HMO Enrollment in the United States: Estimates Based on Household Reports, 1996

MEPS

Research #15 Findings

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Abstract

This report from the 1996 Medical Expenditure Panel Survey (MEPS) presents estimates of the total number of people enrolled in HMO (health maintenance organization) plans for the first half of 1996. The estimates are based on MEPS household survey data, which rely on household members' understanding and reporting of HMO status. According to MEPS household data, 91.6 million people—41.9 percent of the total insured population—were enrolled in HMOs in the first half of 1996. HMO enrollment rates were higher among the privately insured than the publicly insured, higher among children and younger adults than older adults, and higher for Hispanics and blacks than for the group of whites and people of other races. In addition, middle- and high-income people were more likely than those with lower incomes to be enrolled in HMOs. HMO enrollment was higher in the West and in urban areas. There were some health status differences in HMO enrollment for publicly insured people. Among people on Medicare or Medicaid, those who needed help with daily activities or were limited in their ability to work or do housework were less likely than others to be in an HMO.

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The Medical Expenditure Panel Survey (MEPS)

Background

The Medical Expenditure Panel Survey (MEPS) is conducted to provide nationally representative estimates of health care use, expenditures, sources of payment, and insurance coverage for the U.S. civilian noninstitutionalized population. MEPS also includes a nationally representative survey of nursing homes and their residents. MEPS is cosponsored by the Agency for Healthcare Research and Quality (AHRQ), formerly the Agency for Health Care Policy and Research, and the National Center for Health Statistics (NCHS).

MEPS comprises four component surveys: the Household Component (HC), the Medical Provider Component (MPC), the Insurance Component (IC), and the Nursing Home Component (NHC). The HC is the core survey, and it forms the basis for the MPC sample and part of the IC sample. The separate NHC sample supplements the other MEPS components. Together these surveys yield comprehensive data that provide national estimates of the level and distribution of health care use and expenditures, support health services research, and can be used to assess health care policy implications.

MEPS is the third in a series of national probability surveys conducted by AHRQ on the financing and use of medical care in the United States. The National Medical Care Expenditure Survey (NMCES) was conducted in 1977, the National Medical Expenditure Survey (NMES) in 1987. Beginning in 1996, MEPS continues this series with design enhancements and efficiencies that provide a more current data resource to capture the changing dynamics of the health care delivery and insurance system.

The design efficiencies incorporated into MEPS are in accordance with the Department of Health and Human Services (DHHS) Survey Integration Plan of June 1995, which focused on consolidating DHHS surveys, achieving cost efficiencies, reducing respondent burden, and enhancing analytical capacities. To accommodate these goals, new MEPS design features include linkage with the National Health Interview Survey (NHIS), from which the sample for the MEPS HC is drawn, and enhanced longitudinal data collection for core survey components. The MEPS HC augments NHIS by selecting a sample of NHIS respondents, collecting additional data on their health care expenditures, and linking these data with additional information collected from the respondents' medical providers, employers, and insurance providers.

Household Component

The MEPS HC, a nationally representative survey of the U.S. civilian noninstitutionalized population, collects medical expenditure data at both the person and household levels. The HC collects detailed data on demographic characteristics, health conditions, health status, use of medical care services, charges and payments, access to care, satisfaction with care, health insurance coverage, income, and employment.

The HC uses an overlapping panel design in which data are collected through a preliminary contact followed by a series of five rounds of interviews over a 2½-year period. Using computer-assisted personal interviewing (CAPI) technology, data on medical expenditures and use for 2 calendar years are collected from each household. This series of data collection rounds is launched each subsequent year on a new sample of households to provide overlapping panels of survey data and, when combined with other ongoing panels, will provide continuous and current estimates of health care expenditures.

The sampling frame for the MEPS HC is drawn from respondents to NHIS, conducted by NCHS. NHIS provides a nationally representative sample of the U.S. civilian noninstitutionalized population, with oversampling of Hispanics and blacks.

Medical Provider Component

The MEPS MPC supplements and validates information on medical care events reported in the MEPS HC by contacting medical providers and pharmacies identified by household respondents. The MPC sample includes all hospitals, hospital physicians, home health agencies, and pharmacies reported in the HC. Also included in the MPC are all office-based physicians:

- Providing care for HC respondents receiving Medicaid.
- Associated with a 75-percent sample of households receiving care through an HMO (health maintenance organization) or managed care plan.
- Associated with a 25-percent sample of the remaining households.

Data are collected on medical and financial characteristics of medical and pharmacy events reported by HC respondents, including:

- Diagnoses coded according to ICD-9 (9th Revision, International Classification of Diseases) and DSM-IV (Fourth Edition, *Diagnostic and Statistical Manual of Mental Disorders*).
- Physician procedure codes classified by CPT-4 (Current Procedural Terminology, Version 4).
- Inpatient stay codes classified by DRG (diagnosis-related group).
- Prescriptions coded by national drug code (NDC), medication names, strength, and quantity dispensed.
- Charges, payments, and the reasons for any difference between charges and payments.

The MPC is conducted through telephone interviews and mailed survey materials.

Insurance Component

The MEPS IC collects data on health insurance plans obtained through private and public-sector employers. Data obtained in the IC include the number and types of private insurance plans offered, benefits associated with these plans, premiums, contributions by employers and employees, and employer characteristics.

Establishments participating in the MEPS IC are selected through three sampling frames:

- A list of employers or other insurance providers identified by MEPS HC respondents who report having private health insurance at the Round 1 interview.
- A Bureau of the Census list frame of private-sector business establishments.
- The Census of Governments from the Bureau of the Census.

To provide an integrated picture of health insurance, data collected from the first sampling frame (employers and other insurance providers) are linked back to data provided by the MEPS HC respondents. Data from the other three sampling frames are collected to provide annual national and State estimates of the supply of private health insurance available to American workers and to evaluate policy issues pertaining to health insurance. Beginning in 2000, national estimates of employer contributions to group health insurance from the MEPS IC are being used in the computation of Gross Domestic Product (GDP) by the Bureau of Economic Analysis.

The MEPS IC is an annual panel survey. Data are collected from the selected organizations through a prescreening telephone interview, a mailed questionnaire, and a telephone followup for nonrespondents.

Nursing Home Component

The 1996 MEPS NHC was a survey of nursing homes and persons residing in or admitted to nursing homes at any time during calendar year 1996. The NHC gathered information on the demographic characteristics, residence history, health and functional status, use of services, use of prescription medications, and health care expenditures of nursing home residents. Nursing home administrators and designated staff also provided information on facility size, ownership, certification status, services provided, revenues and expenses, and other facility characteristics. Data on the income, assets, family relationships, and caregiving services for sampled nursing home residents were obtained from next-of-kin or other knowledgeable persons in the community.

The 1996 MEPS NHC sample was selected using a two-stage stratified probability design. In the first stage, facilities were selected; in the second stage, facility residents were sampled, selecting both persons in residence on January 1, 1996, and those admitted during the period January 1 through December 31.

The sampling frame for facilities was derived from the National Health Provider Inventory, which is updated periodically by NCHS. The MEPS NHC data were collected in person in three rounds of data collection over a 1½-year period using the CAPI system. Community data were collected by telephone using computer-assisted telephone interviewing (CATI) technology. At the end of three rounds of data collection,

the sample consisted of 815 responding facilities, 3,209 residents in the facility on January 1, and 2,690 eligible residents admitted during 1996.

Survey Management

MEPS data are collected under the authority of the Public Health Service Act. They are edited and published in accordance with the confidentiality provisions of this act and the Privacy Act. NCHS provides consultation and technical assistance.

