MEPS

Characteristics of
Nursing Home Residents—1996

Research #5 Findings

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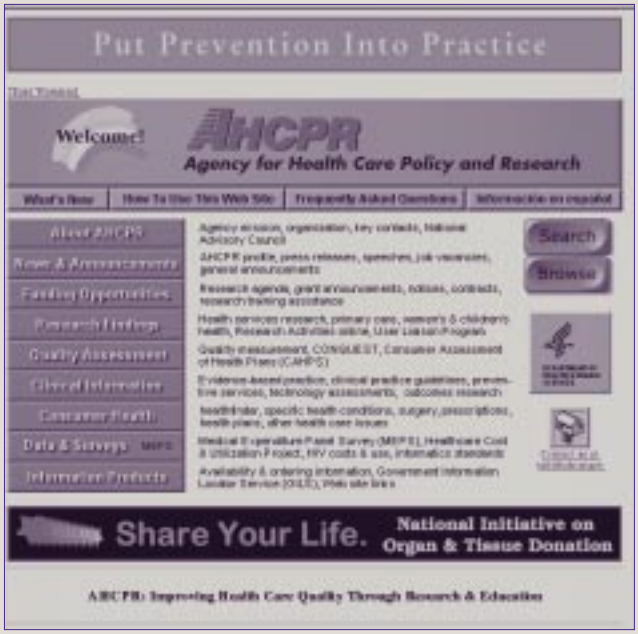

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Abstract

This report from the Agency for Health Care Policy and Research (AHCPR) profiles the health and demographic characteristics of the approximately 1.56 million persons living in nursing homes in the United States on January 1, 1996. The data were obtained from a nationally representative sample of nursing homes and nursing home residents from the 1996 Nursing Home Component (NHC) of the Medical Expenditure Panel Survey (MEPS).

The majority of nursing home residents (65.8 percent) were in private for-profit facilities. Almost 90 percent were white, and half (49.3 percent) were age 85 or over. More than two-thirds (71.6 percent) of residents were women. Although the data in this report do not reflect the insurance source actually paying for nursing home care, most residents were enrolled in Medicare (93.2 percent) and two-thirds were enrolled in both Medicare and Medicaid (63.5 percent). Nursing home residents were highly dependent on assistance with activities of daily living (ADLs). Nearly all residents (97.2 percent) received assistance with at least one ADL and 83.3 percent received assistance with three or more ADLs. Persons under age 65 received as much assistance as older residents. In general, cognitive problems were more prevalent than behavior problems among residents, and nearly half experienced communication problems. More than half of residents also experienced bladder or bowel incontinence, or both.

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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 Health Care Policy and Research (AHCPR) 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 AHCPR 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 employers, unions, and other sources of private health insurance. 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 four 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.
- An Internal Revenue Service list of the self-employed.

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.

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 AHCPR Publications Clearinghouse. Write or call:

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On the AHCPR Web site, under Data and Surveys, click the MEPS icon.

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 Health Care Policy and Research, 2101 East Jefferson Street, Suite 500, Rockville, MD 20852 (301-594-1406).

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Characteristics of Nursing Home Residents—1996

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Introduction

Although people residing in nursing homes represent a small proportion of both the elderly population and the general population with disabilities, they are an important part of the long-term health care system. Nursing homes primarily exist to serve members of these populations who have severe medical and disability problems that require nursing home care. A lack of financial resources or family caregivers also contributes to the need for these institutions (Congressional Budget Office, 1991).

This report, based on the 1996 Nursing Home Component (NHC) of the Medical Expenditure Panel Survey (MEPS) from the Agency for Health Care Policy and Research, presents a profile of the residents of nursing homes in the United States on January 1, 1996. Nursing homes which are part of larger facilities that also provide independent living and/or personal care units are included in the sample. However, this report describes only nursing home residents, not persons who are residents in personal care homes, assisted living facilities, or other types of facilities that provide long-term care.

Two-thirds of nursing home residents were woman and about half were 85 years and over.

