------------------------------|------------------|-------|----------------|--------------------------------------|------|-------|-------|-------|
| | | | | | 10th | 25th | 50th | 75th | 90th |
| Total | 22,784 | 1,774 | \$293 | \$13.7 | \$0 | \$40 | \$156 | \$348 | \$682 |
| Age | | | | | | | | | |
| 65-74 years | 14,908 | 1,150 | 285 | 15.4 | 0 | 34 | 143 | 339 | 682 |
| 75-84 years | 6,648 | 525 | 319 | 25.1 | 3 | 69 | 188 | 376 | 716 |
| 85 years and over | 1,228 | 99 | 238 | 30.3 | 0 | 13 | 129 | 351 | 456 |
| Sex | | | | | | | | | |
| Male | 9,173 | 735 | 280 | 20.7 | 0 | 30 | 137 | 321 | 640 |
| Female | 13,611 | 1,039 | 301 | 14.4 | 1 | 50 | 173 | 370 | 700 |
| Race | | | | | | | | | |
| White | 20,528 | 1,622 | 304 | 13.9 | 0 | 46 | 165 | 361 | 699 |
| All other | 2,256 | 152 | 187 | 32.9 | 0 | 5 | 75 | 238 | 508 |
| Region | | | | | | | | | |
| Northeast | 4,440 | 356 | 261 | 18.6 | 0 | 33 | 138 | 302 | 588 |
| North Central | 5,563 | 440 | 272 | 22.0 | 1 | 60 | 161 | 340 | 627 |
| South | 7,704 | 600 | 326 | 28.3 | 0 | 43 | 180 | 380 | 753 |
| West | 5,078 | 378 | 292 | 32.2 | 0 | 25 | 130 | 344 | 676 |
| Residence | | | | | | | | | |
| SMSA | 14,819 | 1,155 | 292 | 16.7 | 0 | 37 | 153 | 342 | 652 |
| In central city | 7,063 | 550 | 268 | 20.0 | 0 | 30 | 144 | 306 | 588 |
| Outside central city | 7,756 | 605 | 313 | 26.7 | 0 | 44 | 167 | 377 | 794 |
| Outside SMSA | 7,965 | 619 | 294 | 23.7 | 3 | 44 | 165 | 366 | 694 |
| Family income in 1980 | | | | | | | | | |
| Under \$5,000 | 5,162 | 389 | 266 | 28.9 | 0 | 20 | 126 | 312 | 632 |
| \$5,000-\$7,999 | 3,101 | 243 | 252 | 22.6 | 0 | 40 | 166 | 340 | 570 |
| \$8,000-\$9,999 | 4,091 | 321 | 350 | 33.8 | 0 | 52 | 161 | 372 | 891 |
| \$10,000-\$14,999 | 4,405 | 349 | 276 | 22.7 | 0 | 52 | 163 | 350 | 637 |
| \$15,000-\$24,999 | 3,644 | 286 | 328 | 36.1 | 0 | 43 | 165 | 409 | 780 |
| \$25,000 or more | 2,381 | 186 | 281 | 29.1 | 0 | 38 | 158 | 369 | 775 |
| Poverty status in 1980 | | | | | | | | | |
| Below poverty level | 4,609 | 347 | 239 | 26.1 | 0 | 16 | 116 | 256 | 549 |
| 100-149 percent | 4,710 | 372 | 280 | 20.9 | 0 | 41 | 176 | 343 | 639 |
| 150-199 percent | 4,168 | 326 | 296 | 32.2 | 0 | 53 | 153 | 340 | 652 |
| 200-299 percent | 4,658 | 367 | 307 | 24.0 | 0 | 43 | 158 | 368 | 761 |
| 300 percent or more | 4,639 | 362 | 341 | 29.2 | 1 | 56 | 178 | 415 | 844 |
| Perceived health status | | | | | | | | | |
| Excellent | 5,916 | 455 | 258 | 25.3 | 0 | 30 | 128 | 283 | 511 |
| Good | 8,472 | 668 | 268 | 16.1 | 0 | 38 | 150 | 349 | 644 |
| Fair | 5,697 | 443 | 330 | 24.9 | 3 | 64 | 180 | 373 | 760 |
| Poor | 2,635 | 203 | 366 | 39.0 | 0 | 31 | 210 | 465 | 893 |
| Limitation of activity | | | | | | | | | |
| Not limited | 13,729 | 1,066 | 245 | 13.0 | 0 | 36 | 135 | 297 | 560 |
| Some limitation | 1,586 | 124 | 405 | 70.4 | 18 | 76 | 199 | 449 | 982 |
| Cannot perform usual activity | 7,469 | 584 | 356 | 26.1 | 0 | 40 | 202 | 431 | 884 |