As soon as data collection and editing are completed, the MEPS survey data are released to the public in staged releases of summary reports and microdata files. Summary reports are released as printed documents and electronic files. Microdata files are released on CD-ROM and/or as electronic files.

Printed documents and CD-ROMs are available through the AHRQ Publications Clearinghouse. Write or call:

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Additional information on MEPS is available from the MEPS project manager or the MEPS public use data manager at the Center for Cost and Financing Studies, Agency for Healthcare Research and Quality, 2101 East Jefferson Street, Suite 500, Rockville, MD 20852 (301-594-1406).

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HMO Enrollment in the United States: Estimates Based on Household Reports, 1996

by Jessica S. Banthin, Ph.D., and Amy K. Taylor, Ph.D., Agency for Healthcare Research and Quality

Introduction

The number of people enrolled in managed care plans has grown rapidly in the last decade. As health care costs continue to rise, employers increasingly have switched from traditional indemnity plans to managed care plans in the hope of controlling the costs of offering health insurance coverage to their employees. While managed care can take many forms, one of the oldest types of managed care plans is the health maintenance organization (HMO). In more recent years, public payers such as Medicare and State Medicaid programs also have begun to contract with HMOs. An HMO is a prepaid health plan in which the cost of medical care typically is covered in full or with a small copayment.

This report presents estimates of the total number of people enrolled in HMO plans for the first half of 1996. The estimates are based on data from Round 1 of the 1996 Medical Expenditure Panel Survey (MEPS) Household Component, which is nationally representative of the U.S. civilian noninstitutionalized population. Because household survey data are used, the accuracy of the HMO enrollment estimates presented in this analysis depend on household members' understanding and reporting of HMO status. From a consumer's point of view, the main characteristics of HMOs and other types of managed care plans, compared with traditional indemnity plans, are the limited choice of health care providers and smaller out-of-pocket payments. The Technical Appendix at the end of this report shows the exact questions used to identify HMO enrollees in the MEPS Household Component.

This report focuses on HMO enrollment, excluding from the analyses enrollment in other types of managed care plans. HMOs are one of the oldest types of managed care health plans, first becoming common as a result of the 1973 Health Maintenance Organization Act. This Federal law defined HMO plans, emphasizing their coverage of preventive care services. The law also mandated that employers offer an HMO as an insurance choice to their employees if there is an HMO in the area and if the employer offers a choice of plans. HMOs are federally qualified if they meet the requirements spelled out in the 1973 HMO Act and in subsequent modifications. Whereas older HMOs tend to be nonprofit staff and group models, many current HMOs include for-profit plans that contract with a network of individual providers as well as groups.

Some of the estimates of total HMO enrollees presented in the discussion below cannot be derived exactly from the accompanying tables because of rounding error. Whenever the number presented in the text is at slight variance with the number generated from the corresponding table, it will be noted.

Total HMO Enrollment

In the first half of 1996, a total of 91.6 million people were enrolled in HMOs. Multiplying the numbers in Table 1 (the percent enrolled in an HMO times the total population) yields an estimate slightly higher than 91.6 million because of rounding error. HMO enrollees made up 34.8 percent of the total U.S. civilian noninstitutionalized population and 41.9 percent of the population with health insurance (Table 1). The rate of HMO enrollment was significantly higher in the non-elderly population than in the elderly population (45.6 vs. 20.1 percent). HMO enrollment was also higher among Hispanics of any race (51.6 percent) and blacks (47.2 percent) than for the group of whites and others (40.1 percent). (People of other races, including Asians, Pacific Islanders, American Indians, and Alaska Natives, are grouped with whites for this report.) In addition, insured people living in middle- and high-income families were more likely to be enrolled in an HMO (43.4 percent and 45.6 percent, respectively) than were people living in poor or near-poor (32.7 percent) and low-income families (37.0 percent). See the Technical Appendix for definitions of the terms used in this report.

Table 1. Health maintenance organization (HMO) enrollment as a percent of total insured: United States, first half of 1996

Demographic characteristics	Number in thousands	Percent enrolled in HMOs
Total population	263,516	34.8
	Insured population[a]	
Total insured population[a]	218,760	41.9
Age in years		
18 and under	62,912	46.8
19-64	124,279	45.0
Total under 65	187,191	45.6
65 and over	31,568	20.1
Sex		
Female	114,319	42.1
Male	104,440	41.7
Race/ethnicity		
Hispanic[b]	18,886	51.6
Black	25,407	47.2
White and other	174,466	40.1
Poverty status[c]		
Poor/near poor	34,762	32.7
Low income	28,570	37.0
Middle income	74,561	43.4
High income	80,867	45.6

[a]Includes all persons covered by private insurance, Medicaid, Medicare, CHAMPUS /CHAMPVA (Armed-Forces-related coverage), and other public hospital/physician coverage.
[b]Includes Hispanics of all races; the other race/ethnicity categories exclude Hispanics.
[c]Limited to persons insured in Round 1 who reported annual family income. Poor indicates family income is less than 100 percent of the poverty line, near poor indicates family income is 100 to less than 125 percent of poverty, low income indicates family income is 125 to less than 200 percent of poverty, middle income indicates family income is 200 to less than 400 percent of poverty, and high income indicates family income is 400 percent or more of poverty.

Source: Center for Cost and Financing Studies, Agency for Healthcare Research and Quality: Medical Expenditure Panel Survey Household Component, 1996 (Round 1).

HMO enrollment varied significantly when the total insured population was broken out into three mutually exclusive subgroups: people under 65 with any private insurance, publicly insured people under 65 with no private coverage, and people age 65 and over with Medicare coverage.

HMO enrollment was highest in the privately insured non-elderly population (Tables 2-4). About 47.6 percent of the privately insured population under 65, or 75.8 million people, were HMO enrollees. The 1987 National Medical Expenditure Survey showed 28.0 million HMO enrollees (17.1 percent) in the privately insured population under 65 (Taylor, Beauregard, and Vistnes, 1995). According to data from these two national surveys, HMO enrollment grew by a factor of 2.8 from 1987 to 1996.

In early 1996, 42 percent of the insured population were enrolled in an HMO.

The rate of HMO enrollment was lower among the publicly insured non-elderly population than among the privately insured non-elderly population. In the first half of 1996, 36.5 percent of the publicly insured population under 65, or 9.5 million people, were HMO enrollees (Table 3). This total number is at variance with the estimate generated from the first row of Table 3 because of rounding error.

The lowest enrollment rates were found among Medicare beneficiaries age 65 and over. In this group, 20.0 percent, or 6.2 million people, were enrolled in an HMO in the first half of 1996, either through their Medicare coverage or through private insurance (Table 4).

Privately Insured Non-Elderly

Table 2 shows the percent of the privately insured population under age 65 who were enrolled in HMOs in 1996 by various characteristics. HMO enrollment varied by demographic and health-related characteristics, including age, race/ethnicity, and place of residence.

The rate of enrollment for all children under age 18 was not significantly different from that of all adults under age 65. However, privately insured people ages 55-64 were considerably less likely than those under 55 to be enrolled in an HMO. Only 36.9 percent of this

older age group were enrolled in HMOs, compared to 46.2-51.7 percent of the younger age groups.

There were no significant differences in HMO enrollment by sex for all ages combined, but Table 2 shows some sex differences in HMO enrollment rates for age-sex groups. Women of childbearing age (19-44 years) were more likely than men that age to be enrolled in an HMO (51.0 percent vs. 47.0 percent).

Among the non-elderly privately insured population, a higher percentage of blacks and Hispanics than people in the white and other group were HMO members. Only 45.1 percent of privately insured whites and others were enrolled in an HMO, compared to 57.6 percent of blacks and 62.0 percent of Hispanics.