The age distribution, race, marital status, and other sociodemographic characteristics of nursing home residents, along with the physical and functional characteristics associated with their need for nursing care, are described. The nationally representative estimates reported here are based only on a sample of current residents. (Current residents are sampled residents living in the sampled nursing home on January 1, 1996, the beginning of the data collection reference period.) Although data for the whole year were subsequently collected for these residents, along with data on a second sample of new admissions in 1996, the estimates in this report represent current residents in nursing homes as of January 1, 1996. The technical appendix presents details concerning sample selection, data collection, questionnaire items, data editing, and statistical procedures for deriving estimates. Definitions of terms used in this report are also included.

Demographic Characteristics

In 1996, there were approximately 1.56 million nursing home residents in the United States (Table 1). The majority were in private for-profit facilities (65.8 percent). Another quarter (24.5 percent) were in private nonprofit facilities, and the remaining 9.7 percent resided in government-owned and operated facilities. (Government facilities include city, county, State, Department of Veterans Affairs, and other Federal facilities.) Most residents (81.0 percent) lived in facilities that contained only nursing home beds. However, 12.3 percent resided in facilities that also had independent living or personal care beds, such as continuing care retirement communities (CCRCs).

An examination of the demographic characteristics of nursing home residents revealed the following:

- Women composed more than two-thirds (71.6 percent) of the total nursing home population and outnumbered men in all facility types. However, women represented a lower proportion of residents in government facilities (53.5 percent) than in for-profit (72.4 percent) and nonprofit (76.7 percent) facilities.
- Approximately half of all current residents (49.3 percent) were age 85 and over. Nonprofit nursing homes had a larger proportion of persons age 85 and over (58.9 percent) than either for-profit (48.0 percent) or government facilities (34.2 percent). Nursing homes with independent living or personal care beds had larger proportions of residents age 85

and over (58.7 percent) than did hospital-based nursing homes (40.9 percent) or nursing homes with only nursing home beds (48.6 percent).

- Less than a tenth (8.8 percent) of current nursing home residents were under age 65. A larger proportion of residents in government facilities (14.8 percent) than in for-profit (9.1 percent) or nonprofit (5.7 percent) facilities were under age 65. Hospital-based facilities had a larger proportion of residents under age 65 (14.4 percent) than did facilities with independent living or personal care beds (5.5 percent) or facilities with only nursing home beds (8.9 percent).
- The majority (88.7 percent) of nursing home residents were white, 8.9 percent were black, and the remainder were of other races. Facilities with independent living or personal care beds had a smaller proportion of black residents (4.1 percent) than either hospital-based facilities or nursing homes with only nursing home beds (10.4 percent and 9.4 percent, respectively).
- Only 16.6 percent of residents were married. The remaining residents were widowed (59.8 percent), divorced or separated (9.2 percent), or never married (14.4 percent).
- The smallest percentage of the nursing home population was found in the West (15.3 percent). In both the South and Midwest, the nursing home population was approximately twice the size of that in the West (490,900 and 485,100, respectively, compared with 238,800).
- The largest proportion of residents in for-profit facilities was in the South. Residents in facilities with independent living or personal care beds were most likely to be in the Midwest and least likely to be in the West.
- Overall, two-thirds of the nursing home population were in nursing homes in metropolitan areas (69.1 percent). However, the population in hospital-based facilities was more evenly distributed, with three-fifths (57.8 percent) in metropolitan areas and two-fifths (42.2 percent) in nonmetropolitan areas.

Insurance Enrollment

The insurance data found in Table 1 indicate the insurance programs in which residents were enrolled but do not reflect the insurance source paying for nursing home care. (Additional nursing home data, including data on source of payment, are made available in the MEPS section of the AHCPR Web site– http://www.ahcpr.gov–on an ongoing basis.) Most nursing home residents (93.2 percent) were enrolled in Medicare, and approximately two-thirds (67.9 percent) were enrolled in Medicaid. More than half of residents in all types of facilities were enrolled in both Medicare and Medicaid. Only 2.4 percent were enrolled in neither of these public insurance programs. Persons in hospital-based facilities were less likely than residents in other types of facilities to be enrolled in a public insurance program.

Level of Dependence

More than four-fifths (83.3 percent) of nursing home residents received help with three or more activities of daily living (ADLs), including bathing, dressing, toileting, transferring from a bed or chair, feeding, and mobility (Table 1). However, a small proportion (2.8 percent) did not receive assistance with any of these activities. Residents of hospital-based facilities were less likely to receive assistance with ADLs than residents in facilities with nursing home beds only. When nursing home residents did receive assistance, bathing and dressing were the most common tasks with which they received help (96.5 percent and 88.2 percent, respectively, as shown in Table 2).