Table 7

**Median out-of-pocket charges and mean percent of charges and mean percent of family income that was out-of-pocket charges,
by selected characteristics: United States, 1980**

| Characteristic | Median out-of-pocket charge | Estimated population with expenditures in thousands | Mean percent of charges | Mean percent of income |
|---|-----------------------------|---|-------------------------|------------------------|
| Total | \$156 | 20,869 | 56.67 | 5.58 |
| Age | | | | |
| 65-74 years | 143 | 13,481 | 57.17 | 4.91 |
| 75-84 years | 188 | 6,227 | 56.71 | 7.27 |
| 85 years and over | 129 | 1,161 | 50.67 | 4.38 |
| Sex | | | | |
| Male | 137 | 8,113 | 55.02 | 4.70 |
| Female | 173 | 12,756 | 57.72 | 6.14 |
| Race | | | | |
| White | 165 | 18,930 | 57.62 | 5.07 |
| All other | 75 | 1,939 | 47.45 | 10.57 |
| Region | | | | |
| Northeast | 138 | 3,948 | 56.81 | 9.40 |
| North Central | 161 | 5,137 | 61.14 | 3.84 |
| South | 180 | 7,106 | 57.13 | 5.47 |
| West | 130 | 4,679 | 50.95 | 4.42 |
| Residence | | | | |
| SMSA | 153 | 13,456 | 55.21 | 6.20 |
| In central city | 144 | 6,326 | 52.28 | 8.37 |
| Outside central city | 167 | 7,131 | 57.81 | 4.27 |
| Outside SMSA | 165 | 7,413 | 59.32 | 4.45 |
| Family income in 1980 | | | | |
| Under \$5,000 | 126 | 4,805 | 52.72 | 14.41 |
| \$5,000-\$7,999 | 166 | 2,821 | 59.19 | 4.61 |
| \$8,000-\$9,999 | 161 | 3,743 | 58.73 | 4.58 |
| \$10,000-\$14,999 | 163 | 3,967 | 56.78 | 2.54 |
| \$15,000-\$24,999 | 165 | 3,367 | 55.45 | 1.86 |
| \$25,000 or more | 158 | 2,167 | 60.28 | 0.81 |
| Poverty status in 1980 | | | | |
| Below poverty level | 116 | 4,241 | 52.85 | 14.83 |
| 100-149 percent | 176 | 4,407 | 55.81 | 5.10 |
| 150-199 percent | 153 | 3,759 | 60.19 | 3.64 |
| 200-299 percent | 158 | 4,182 | 54.32 | 2.83 |
| 300 percent or more | 178 | 4,279 | 60.54 | 1.53 |
| Perceived health status | | | | |
| Excellent | 128 | 5,255 | 65.17 | 5.79 |
| Good | 150 | 7,688 | 58.42 | 5.80 |
| Fair | 180 | 5,379 | 53.34 | 4.99 |
| Poor | 210 | 2,483 | 40.05 | 5.82 |
| Limitation of activity | | | | |
| Not limited | 135 | 7,095 | 46.90 | 5.12 |
| Some limitation | 199 | 1,471 | 60.43 | 10.74 |
| Cannot perform usual activity | 202 | 12,304 | 61.86 | 5.23 |

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Technical Notes

Definition of Terms

Age—A person's age as of January 1, 1980. Babies born during the survey period were included in the category "under 5 years of age."

Family income in 1980—Each member of a family is classified according to the total income of the family of which he or she is a member. Because some persons changed families during the year, their family income is defined as the income of the family they were in the longest. If a family did not exist for the entire year, the family income is adjusted to an annual basis by dividing actual income by the proportion of the year the family existed. Unrelated persons are classified according to their own income. For each person, 12 categories of income were collected, including income from employment for persons 14 years of age and older and income from various government programs, pensions, alimony or child support, interest, and net rental income. Where information was missing, it was imputed. For persons who were members of more than one family, their total income was allocated to each family in proportion to the amount of time they were in that family.

Hospital admission—The formal acceptance by a hospital of a patient who is provided room, board, and regular nursing care in a unit of the hospital. Included as a hospital admission is any patient admitted to the hospital and discharged on the same day and any hospital stay following an emergency department visit.

Institution—A place providing room, board, and certain other services for the residents or patients. Correctional institutions, military barracks, and orphanages were always considered institutions for the NMCUES. Places that provided health care were also identified as institutions if they provided either nursing or personal care services. Certain other facilities licensed, registered, or certified by State agencies or affiliated with Federal, State, or local government agencies were also defined as institutions. People residing in institutions were not included in the household samples.

Limitation of activity—Four categories were developed for classifying limitation of activity:

1. Cannot perform usual activity.
2. Can perform usual activity but limited in kind or amount.
3. Can perform usual activity but limited in kind or amount of other activity.
4. Not limited.