While HMO enrollment did not differ significantly by marital status, education level, or insurance status, it varied by poverty status. Nearly half (48.6 percent) of high-income people under age 65 were enrolled in HMOs, compared to 41.8 percent of people this age in poor or near-poor families.

Region of the country and degree of urbanization were associated with differences in the likelihood of HMO enrollment. Among privately insured Americans under age 65, people living in the Midwest were less likely than others to be enrolled in an HMO (37.8 percent) and people living in the West were more likely to be an HMO enrollee (59.9 percent). Those living in metropolitan statistical areas (MSAs) were much more likely to be HMO enrollees (51.6 percent) than those living outside of MSAs (29.3 percent).

Table 2 also shows that there were no significant differences in HMO enrollment among the non-elderly privately insured population by several health status measures. This finding is important, since many have speculated that HMOs are able to control costs by enrolling healthier people than those remaining in traditional indemnity plans. This finding that there is no difference in HMO enrollment by several health status measures supports other recent evidence of the lack of selection in HMO enrollment among the privately insured population under age 65 (Reschovsky, 1999/2000; Taylor, Beauregard, and Vistnes, 1995).

Publicly Insured Non-Elderly

Table 3 presents enrollment in HMOs among the non-elderly population covered by public insurance only. It includes people enrolled in an HMO through Medicaid, Medicare, or other public programs that provide hospital and medical coverage but not people covered by CHAMPUS (Armed-Forces-related coverage). The table also shows data separately for those enrolled through Medicaid. Among publicly insured Americans, a higher percent of children (40.0 percent) than adults ages 19-64 (30.1 percent) were enrolled in an HMO through Medicaid. Breaking this down further, adults over age 44 were much less likely than younger adults to be HMO members, while younger adults had an HMO enrollment rate similar to that of children.

Among the publicly insured population under age 65, people in good to excellent health had higher HMO enrollment than people in fair or poor health.

Although there were no significant differences in HMO membership for publicly insured non-elderly Americans by sex, differences can be seen for age-sex groups. Among the publicly insured population ages 19-44, women were much more likely than men to be enrolled in any HMO (42.4 percent compared to 28.2 percent).

Race/ethnicity, poverty status, and marital status did not significantly affect the rates of participation in HMOs among the publicly insured population. There were, however, differences by education level and type of public coverage. People who had not graduated from high school were less likely to be enrolled in an HMO than those with a high school education (28.0 percent vs. 37.9 percent). In terms of insurance status, people with Medicaid only were much more likely to be enrolled in an HMO (39.0 percent) than either those with Medicare only (11.7 percent) or those with Medicare plus Medicaid (20.8 percent).

Among non-elderly Americans, regional patterns in HMO enrollment among the publicly insured were similar to patterns among the privately insured, with those living in the West more likely to be HMO members (49.2 percent) than those in the South (27.3 percent) or the Northeast (34.7 percent). Overall, publicly insured people living in metropolitan areas were much more likely than those living elsewhere to be enrolled in an HMO (40.4 percent vs. 24.0 percent), and this pattern also held for Medicaid recipients considered separately.

Table 2. Privately insured population under age 65—Health maintenance organization (HMO) enrollment as a percent of total insured, by sociodemographic characteristics: United States, first half of 1996

Sociodemographic characteristics	Privately insured population in thousands	Percent enrolled in HMOs
Total	159,235	47.6
All children 18 years and under	47,730	49.5
All adults 19-64 years	111,504	46.8
Age in years		
Under 5	14,834	51.7
6-12	18,054	50.3
13-18	14,843	46.5
19-24	11,563	46.5
25-34	27,698	50.0
35-44	32,049	49.2
45-54	24,785	46.2
55-64	15,410	36.9
Sex		
Female	80,646	48.6
Male	78,589	46.6
Sex by age		
Female, 19-44	36,608	51.0
Female, 45-64	20,678	42.9
Male, 19-44	34,702	47.0
Male, 45-64	19,517	42.3
Race/ethnicity		
Hispanic[a]	11,998	62.0
Black	15,124	57.6
White and other	132,112	45.1
Poverty status[b]		
Poor/near poor	10,295	41.8
Low income	17,101	43.4
Middle income	60,874	47.6
High income	70,966	48.6
Education level[c]		
Less than high school graduate	10,226	45.1
High school graduate	36,876	44.7
Some college	29,535	49.6
College degree or more	34,452	47.0
Marital status[c]		
Married	73,748	45.7
Widowed, divorced, or separated	14,199	50.1
Never married	23,455	48.0
Insurance status		
Private only	154,106	47.7
Private plus public	5,128	43.6
Region		
Northeast	32,113	51.2
Midwest	40,163	37.8
South	53,029	44.9
West	33,929	59.9
Metropolitan statistical area (MSA)		
MSA	130,693	51.6
Non-MSA	28,542	29.3
Perceived health status		
Excellent or very good	118,375	47.3
Good	30,868	48.5
Fair	7,709	48.1
Poor	2,168	46.8
Perceived mental health status		
Excellent or very good	131,730	47.5
Good	23,081	47.6
Fair or poor	4,276	51.9
IADL or ADL assistance[d]		
Needs assistance	1,769	40.3
No assistance needed	157,466	47.7
Limitations[e]		
Any limitation	5,129	43.3
No limitation	141,856	47.4

[a]Includes Hispanics of all races; the other race/ethnicity categories exclude Hispanics.
[b]Limited to persons insured in Round 1 who reported annual family income. Poor indicates family income is less than 100 percent of the poverty line, near poor indicates family income is 100 to less than 125 percent of poverty, low income indicates family income is 125 to less than 200 percent of poverty, middle income indicates family income is 200 to less than 400 percent of poverty, and high income indicates family income is 400 percent or more of poverty.
[c]Age 19 and over.
[d]Needs help in one or more instrumental activities of daily living (such as shopping) or activities of daily living (such as bathing).
[e]Includes limitations in work, school, and housework for persons age 5 and over.

Source: Center for Cost and Financing Studies, Agency for Healthcare Research and Quality: Medical Expenditure Panel Survey Household Component, 1996 (Round 1).

Table 3. Publicly insured population under age 65—Health maintenance organization (HMO) enrollment as a percent of total insured, by sociodemographic characteristics: United States, first half of 1996

Sociodemographic characteristics	Publicly insured population in thousands	Percent enrolled in any HMO	Percent enrolled in HMO through Medicaid
Total	26,131	36.5	35.6
All children 18 years and under	14,460	40.1	40.0
All adults 19-64 years	11,671	32.2	30.1
Age in years			
Under 5	5,854	40.3	40.2
6-12	5,630	42.3	42.1
13-18	2,976	35.4	35.4
19-24	1,743	41.7	40.7
25-34	3,068	34.0	33.5
35-44	2,946	38.6	38.0
45-54	1,998	22.9	18.3
55-64	1,917	20.4	15.4
Sex			
Female	14,262	36.9	35.9
Male	11,869	36.0	35.2
Sex by age			
Female, 19-44	5,069	42.4	41.6
Female, 45-64	2,177	22.9	18.2
Male, 19-44	2,687	28.2	27.7
Male, 45-64	1,737	20.2	15.3
Race/ethnicity			
Hispanic[a]	5,300	35.0	34.4
Black	7,427	36.8	36.7
White and other	13,404	37.0	35.4
Poverty status[b]			
Poor/near poor	18,352	34.1	33.5
Low income	4,186	34.9	33.3
Middle income	2,376	38.5	36.5
High income	1,217	44.4	42.4
Education level[c]			
Less than high school graduate	5,010	28.0	26.3
High school graduate	4,224	37.9	35.5
Some college or more	2,281	31.2	29.5
Marital status[c]			
Married	3,883	34.9	31.8
Widowed, divorced, or separated	3,635	32.9	30.6
Never married	4,153	29.0	28.1
Insurance status			
Medicaid only	23,328	39.0	39.0
Medicare only	1,586	11.7	0.0
Medicaid plus Medicare	1,217	20.8	15.2
Region			
Northeast	5,312	34.7	33.7
Midwest	5,207	36.3	34.9
South	8,526	27.3	26.6
West	7,085	49.2	48.2
Metropolitan statistical area (MSA)			
MSA	19,976	40.4	39.3
Non-MSA	6,154	24.0	23.6
Perceived health status			
Excellent or very good	13,097	40.0	39.6
Good	7,065	38.6	38.1
Fair	3,693	26.3	24.8
Poor	2,187	26.9	21.6
Perceived mental health status			
Excellent or very good	15,901	39.6	38.9
Good	6,634	34.5	33.1
Fair or poor	3,507	26.5	25.4
IADL or ADL assistance[d]			
Needs assistance	1,983	24.7	21.0
No assistance needed	24,148	37.5	36.8
Limitations[e]			
Any limitation	4,450	24.8	20.6
No limitation	16,723	38.4	38.0