Nearly all nursing home residents received help with at least one activity of daily living.

Data presented in Table 2 describe the various levels of assistance received by men and women of various ages. Findings include the following:

- Residents under age 75 were more likely than older residents to have no ADL limitations and were less likely to have three or more ADL limitations. Only 1.9 percent of residents ages 75-84 and 1.7 percent of residents age 85 and over were without ADL limitations.
- Women were more likely than men to have problems with mobility around the facility. Women also were more likely than men to be totally dependent when transferring (29.6 percent compared with 25.4 percent) and dressing (37.1 percent compared with 33.1 percent).

- Women nursing home residents were more likely than men to receive help with three or more ADLs (84.7 percent and 79.6 percent, respectively).
- Two-thirds of residents had problems with mobility such that they received assistance getting around the facility (36.5 percent) or were totally dependent on others for movement within the facility (30.0 percent).
- Residents under age 65 were as likely as residents age 75 and over to be totally dependent in bathing, dressing, and mobility and more likely to be totally dependent in eating and transferring.

Other Functional Characteristics

A number of factors may contribute to the decision to place a patient in a nursing home. These are described in some detail in the following paragraphs.

Toileting and Incontinence

Research has shown that once incontinence occurs in an elderly person who already displays other limitations, it is often difficult to maintain that person in the home setting (Coward, Horne, and Peek, 1995). Table 2 indicates that 79.7 percent of nursing home residents required assistance with toileting needs. Assistance includes, but is not limited to, help with transferring on and off the toilet, reminders to use the bathroom, or help with bathroom hygiene. The residents who were most dependent were those who could not control their bowel or bladder functions at all. As shown in Table 3, more than half of nursing home residents (54.0 percent) were incontinent. This includes those who were bowel incontinent only (5.1 percent), bladder incontinent only (11.3 percent), and both bowel and bladder incontinent (37.6 percent).

Memory and Orientation Problems

Memory loss is another important reason that individuals are placed in nursing homes. Forgetfulness and disorientation can be dangerous problems that require 24-hour supervision to provide for the individual's safety and well-being. Nearly three-quarters (70.8 percent) of nursing home residents had some form of loss in either short-term memory, long-term memory, or both (Table 4). About the same proportion had problems with orientation, such as knowing where they were, what season of the year it was, or the identity of staff members. Specific demographic characteristics associated with these problems include the following:

- Persons over age 75 were significantly more likely than younger nursing home residents to exhibit problems with memory loss: 47.0 percent of residents under age 65 and 39.9 percent ages 65-74 had no problems with memory loss, compared with only 29.1 percent of residents ages 75-84 and 23.6 percent of those age 85 and over.
- Nursing home residents under age 65 were less likely than persons age 75 and over to have both short- and long-term memory loss (41.6 percent, compared with 53.4 percent for persons 75-84 and 56.9 percent for persons 85 and over). However, they were more likely than persons age 75 and over to have problems with orientation in three or more areas (62.8 percent, compared with 50.9 percent for persons 75-84 and 44.9 percent for persons 85 and over).
- Men were less likely than women to have any memory loss (33.5 percent compared with 27.5 percent), but they were more likely than women to have a problem with orientation in three or more areas (54.3 percent compared with 48.2 percent).

In addition to problems with memory loss and orientation to their surroundings, many nursing home residents (80.6 percent) exhibited problems making daily decisions. While there were no significant gender differences in daily decisionmaking, persons ages 65-74 were less likely to be severely impaired than persons age 75 and over.

Behavior Problems

Behavior problems existed among nursing home residents, but they were not as common as the cognitive problems discussed above (Table 4). Almost a third (30.2 percent) of nursing home residents exhibited at least one form of inappropriate or dangerous behavior–verbally or physically abusive behavior, socially inappropriate behavior, wandering, or resistance to care. Overall, there were no significant differences among age groups in behavior problems, but male residents were more likely than female residents to have a

behavior problem (34.9 percent compared with 28.4 percent).