People 6 years of age and over were classified into any of the categories; children 1-5 years of age were classified into categories 1, 2, and 4, and children under 1 year of age into categories 1 and 4.

Perceived health status—The family respondent's judgment of the health of the person compared to others the same age, as reported at the time of the first interview. The categories were excellent, good, fair, or poor.

Poverty status—The poverty status in 1980 was calculated by dividing the person's family income in 1980 by the appropriate 1980 nonfarm poverty level threshold and converting it to percent. These thresholds, as used by the U.S. Bureau of the Census, are determined by the age and sex of the family head and the average number of persons in the family.

Race—The race of people 17 years of age and over reported by the family respondent; the race of those under 17 derived from the race of other family members. If the head of the family was male and had a wife who was living in the household, her race was assigned to any children under 17 years of age. In all other cases, the race of the head of the family (male or female) was assigned to any children under 17 years of age. Race is classified as "white," "black," or "other." The "other" race category includes American Indian, Alaskan Native, Asian, Pacific Islander, and people not identified by race. The category "all other" includes the categories "black" and "other."

Region—The States comprising the four geographic regions of the United States correspond to those used by the U.S. Bureau of the Census. Northeast: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania; North Central: Michigan, Ohio, Illinois, Indiana, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas; South: Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas; West: Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, California, Hawaii, and Alaska.

Sample Design

The National Medical Care Utilization and Expenditure Survey (NMCUES) utilized two independently drawn national area samples provided by the Research Triangle Institute and its subcontractor, the National

Opinion Research Center. Both sample designs were stratified four-stage area probability designs and were similar in structure. The first stage consisted of primary sampling units (PSU's), which were counties, parts of counties, or groups of contiguous counties. The second stage consisted of secondary sampling units (SSU's), which were census enumeration districts or block groups. The third stage consisted of smaller area segments, and the fourth stage consisted of housing units (HU's). Related persons in an HU were interviewed as a single reporting unit (RU). Combined stage-specific samples for the two designs totaled 135 PSU's (covering 108 separate primary areas), 809 SSU's, 809 small area segments (one segment per SSU), and 7,244 RU's. Of these, 6,599 RU's agreed to participate in the survey, for a response rate of 91.1 percent of eligible RU's.

NMCUES consisted of initial interviews during February through April 1980 and four followup interviews spaced at approximately 3-month intervals. About four-fifths of the third and fourth interviews were conducted by telephone; all of the remaining interviews were conducted in person. In most RU's, data for all related persons were collected from a single respondent. A summary of selected information reported in previous interviews was reviewed with the family to correct errors and update information.

Statistical Notes

The statistics presented in this report are based on a sample of the target population rather than on the entire population. Thus the estimates may differ from values that would be obtained from a complete census.

Expenditures are skewed with a long tail to the right. The presence of a few outliers, especially in small cells, will cause the mean to be extremely large and may make comparisons among population subgroups misleading. The following procedure was used to alleviate the problem: Total expenditures were estimated with the outliers included. All other statistics were estimated with the outliers modified by assigning the value at the 99th percentile of those with the specified expenditures if the outlying value was observed or by assigning the value at the median if the outlying value was imputed. An outlier was defined as one or more of the five largest values in the distribution if, and only if, it was at least 50 percent larger than the next value. There were three outliers for total expenditures, two for hospital expenditures, and one for out-of-pocket expenditures.

The effect of this procedure is to leave totals, values at specified percentiles, and cumulative percent distributions unchanged (unless the outlier had been imputed, in which case values above the median would be changed slightly) and to make means and standard errors smaller. The reader interested in the unmodified means can obtain them by dividing the total expenditures by the population in Table 2.

Means and standard errors were estimated by using SESUDAAN (Shah, 1981). This program, which runs

under SAS (SAS Institute, Inc., 1982), produces estimates of means and totals that agree with the ones estimated from the SAS programs PROC UNIVARIATE and PROC TABULATE, which were used to calculate the other statistics. SESUDAAN takes the complex sample design into account, however; the SAS programs do not.

Sampling errors for median expenditures were not calculated, although they could be by using another approach to estimating variances (Landis, Lepkowski,

Eklund et al., 1982; McCarthy, 1966). An approximation of the 95 percent confidence interval of the median is given by:

$$\begin{aligned} & \tilde{m} \left(1 + 1.96 \sqrt{\frac{\pi}{2}} \sqrt{\ln(CV)^2 + 1} \right) \\ & \tilde{m} \left(1 - 1.96 \sqrt{\frac{\pi}{2}} \sqrt{\ln(CV)^2 + 1} \right) \end{aligned}$$

where CV = coefficient of variation.

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