[a]Includes Hispanics of all races; the other race/ethnicity categories exclude Hispanics.
[b]Limited to persons insured in Round 1 who reported annual family income. Poor indicates family income is less than 100 percent of the poverty line, near poor indicates family income is 100 to less than 125 percent of poverty, low income indicates family income is 125 to less than 200 percent of poverty, middle income indicates family income is 200 to less than 400 percent of poverty, and high income indicates family income is 400 percent or more of poverty.
[c]Age 19 and over.
[d]Needs help in one or more instrumental activities of daily living (such as shopping) or activities of daily living (such as bathing).
[e]Includes limitations in work, school, and housework for persons age 5 and over.

Source: Center for Cost and Financing Studies, Agency for Healthcare Research and Quality: Medical Expenditure Panel Survey Household Component, 1996 (Round 1).

One of the important differences in HMO enrollment patterns between the privately insured and publicly insured non-elderly population is in health status. The privately insured population showed no differences in HMO enrollment by health status, but the publicly insured non-elderly population showed significant differences by several health status measures. HMO enrollment was higher for people in excellent or very good health (40.0 percent) and good health (38.6 percent) than for people in fair health (26.3 percent) or poor health (26.9 percent). Similarly, people with excellent or very good mental health were more likely than people with fair or poor mental health to be enrolled in an HMO (39.6 percent vs. 26.5 percent). Publicly insured people who did not need assistance with activities of daily living (ADLs) or instrumental activities of daily living (IADLs) were more likely to be enrolled in an HMO than those who did need such assistance (37.5 percent vs. 24.7 percent). People who did not have any health limitations that affected work, housework, or school were more likely than those with limitations to be enrolled in an HMO (38.4 percent vs. 24.8 percent).

Elderly Medicare Enrollees

Table 4 presents estimates of HMO enrollment for the Medicare-insured population age 65 and over. Elderly people without Medicare coverage are not included. The table presents separate statistics on HMO enrollment through private insurance and HMO enrollment through Medicare. A person can be enrolled in an HMO directly through Medicare as part of the Medicare + Choice program. Another way a Medicare recipient can be enrolled in an HMO is through a supplemental insurance policy, sometimes called a Medigap plan, or through a retirement health plan offered by a former employer. This is an important distinction because about 61.5 percent of Medicare beneficiaries held private coverage in addition to their Medicare coverage in 1996 (Vistnes and Monheit, 1997). Twenty percent of all elderly noninstitutionalized Medicare beneficiaries, or 6.2 million people, were enrolled in an HMO through any source of insurance. About 14.3 percent of all beneficiaries, or 4.5 million people, were enrolled in an HMO through Medicare coverage.

HMO enrollment through Medicare and HMO enrollment through private insurance have slightly different patterns by age group. While there were no significant differences in Medicare HMO enrollment by age group, Table 4 shows that younger beneficiaries were more likely than older beneficiaries to be enrolled in an HMO through private insurance (13.4 percent of beneficiaries ages 65-74 vs. 7.4 percent for ages 75-84 and 6.8 percent for age 85 and over). Similarly, beneficiaries ages 65-74 were more likely than those in older age groups to be enrolled in an HMO through either source of insurance. There are no significant differences by sex or age-sex groups.

Almost a third of Hispanics (32.3 percent) were enrolled in any HMO (Medicare or private insurance enrollment). This is significantly higher than overall HMO enrollment rates among blacks (20.6 percent) and the white and other group (19.3 percent).

Low-income, middle-income, and high-income elderly Medicare beneficiaries were more likely than poor and near-poor beneficiaries to be enrolled in any HMO. Among poor or near-poor beneficiaries, 15.5 percent were enrolled in an HMO, compared to 24.4 percent of low-income, 22.6 percent of middle-income, and 21.2 percent of high-income beneficiaries. Limiting the focus to Medicare HMOs, a similar pattern existed. Only 11.7 percent of poor and near-poor beneficiaries were enrolled in Medicare HMOs, compared with 18.3 percent of low-income and 17.3 percent of middle-income beneficiaries. There were no differences in HMO enrollment rates by education level or marital status.

In 1996 enrolling in a Medicare HMO often meant extra benefits, such as prescription drug coverage, which could save beneficiaries the cost of a supplemental Medigap policy. Thus, it is not surprising that the highest Medicare HMO enrollment rate (20.6 percent) was among beneficiaries with Medicare only (no private or public supplemental insurance). This rate was higher than the HMO enrollment rates of 10.3 percent for beneficiaries with Medicare and Medicaid and 12.2 percent for beneficiaries with Medicare and private insurance.

Regional differences in HMO enrollment for elderly Medicare beneficiaries followed patterns similar to those of younger populations. HMO enrollment was most common in the West, where 40.4 percent of Medicare beneficiaries were enrolled in an HMO. Similarly, residents of metropolitan areas were more likely to be enrolled in an HMO than those living in nonurban areas (24.0 vs. 6.8 percent).

Table 4. Medicare beneficiaries age 65 and over—Health maintenance organization (HMO) enrollment as a percent of total insured by sociodemographic characteristics: United States, first half of 1996

Sociodemographic characteristics	Elderly Medicare population in thousands	Percent enrolled in any HMO	Percent enrolled in Medicare HMO	Percent enrolled in private HMO
Total	31,171	20.0	14.3	10.8
Age in years				
65-74	17,709	23.2	15.7	13.4
75-84	10,931	16.2	12.8	7.4
85 and over	2,531	13.8	11.0	6.8
Sex				
Female	18,210	19.7	14.2	9.9
Male	12,961	20.3	14.6	12.1
Sex by age				
Female, 65-74	9,830	22.9	15.5	11.8
Female, 75 and over	8,379	16.0	12.6	7.6
Male, 65-74	7,878	23.5	16.0	15.5
Male, 75 and over	5,083	15.4	12.4	6.8
Race/ethnicity				
Hispanic[a]	1,419	32.3	23.0	7.8
Black	2,613	20.6	13.4	8.7
White and other	27,139	19.3	14.0	11.1
Poverty status[b]				
Poor/near poor	6,232	15.5	11.7	5.4
Low income	6,945	24.4	18.3	14.0
Middle income	10,406	22.6	17.3	13.5
High income	7,588	21.2	14.3	12.2
Education level				
Less than high school graduate	11,976	18.9	14.0	8.4
High school graduate	10,137	20.5	14.8	12.1
Some college	4,147	23.3	17.3	14.8
College degree or more	4,276	19.4	12.0	11.0
Marital status				
Married	17,383	20.4	14.4	12.1
Not married[c]	13,756	19.5	14.3	9.2
Insurance status				
Medicare only	8,744	20.6	20.6	0.0
Medicare plus other public	3,223	15.8	10.3	0.0
Medicare plus private	19,204	20.4	12.2	17.5
Region				
Northeast	6,723	17.1	11.9	8.1
Midwest	7,669	14.5	8.4	8.8
South	10,904	14.6	9.1	6.8
West	5,875	40.4	34.7	23.7
Metropolitan statistical area (MSA)				
MSA	23,848	24.0	17.6	13.0
Non-MSA	7,322	6.8	3.8	3.7