The most frequently occurring behavior problem was socially inappropriate behavior, such as making disruptive sounds, inappropriate sexual behavior or disrobing in public, smearing or throwing food or feces, and hoarding. Some form of socially inappropriate behavior was exhibited by 14.5 percent of the nursing home population. In comparison, 12.5 percent of residents exhibited resistance to care, 11.8 percent were verbally abusive, and 9.1 percent were physically abusive.

As shown in Table 4, there were negligible differences by age and gender in the overall occurrence of behavior problems. However, specific problems were associated more with one age or gender than another, including the following:

- Men were somewhat more likely than women to exhibit both verbally abusive behavior (14.3 percent compared with10.8 percent) and physically abusive behavior (11.5 percent compared with 8.2 percent). Men also were more likely than women to resist care (14.6 percent compared with 11.7 percent).
- A fifth (20.8 percent) of residents under age 65 exhibited socially inappropriate behavior, compared with approximately 14 percent of older residents (13.9 percent for ages 65-74, 13.6 percent for ages 75-84, and 14.0 percent for age 85 and over).

Health Conditions

Health conditions are active diagnoses that have a relationship to current ADL status, cognitive status, mood and behavior status, medical treatments, nurse monitoring, or risk of death. The most frequently occurring conditions among nursing home residents were dementias, various forms of heart disease, hypertension, arthritis, and cerebrovascular accidents. The data shown in Table 5 are based on the health conditions recorded in the Minimum Data Set (MDS), a mandated record system required for all federally certified nursing homes regardless of the resident's payer.[1] Other frequently occurring conditions among this population were depression, diabetes, anemia, allergies, and chronic obstructive pulmonary disease.

Although these conditions were the 10 most prevalent conditions recorded in the MDS among all residents of nursing homes on January 1, 1996, the prevalence of these conditions varied by age and gender. Figure 1 shows that persons under age 65 were significantly less likely to have dementia (17.7 percent), heart disease (16.6 percent), hypertension (25.3 percent), and arthritis (4.5 percent) than were persons 65 and over.

Dementia occurred in nearly half of all nursing home residents.

Younger nursing home residents also were more heterogeneous than those 65 and over with regard to health conditions. The overwhelming majority (90.2 percent) of residents age 65 and over had at least one of the five most prevalent conditions for that age group, while only 64.8 percent of persons under age 65 had one or more of the five most prevalent conditions observed in that age group (Figure 2).

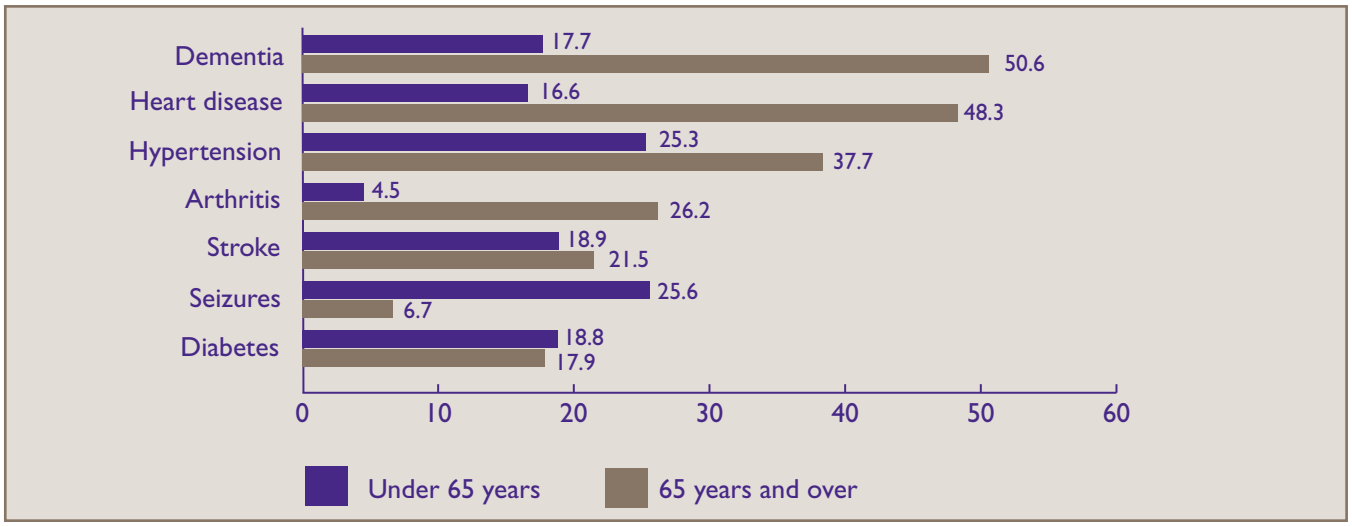
Gender differences in the prevalence of disease among nursing home residents were also evident (Table 5). Women were more likely than men to have dementia (48.9 percent compared with 44.6 percent), hypertension (38.4 percent compared with 32.0 percent), and arthritis (26.9 percent compared with 17.5 percent). Women and men were equally likely to have some form of heart disease, but women were less likely than men to have had a cerebrovascular accident (19.2 percent compared with 26.3 percent) or to have chronic obstructive pulmonary disease (10.6 percent compared with 17.9 percent).