Continued

Table 4. Medicare beneficiaries age 65 and over—Health maintenance organization (HMO) enrollment as a percent of total insured by sociodemographic characteristics: United States, first half of 1996 *(continued)*

Sociodemographic characteristics	Elderly Medicare population in thousands	Percent enrolled in any HMO	Percent enrolled in Medicare HMO	Percent enrolled in private HMO
Perceived health status				
Excellent or very good	13,427	22.0	15.5	11.8
Good	8,992	20.5	15.4	11.7
Fair	5,809	16.4	11.6	7.9
Poor	2,593	17.9	11.8	10.1
Perceived mental health status				
Excellent or very good	18,893	21.5	15.8	11.8
Good	8,409	18.2	12.7	10.9
Fair or poor	3,524	17.5	11.4	6.3
IADL or ADL assistance[d]				
Needs assistance	4,509	13.2	8.7	6.1
No assistance needed	26,662	21.1	15.3	11.6
Limitations[e]				
Any limitation	7,026	15.3	10.3	7.5
No limitation	23,801	21.5	15.7	11.9

[a]Includes Hispanics of all races; the other race/ethnicity categories exclude Hispanics.
[b]Limited to persons insured in Round 1 who reported annual family income. Poor indicates family income is less than 100 percent of the poverty line, near poor indicates family income is 100 to less than 125 percent of poverty, low income indicates family income is 125 to less than 200 percent of poverty, middle income indicates family income is 200 to less than 400 percent of poverty, and high income indicates family income is 400 percent or more of poverty.
[c]Includes widowed, divorced, separated, and never married.
[d]Needs help in one or more instrumental activities of daily living (such as shopping) or activities of daily living (such as bathing).
[e]Includes limitations in work, school, and housework.

Note: A person can be enrolled in an HMO directly through Medicare as part of the Medicare + Choice program. Such people are said to be enrolled in Medicare HMOs. Another way a Medicare recipient can be enrolled in an HMO is through a supplemental insurance policy, sometimes called a Medigap plan, or through a retirement health plan offered by a former employer.

Source: Center for Cost and Financing Studies, Agency for Healthcare Research and Quality: Medical Expenditure Panel Survey Household Component, 1996 (Round 1).

Health status differences are of particular concern for Medicare HMOs because the Health Care Financing Administration did not adjust payments to HMOs for such differences in 1996. Among all Medicare beneficiaries age 65 and over, there were no significant differences in the rates of enrollment in Medicare HMOs by general perceived health status or by mental health status. However, looking at enrollment in private HMOs shows that Medicare beneficiaries in fair health were less likely than those in very good and excellent health to be enrolled. In addition, both Medicare and private HMO enrollment rates show significant differences by need for ADL or IADL assistance and by work or housework limitations. Beneficiaries who required assistance with ADL or IADL activities were less likely to be enrolled in an HMO through Medicare (8.7 percent) or through private insurance (6.1 percent) than those who did not require such assistance (15.3 and 11.6 percent, respectively). Similarly, beneficiaries with limitations in the ability to do work or housework were less likely to enroll in an HMO through Medicare (10.3 percent) or through private insurance (7.5 percent) than those without such limitations (15.7 and 11.9 percent, respectively).

Conclusion

HMO enrollment grew rapidly in the last decade, to the point that 91.6 million people were enrolled in the first half of 1996. This figure represents 41.9 percent of the total insured population for that year. Although HMOs were commonplace in 1996, there were significant differences in HMO enrollment by insurance status, age group, race/ethnicity, poverty status, and geographic area. Enrollment rates were higher among the privately insured than the publicly insured and higher among children and younger adults than older adults. Women of childbearing age were more likely than men of the same age to be enrolled in an HMO. Hispanics and blacks were more likely than whites and persons of other races to be enrolled in an HMO. In addition, middle- and high-income people were more likely than poor, near-poor, or low-income people to be enrolled in an HMO. Within the publicly insured population, there were some health status differences in HMO enrollment. Among the population with Medicaid or Medicare, people who needed assistance with ADL or IADL activities or who were limited in their ability to work were less likely than other Medicaid or Medicare enrollees to be enrolled in an HMO. Across all insurance groups, HMO enrollment was higher in the West and in urban areas than in other locations.

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Technical Appendix

The data in this report were obtained in the first round of interviews for the Household Component (HC) of the 1996 Medical Expenditure Panel Survey (MEPS). MEPS is cosponsored by the Agency for Healthcare Research and Quality (AHRQ) and the National Center for Health Statistics (NCHS). The MEPS HC is a nationally representative survey of the U.S. civilian noninstitutionalized population that collects medical expenditure data at both the person and household levels. The focus of the MEPS HC is to collect detailed data on demographic characteristics, health conditions, health status, use of medical care services, charges and payments, access to care, satisfaction with care, health insurance coverage, income, and employment. In other components of MEPS, data are collected on residents of licensed or certified nursing homes and from the supply side of the health insurance market.

Survey Design

The sample for the 1996 MEPS HC was selected from respondents to the 1995 National Health Interview Survey (NHIS), which was conducted by NCHS. NHIS provides a nationally representative sample of the U.S. civilian noninstitutionalized population and reflects an oversampling of Hispanics and blacks. The MEPS HC collects data through an overlapping panel design. In this design, data are collected through a precontact interview that is followed by a series of five rounds of interviews over 2½ years. Interviews are conducted with one member of each family, who reports on the health care experiences of the entire family. Two calendar years of medical expenditure and utilization data are collected from each household and captured using computer-assisted personal interviewing (CAPI). This series of data collection rounds is launched again each subsequent year on a new sample of households to provide overlapping panels of survey data that will provide continuous and current estimates of health care expenditures. The reference period for Round 1 of the MEPS HC was from January 1, 1996, to the date of the first interview, which occurred during the period from March through July 1996.

Health Insurance Status

The household respondent was asked if, between January 1, 1996, and the time of the Round 1 interview, anyone in the family was covered by any of several sources of public and private health insurance coverage. For this report, Medicare and CHAMPUS/CHAMPVA coverage represent coverage as of the date of the Round 1 interview. (CHAMPUS and CHAMPVA are the Civilian Health and Medical Programs for the Uniformed Services and Veterans Affairs.) All other sources of insurance represent coverage at any time during the Round 1 reference period. For additional details on health insurance status measures in MEPS, see Vistnes and Monheit (1997).

Public Coverage

For this report, individuals are considered to have public coverage only if they met both of the following criteria:

- They were not covered by private insurance.
- They were covered by one of the following public programs: Medicare, Medicaid, or other public hospital/physician coverage.

For this report, persons with CHAMPUS are not included in this definition of public coverage because, due to a skip pattern in the MEPS instrument, they were not asked specifically about HMO coverage. Persons with CHAMPUS are not included in Tables 2, 3, or 4. In order to present a complete picture of insured persons, however, they are included in Table 1 along with all other insured persons. The Defense Department confirmed that for calendar year 1996 no one covered exclusively by CHAMPUS was enrolled in an HMO.

Private Health Insurance

Private health insurance is defined for this report as insurance that provides coverage for hospital and physician care, including Medigap coverage. Insurance that provides coverage for a single service only, such as dental or vision coverage, is not counted.

Total Insured

The total insured population shown in Table 1 includes persons covered by Medicare, Medicaid, other public hospital/physician programs, or private hospital/physician insurance at any time during the Round 1 reference period. For this table only, persons covered by CHAMPUS are also included. Individuals covered only by noncomprehensive State-specific programs (e.g., Maryland Kidney Disease Program) or private single-service plans (e.g., coverage for dental or vision care only, coverage for accidents or specific diseases) are not considered to be insured.

HMO Enrollment Status

The Agency for Healthcare Research and Quality used cognitive interviewing methods to develop a series of questions for the MEPS HC on the managed care characteristics of health insurance coverage. Open-ended semi-structured interviews were administered to a total of approximately 100 respondents through four rounds of question development and refinement. Respondents included privately and publicly insured individuals with a variety of managed care type plans. Answers concerning health plan type were validated by obtaining the health plan information from employers or other sources. Further details of the cognitive testing are described in Kerwin, Cantor, and Sheridan (1995).

Cognitive pretesting confirmed that household survey respondents were often unable to identify their health plan's type according to a standard descriptive name or acronym, such as: PPO (preferred provider organization), POS (point-of-service plan), EPO (exclusive provider organization), and IPA (independent practice association). Only one acronym, "HMO," and its definition as a health maintenance organization was reliably understood by a majority of respondents included in the pretest sample. As a result of the cognitive pretesting, the MEPS HC includes a series of questions on HMO status and managed care characteristics of health plans. These questions are administered to MEPS household respondents during the first round of each panel (and whenever there has been a change in insurance coverage), with separate questions for private, Medicaid, and Medicare plans.

In this report HMO enrollees are distinguished from all non-HMO enrollees. Distinctions between PPO,

Table A. Health maintenance organization (HMO) enrollment: Standard error of percent of total insured, United States, first half of 1996

Corresponds to Table I

Demographic characteristics	Percent enrolled in HMOs
Total population	0.72
Insured population[a]	
Total insured population[a]	0.84
Age in years	
18 and under	1.25
19-64	0.90
Total under 65	0.91
65 and over	1.11
Sex	
Female	0.89
Male	0.87
Race/ethnicity	
Hispanic[b]	2.04
Black	1.98
White and other	0.90
Poverty status[c]	
Poor/near poor	1.79
Low income	1.82
Middle income	1.39
High income	1.39

[a]Includes all persons covered by private insurance, Medicaid, Medicare, CHAMPUS/CHAMPVA (Armed-Forces-related coverage), and other public hospital/physician coverage.
[b]Includes Hispanics of all races; the other race/ethnicity categories exclude Hispanics.
[c]Limited to persons insured in Round 1 who reported annual family income. Poor indicates family income is less than 100 percent of the poverty line, near poor indicates family income is 100 to less than 125 percent of poverty, low income indicates family income is 125 to less than 200 percent of poverty, middle income indicates family income is 200 to less than 400 percent of poverty, and high income indicates family income is 400 percent or more of poverty.

Source: Center for Cost and Financing Studies, Agency for Healthcare Research and Quality: Medical Expenditure Panel Survey Household Component, 1996 (Round 1).

Table B. Privately insured population under age 65—Health maintenance organization (HMO) enrollment: Standard error of percent of total insured, United States, first half of 1996

Corresponds to Table 2

Sociodemographic characteristics	Percent enrolled in HMOs
Total	1.02
All children 18 years and under	1.37
All adults 19-64	1.00
Age in years	
Under 5	1.96
6-12	1.89
13-18	1.91
19-24	2.23
25-34	1.39
35-44	1.60
45-54	1.49
55-64	2.05
Sex	
Female	1.10
Male	1.04
Sex by age	
Female, 19-44	1.21
Female, 45-64	1.47
Male, 19-44	1.19
Male, 45-64	1.46
Race/ethnicity	
Hispanic[a]	2.28
Black	2.46
White and other	1.07
Poverty status[b]	
Poor/near poor	3.16
Low income	2.45
Middle income	1.60
High income	1.51
Education level[c]	
Less than high school graduate	1.90
High school graduate	1.40
Some college	1.39
College degree or more	1.38
Marital status[c]	
Married	1.12
Widowed, divorced, or separated	1.84
Never married	1.67
Insurance status	
Private only	1.02
Private plus public	3.69
Region	
Northeast	2.53
Midwest	1.79
South	1.74
West	2.19
Metropolitan statistical area (MSA)	
MSA	1.09
Non-MSA	2.36
Perceived health status	
Excellent or very good	1.05
Good	1.58
Fair	2.32
Poor	4.39
Perceived mental health status	
Excellent or very good	1.04
Good	1.79
Fair or poor	3.28
IADL or ADL assistance[d]	
Needs assistance	4.73
No assistance needed	1.02
Limitations[e]	
Any limitation	2.51
No limitation	1.04

[a]Includes Hispanics of all races; the other race/ethnicity categories exclude Hispanics.
[b]Limited to persons insured in Round 1 who reported annual family income. Poor indicates family income is less than 100 percent of the poverty line, near poor indicates family income is 100 to less than 125 percent of poverty, low income indicates family income is 125 to less than 200 percent of poverty, middle income indicates family income is 200 to less than 400 percent of poverty, and high income indicates family income is 400 percent or more of poverty.
[c]Age 19 and over.
[d]Needs help in one or more instrumental activities of daily living (such as shopping) or activities of daily living (such as bathing).
[e]Includes limitations in work, school, and housework for persons age 5 and over.

Source: Center for Cost and Financing Studies, Agency for Healthcare Research and Quality: Medical Expenditure Panel Survey Household Component, 1996 (Round 1).

Table C. Publicly insured population under age 65—Health maintenance organization (HMO) enrollment: Standard error of percent of total insured, United States, first half of 1996

Corresponds to Table 3

Sociodemographic characteristics	Percent enrolled in any HMO	Percent enrolled in HMO through Medicaid
Total	2.51	2.48
All children 18 years and under	2.79	2.78
All adults 19-64	2.66	2.62
Age in years		
Under 5	3.25	3.26
6-12	3.46	3.43
13-18	4.04	4.04
19-24	5.27	5.35
25-34	3.56	3.56
35-44	4.27	4.24
45-54	3.78	3.69
55-64	3.97	3.66
Sex		
Female	2.51	2.44
Male	2.81	2.83
Sex by age		
Female, 19-44	3.04	2.98
Female, 45-64	3.66	3.32
Male, 19-44	4.20	4.14
Male, 45-64	3.45	3.27
Race/ethnicity		
Hispanic[a]	3.79	3.73
Black	4.39	4.39
White and other	3.83	3.73
Poverty status[b]		
Poor/near poor	2.80	2.76
Low income	5.29	5.35
Middle income	5.78	5.99
High income	8.00	8.07
Education level[c]		
Less than high school graduate	3.28	3.26
High school graduate	3.47	3.34
Some college or more	4.28	4.26

Sociodemographic characteristics	Percent enrolled in any HMO	Percent enrolled in HMO through Medicaid
Marital status[c]		
Married	3.95	4.04
Widowed, divorced, or separated	3.62	3.64
Never married	3.20	3.22
Insurance status		
Medicaid only	2.67	2.67
Medicare only	3.01	0.00
Medicaid plus Medicare	4.58	4.26
Region		
Northeast	4.22	4.15
Midwest	5.02	4.79
South	5.33	5.33
West	4.86	4.75
Metropolitan statistical area (MSA)		
MSA	2.91	2.87
Non-MSA	4.46	4.47
Perceived health status		
Excellent or very good	2.68	2.67
Good	3.38	3.23
Fair	3.57	3.52
Poor	3.63	3.47
Perceived mental health status		
Excellent or very good	2.69	2.66
Good	3.63	3.46
Fair or poor	3.82	3.87
IADL or ADL assistance[d]		
Needs assistance	4.18	4.06
No assistance needed	2.56	2.53
Limitations[e]		
Any limitation	2.67	2.50
No limitation	2.91	2.86

[a]Includes Hispanics of all races; the other race/ethnicity categories exclude Hispanics.
[b]Limited to persons insured in Round 1 who reported annual family income. Poor indicates family income is less than 100 percent of the poverty line, near poor indicates family income is 100 to less than 125 percent of poverty, low income indicates family income is 125 to less than 200 percent of poverty, middle income indicates family income is 200 to less than 400 percent of poverty, and high income indicates family income is 400 percent or more of poverty.
[c]Age 19 and over.
[d]Needs help in one or more instrumental activities of daily living (such as shopping) or activities of daily living (such as bathing).
[e]Includes limitations in work, school, and housework for persons age 5 and over.