Other health conditions correlated with age include the following:

- Close to half of all nursing home residents (47.7 percent) had some form of dementia; more than half of those age 85 and over had dementia (53.6 percent).
- Problems with heart disease increased as the age of the nursing home population increased, steadily rising from 16.6 percent of residents under age 65 to 55.6 percent of residents age 85 and over. There were no significant differences between male and female residents.

[1]These preliminary estimates are based on the initial Round 1 data from only the MDS collected during the first 3 to 4 months of the survey year. They are subject to adjustment when all condition data for the full year are collected, coded, and edited.

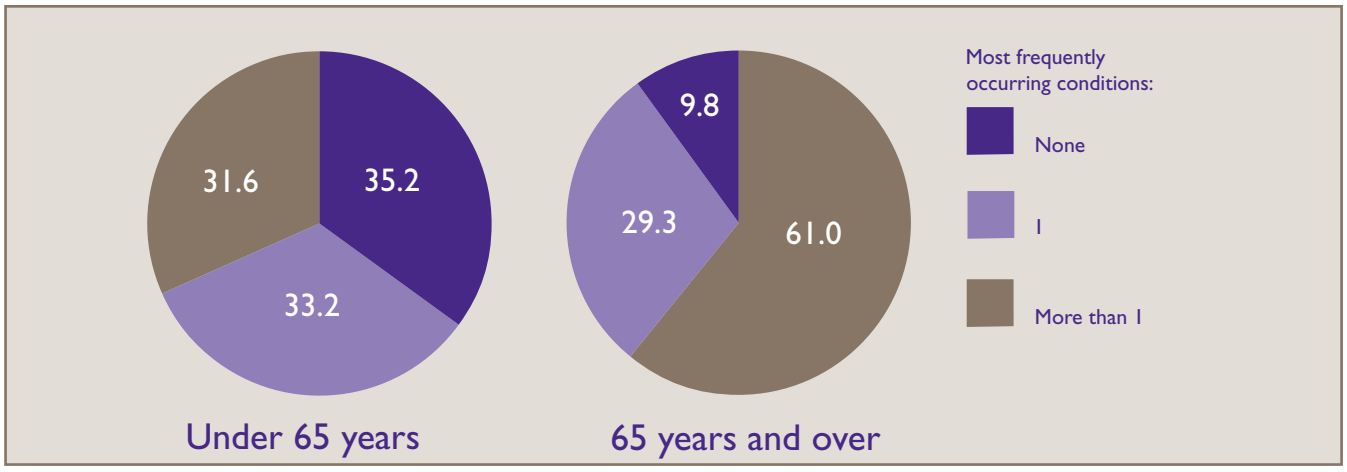
Figure 1. Percent of the most frequently occurring health conditions for nursing home residents under age 65 and age 65 and over: United States, January 1, 1996



Note: The most frequently occurring conditions for nursing home residents under age 65 are seizures, hypertension, stroke, diabetes, and dementia. The most frequently occurring conditions for residents age 65 and over are dementia, heart disease, hypertension, arthritis, and stroke.

Source: Center for Cost and Financing Studies, Agency for Health Care Policy and Research: Medical Expenditure Panel Survey Nursing Home Component, 1996 (Round 1).