Source: Center for Cost and Financing Studies, Agency for Healthcare Research and Quality: Medical Expenditure Panel Survey Household Component, 1996 (Round 1).

POS, and other types of managed care plans are not made.

Private Insurance HMO Enrollment

A person covered by private insurance was classified as being covered by an HMO if any of the three following conditions were met:

- The person reported purchasing his/her insurance directly through an HMO.
- A person reporting private insurance coverage identified the type of insurance company as an HMO.
- The person answered yes to the following question:

  Now I will ask you a few questions about how (POLICYHOLDER)'s health insurance through (ESTABLISHMENT) works for non-emergency care.

  We are interested in knowing if (POLICYHOLDER)'s (ESTABLISHMENT) plan is an HMO, that is, a health maintenance organization. With an HMO, you must generally receive care from HMO physicians. For other doctors, the expense is not covered unless you were referred by the HMO or there was a medical emergency. Is (POLICYHOLDER)'s (INSURER NAME) an HMO?

Public Insurance HMO Enrollment Excluding Medicare

A person covered by Medicaid or by some other public program (other than Medicare) that provides hospital/physician insurance coverage was classified as having HMO coverage if either of the following conditions was met:

- The person picked his or her plan from a list of Medicaid HMOs in the area.
- The person answered yes to the following question:

  Under {{Medicaid/{STATE NAME FOR MEDICAID}}/the program sponsored by a State or local government agency which provides hospital and physician benefits} (are/is) (READ NAME(S) FROM BELOW) signed up with an HMO, that is, a health maintenance organization?

  [With an HMO, you must generally receive care from HMO physicians. If another doctor is seen, the expense is not covered unless you were referred by the HMO, or there was a medical emergency.]

Medicare HMO Enrollment

A person can be enrolled in an HMO directly through Medicare as part of the Medicare + Choice program. Such people are said to be enrolled in Medicare HMOs. Another way a Medicare recipient could be enrolled in an HMO is through a supplemental insurance policy, sometimes called a Medigap plan, or through a retirement health plan offered by a former employer.

A person covered by Medicare was classified as being covered by an HMO if either of the following conditions was met:

- The person identified his or her plan from a list of Medicare HMOs in the area.
- The person answered yes to either of the following questions:

  1. Now I will ask you a question about how (PERSON)'s Medicare works for non-emergency care. (When answering this question, please include only insurance from Medicare, not any privately purchased insurance.)

     (Are/is) (PERSON) signed up with an HMO, that is, a health maintenance organization? With an HMO, you generally receive care from HMO physicians.

  2. Does Medicare require (PERSON) to sign up with a certain primary care doctor, group of doctors, or with a certain clinic which he or she must go to for all routine care?

Medicare beneficiaries with additional private insurance may be enrolled in an HMO through either Medicare or the private insurance. They were administered the sets of managed care questions for both private insurance and Medicare. It is possible that Medicare beneficiaries with both private and Medicare coverage may confuse the source of their HMO coverage.

Population Characteristics

All population characteristics used in this report come from the 1996 MEPS HC Round 1 data collection effort except for poverty status, which comes from data collected in Round 3 as explained below.

Age

The respondent was asked to report the age of each family member as of the date of the Round 1 interview.

Race/Ethnicity

Classification by race and ethnicity is based on information reported for each family member. Respondents were asked if the race of the sample person was best described as American Indian, Alaska Native, Asian or Pacific Islander, black, white, or other. In this report, American Indian, Alaska Native, Asian, and Pacific Islander are included together with white in the category labeled "white and other."

Respondents also were asked if the sample person's main national origin or ancestry was Puerto Rican; Cuban; Mexican, Mexicano, Mexican American, or Chicano; other Latin American; or other Spanish. All persons whose main national origin or ancestry was reported in one of these Hispanic groups, regardless of racial background, were classified as Hispanic. Since the Hispanic grouping can include black Hispanic, white Hispanic, and other Hispanic, the race categories of black, white, and other do not include Hispanic persons.

Region and Place of Residence

Individuals were identified as residing in one of four main regions—Northeast, Midwest, South, and West—in accordance with the U.S. Bureau of the Census definition. Place of residence either inside or outside a metropolitan statistical area (MSA) was defined according to the U.S. Office of Management and Budget designation, which applied 1990 standards using population counts from the 1990 U.S. census. An MSA is a large population nucleus combined with adjacent communities that have a high degree of economic and social integration with the nucleus. Each MSA has one or more central communities containing the area's main population concentration. In New England, metropolitan areas consist of cities and towns rather than whole counties.

Poverty Status

Unlike the other demographic characteristics used in this study, which are drawn from the Round 1 interview, poverty status comes from 1996 family income data collected in Round 3. For sections of Tables 1-4 showing HMO enrollment by poverty status, the sample was limited to persons insured in Round 1 who also reported on sources of income in Round 3. Population estimates were further poststratified to MEPS population estimates of the total insured population.

Family income was constructed by summing person-level total income for all members of the family. Person-level total income comprises annual earnings from wages, salaries, bonuses, tips, and commissions; business and farm gains and losses; unemployment and worker's compensation; interest and dividends; alimony, child support, and other private transfers; private pensions, IRA (individual retirement account) withdrawals, social security, and veterans' payments; Supplemental Security Income and cash welfare payments from public assistance, Aid to Families with Dependent Children, and Aid to Dependent Children; gains or losses from estates, trusts, partnerships, S corporations, rent, and royalties; and a small amount of "other" income. Logical editing or weighted, sequential hot-deck imputation was used to impute income amounts for missing values.

Poverty status is determined by dividing family income by the applicable poverty line (based on family size and composition). The resulting percentages are grouped into five categories: Poor indicates family income less than 100 percent of the poverty line; near poor indicates family income from 100 to less than 125 percent of poverty; low income indicates family income from 125 to less than 200 percent of poverty; middle income indicates family income from 200 to less than 400 percent of poverty; and high income indicates family income 400 percent of poverty or more.