Figure 2. Proportion of nursing home residents with the most frequently occurring health conditons, by age: United States, January 1, 1996



Note: The most frequently occurring conditions for nursing home residents under age 65 are seizures, hypertension, stroke, diabetes, and dementia. The most frequently occurring conditions for residents age 65 and over are dementia, heart disease, hypertension, arthritis, and stroke.

Source: Center for Cost and Financing Studies, Agency for Health Care Policy and Research: Medical Expenditure Panel Survey Nursing Home Component, 1996 (Round 1).

Sensory and Communication Problems

More than a tenth (12.6 percent) of the nursing home population had highly impaired hearing and more than a tenth (13.4 percent) had highly impaired sight (Table 5). Persons age 85 and over were much more likely than younger nursing home residents to have high levels of hearing impairment. The prevalence of impaired sight varied less by age. There were no significant differences between men and women in the proportion with high levels of hearing or sight impairment.

Communication—understanding and being understood—was a more common problem for nursing home residents. More than half (60.1 percent) had some communication problem, and 44.3 percent had difficulty with both being understood and understanding others. Generally, the effects of age or gender on communication problems were modest, although nursing home residents under age 65 were less likely than those age 85 and over to have problems both understanding and being understood or problems only in understanding.

Conclusions

In 1996, nursing home residents were highly dependent on assistance in performing ADLs. Most exhibited memory loss, or orientation or decisionmaking problems that could make independent living dangerous. Behavior problems were present in a smaller proportion of residents than cognitive problems. However, communication problems occurred in more than half of the population and could be an impediment to proper care.

The types of medical conditions experienced by residents varied by gender and age. Overall, nursing home residents under age 65 had fewer of the most frequently occurring conditions than older residents, but the younger residents were either as dependent or more dependent on assistance with ADLs. They were less likely to have both short- and long-term memory problems than residents over age 65. Residents under age 65 also were more likely than residents age 75 and over to have severe problems with decisionmaking and orientation. Current nursing home residents, regardless of age or gender, have serious problems with ADLs, continence, and behavior.

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Table 1. Number and percent distribution of nursing home residents by selected demographic characteristics, facility ownership, and type of nursing home: United States, January 1, 1996

Resident characteristic	All nursing home residents		Facility ownership			Type of nursing home		
	Number	Percent	For profit	Nonprofit	Govern-ment	Hospital-based	With independent living or personal care unit[a]	With only nursing home beds[b]
Number	1,563,900	—	1,028,700	383,500	151,700	104,900	192,600	1,266,300
Percent	—	100.0	65.8	24.5	9.7	6.7	12.3	81.00
			Percent distribution					
Sex								
Male	443,500	28.4	27.6	23.3	46.5	37.8	28.8	27.5
Female	1,120,300	71.6	72.4	76.7	53.5	62.2	71.2	72.5
Age in years								
Under 65	138,400	8.8	9.1	5.7	14.8	14.4	5.5	8.9
65-74	186,000	11.9	12.7	7.5	17.7	12.4	10.4	12.1
75-84	468,300	29.9	30.3	27.8	33.3	32.3	25.5	30.4
85 and over	771,200	49.3	48.0	58.9	34.2	40.9	58.7	48.6
Race								
White	1,387,000	88.7	87.8	91.4	88.0	86.7	94.6	88.0
Black	138,400	8.9	9.5	7.2	8.8	10.4	*4.1	9.4
Other	38,500	2.5	2.8	*1.4	*3.1	*2.9	*1.2	2.6
Marital status[c]								
Married	258,300	16.6	16.6	14.6	21.8	19.5	19.2	16.0
Widowed	928,200	59.8	60.0	63.9	47.7	50.8	62.6	60.1
Divorced or separated	143,500	9.2	9.9	6.4	12.0	9.1	7.5	9.5
Never married	222,900	14.4	13.5	15.1	18.5	20.7	10.7	14.4
Census region								
Northeast	349,000	22.3	18.2	30.5	29.8	23.6	17.8	22.9
Midwest	485,100	31.0	27.6	38.6	35.0	27.2	40.3	29.9
South	490,900	31.4	36.6	20.2	24.1	23.5	33.7	31.7
West	238,800	15.3	17.6	10.7	*11.1	25.7	*8.2	15.5
Metropolitan statistical area (MSA)								
MSA	1,080,200	69.1	69.3	72.4	59.5	57.8	65.1	70.6
Not MSA	483,700	30.9	30.7	27.6	40.5	42.2	34.9	29.4
Insurance enrollment[c]								
Medicare only[d]	455,600	29.7	27.2	37.5	26.4	34.4	44.9	27.0
Medicaid only[e]	68,200	4.4	5.1	2.8	4.5	6.6	*2.1	4.6
Medicare and Medicaid[f]	974,500	63.5	65.3	58.6	63.3	50.8	50.4	66.5
Neither Medicare nor Medicaid[g]	37,300	2.4	*2.4	*1.2	5.8	*8.2	*2.6	1.9