Table D. Medicare beneficiaries age 65 and over—Health maintenance organization (HMO) enrollment: Standard error of percent of total insured, United States, first half of 1996

Corresponds to Table 4

Sociodemographic characteristics	Percent enrolled in any HMO	Percent enrolled in Medicare HMO	Percent enrolled in private HMO
Total	1.07	1.00	0.80
Age in years			
65-74	1.57	1.45	1.20
75-84	1.51	1.52	1.03
85 and over	2.65	2.53	1.85
Sex			
Female	1.10	1.04	0.82
Male	1.39	1.23	1.10
Sex by age			
Female, 65-74	1.60	1.50	1.22
Female, 75 and over	1.55	1.52	1.08
Male, 65-74	1.98	1.72	1.65
Male, 75 and over	1.88	1.71	1.36
Race/ethnicity			
Hispanic[a]	4.40	3.87	2.24
Black	3.00	2.56	1.89
White and other	1.12	1.06	0.89
Poverty status[b]			
Poor/near poor	1.93	1.73	1.23
Low income	2.63	2.32	2.02
Middle income	2.02	1.94	1.68
High income	2.46	2.09	1.77
Education level			
Less than high school graduate	1.42	1.37	0.95
High school graduate	1.68	1.49	1.40
Some college	2.38	2.12	2.09
College degree or more	2.61	2.16	2.15
Marital status			
Married	1.50	1.40	1.22
Not married[c]	1.29	1.15	0.91
Insurance status			
Medicare only	1.94	1.94	0.00
Medicare plus other public	2.56	2.18	0.00
Medicare plus private	1.38	1.15	1.27
Region			
Northeast	2.40	2.13	1.46
Midwest	1.93	1.66	1.48
South	1.59	1.53	1.16
West	2.54	2.59	2.31
Metropolitan statistical area (MSA)			
MSA	1.33	1.25	1.01
Non-MSA	1.34	1.13	0.98
Perceived health status			
Excellent or very good	1.59	1.47	1.24
Good	1.71	1.47	1.47
Fair	1.96	1.80	1.42
Poor	2.85	2.71	2.23
Perceived mental health status			
Excellent or very good	1.41	1.33	1.04
Good	1.59	1.36	1.32
Fair or poor	2.31	2.03	1.59
IADL or ADL assistance[d]			
Needs assistance	1.80	1.41	1.24
No assistance needed	1.21	1.12	0.90
Limitations[e]			
Any limitation	1.70	1.50	1.39
No limitation	1.27	1.17	0.95

[a]Includes Hispanics of all races; the other race/ethnicity categories exclude Hispanics.

[b]Limited to persons insured in Round 1 who reported annual family income. Poor indicates family income is less than 100 percent of the poverty line, near poor indicates family income is 100 to less than 125 percent of poverty, low income indicates family income is 125 to less than 200 percent of poverty, middle income indicates family income is 200 to less than 400 percent of poverty, and high income indicates family income is 400 percent or more of poverty.

[c]Includes widowed, divorced, separated, and never married.

[d]Needs help in one or more instrumental activities of daily living (such as shopping) or activities of daily living (such as bathing).

[e]Includes limitations in work, school, and housework.

Note: A person can be enrolled in an HMO directly through Medicare as part of the Medicare + Choice program. Such people are said to be enrolled in Medicare HMOs. Another way a Medicare recipient can be enrolled in an HMO is through a supplemental insurance policy, sometimes called a Medigap plan.

Source: Center for Cost and Financing Studies, Agency for Healthcare Research and Quality: Medical Expenditure Panel Survey Household Component, 1996 (Round 1).

Health Status

Perceived Health Status

Health status measures used in this report are from Round 1 of the 1996 MEPS HC. In every round of MEPS, the respondent is asked to rate the health of every member of the family. The exact wording of the question is as follows: "In general, compared to other people of (PERSON)'s age, would you say that (PERSON)'s health is excellent, very good, good, fair, or poor?" A similar question is asked about mental health status.

In order to generate the estimates presented in Tables 2, 3, and 4, it was assumed that nonrespondents to these questions were distributed across health states following the distribution of respondents.

Assistance with ADLs and IADLs

Questions concerning the need for assistance in activities of daily living (ADLs) and in instrumental activities of daily living (IADLs) are asked in every round of MEPS. Limitations in the ability to perform IADLs are assessed by first asking the respondent a screening question: "Does anyone in the family receive help or supervision using the telephone, paying bills, taking medications, preparing light meals, doing laundry, or going shopping?" Limitations in the ability to perform ADLs are assessed with the following question: "Does anyone in the family receive help or supervision with personal care such as bathing, dressing, or getting around the house?" Followup questions are asked but are not used in this analysis. For this report, the responses to the two screening questions are combined into a single measure of need for any type of IADL or ADL assistance.

Limitations in Work/School/Housework

These limitations include both paid work and unpaid housework, as well as limitations in the ability to attend school. The relevant question asks, "Is anyone in the family limited in any way in the ability to work at a job, do housework, or go to school *because of an impairment or a physical or mental health problem?*" (emphasis in the question as indicated).

Sample Design and Accuracy of Estimates

The sample selected for the 1996 MEPS, which was a subsample of the 1995 NHIS, was designed to produce national estimates that are representative of the civilian noninstitutionalized population of the United States. Round 1 data were obtained for approximately 9,400 households in MEPS—comprising 23,612 individuals—which results in a survey response rate of 78 percent. This figure reflects participation in both NHIS and MEPS.

The statistics presented in this report are affected by both sampling error and sources of nonsampling error, which include nonresponse bias, respondent reporting errors, and interviewer effects. For a detailed description of the MEPS survey design, the adopted sample design, and methods used to minimize sources of nonsampling error, see J. Cohen (1997), S. Cohen (1997), and Cohen, Monheit, Beauregard, et al. (1996). The MEPS person-level estimation weights include nonresponse adjustments and poststratification adjustments to population estimates derived from the March 1996 Current Population Survey based on cross-classifications by region, age, race/ethnicity, and gender.

Tests of statistical significance were used to determine whether the differences between populations exist at specified levels of confidence or whether they occurred by chance. Differences were tested using Z-scores having asymptotic normal properties at the 0.05 level of significance. Unless otherwise noted, only statistically significant differences between estimates are discussed in the text.

Rounding

Estimates presented in the tables were rounded to the nearest 0.1 percent. Standard errors, presented in Tables A-D, were rounded to the nearest 0.01. Therefore, some of the estimates for population totals of subgroups presented in the tables will not add exactly to the overall estimated population total. In addition, some of the estimates of total HMO enrollees presented in the text of this report cannot be derived precisely from the accompanying table because of the rounding of percents in the tables.

HMO Enrollment: MEPS Estimates Compared With Others

It is useful to compare MEPS estimates with other estimates of HMO enrollment. The American Association of Health Plans estimates that there were 67.5 million HMO enrollees in 1996, representing about one-quarter of the population (American Association of Health Plans, 1998). Estimates based on a census of all HMO companies showed 58.7 million HMO enrollees as of January 1, 1996 (Interstudy, 1998). The MEPS estimate of 91.6 million persons, or 34.8 percent of the total population, is higher than either of these figures. As noted earlier, the MEPS data are based on household respondents' understanding of HMO status, whereas both of these other estimates are based on surveys of HMO companies. It is possible that household respondents are over-reporting HMO enrollment, perhaps describing their preferred provider organization or other managed care plan as an HMO.

Administrative records of the number of Medicaid HMO enrollees are not directly comparable to estimates published in Table 3, which excludes the elderly and Medicaid-covered persons in institutions. Nonetheless, figures published by the Health Care Financing Administration (HCFA) provide a useful benchmark since most Medicaid HMO enrollees are in the community population. HCFA's administrative data show 8.6 million Medicaid managed care enrollees as of June 1996, excluding persons enrolled in Primary Care Case Management and carve-out plans that do not provide a comprehensive set of benefits (Health Care Financing Administration, 1999). The MEPS estimate of 9.5 million HMO enrollees in Medicaid is 10 percent higher.

According to the 1995 Medicare Current Beneficiary Survey, there were 4.38 million HMO enrollees among the Medicare noninstitutionalized elderly population (Eppig, 1998), representing 13.9 percent of this population. These figures are directly comparable to those shown here: 4.46 million HMO enrollees (derived from Table 4), or 14.3 percent of the noninstitutionalized Medicare population age 65 and over (Table 4).

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