Continued

Table 1. Number and percent distribution of nursing home residents by selected demographic characteristics, facility ownership, and type of nursing home: United States, January 1, 1996 *(continued)*

Resident characteristic	All nursing home residents		Facility ownership			Type of nursing home		
	Number	Percent	For profit	Nonprofit	Govern-ment	Hospital-based	With independent living or personal care unit[a]	With only nursing home beds[b]
Number of ADLs in which assistance received[h]								
0	43,500	2.8	2.7	1.9	5.6	6.3	*3.3	2.4
1-2	218,100	13.9	14.2	13.2	14.3	11.1	13.2	14.3
3 or more	1,302,200	83.3	83.1	84.9	80.1	82.6	83.5	83.3

[a] Includes continuing care retirement communities (CCRCs) and retirement centers that include independent living and/or personal care units, as well as nursing homes that contain or are affiliated with personal care units.

[b] Includes a small number of nursing homes (less than 1 percent of this category) with an an intermediate care facility for the mentally retarded.

[c] Excludes less than 2 percent missing data.

[d] Includes less than 1.5 percent of residents with other public coverage, such as veterans benefits; excludes persons with Medicaid.

[e] Includes less than 1 percent of residents with other public coverage, such as veterans benefits, or some form of private coverage; excludes persons with Medicare.

[f] Includes less than 2 percent of residents with other public coverage, such as veterans benefits.

[g] Includes less than 1.5 percent of residents with private coverage only and less than1 percent with public coverage (such as veterans benefits) with or without private coverage.

[h] ADLs (activities of daily living) include bathing, dressing, eating, transferring, mobility, and toileting.

* Relative standard error is greater than .3 and should not be assumed to be reliable.

Note: Categories may not add to totals because of rounding and, in the case of marital status and insurance enrollment, nonresponse.

Source: Center for Cost and Financing Studies, Agency for Health Care Policy and Research: Medical Expenditure Panel Survey Nursing Home Component, 1996 (Round 1).

Table 2. Number and percent distribution of nursing home residents by level of dependence in activities of daily living (ADLs), age, and sex: United States, January 1, 1996

Level and type of dependence	All nursing home residents		Age in years				Sex	
	Number	Percent	Under 65	65-74	75-84	85 and over	Men	Women
Number	1,563,900	—	138,400	186,000	468,300	771,200	443,500	1,120,300
Percent	—	100.0	8.8	11.9	29.9	49.3	28.4	71.6
Number of ADLs in which assistance received[a]			**Percent distribution**					
0	43,500	2.8	7.7	6.1	1.9	1.7	5.6	1.7
1-2	218,100	13.9	14.8	17.5	12.9	13.6	14.8	13.6
3 or more	1,302,200	83.3	77.5	76.4	85.2	84.8	79.6	84.7
Type of ADL								
Dressing:								
No assistance received	184,400	11.8	18.8	17.1	10.0	10.4	14.6	10.7
Assistance received	817,400	52.3	40.9	52.1	54.2	53.2	52.3	52.3
Totally dependent	562,100	35.9	40.3	30.8	35.9	36.4	33.1	37.1
Bathing:								
No assistance received	55,400	3.5	8.5	7.9	2.7	2.2	6.5	2.4
Assistance received	773,700	49.5	41.9	49.9	49.6	50.7	48.2	50.0
Totally dependent	734,800	47.0	49.6	42.2	47.7	47.2	45.3	47.7
Eating:								
No assistance received	630,800	40.3	39.9	44.1	39.9	39.8	42.6	39.4
Assistance received	644,100	41.2	32.3	38.6	41.9	43.0	39.2	42.0
Totally dependent	289,000	18.5	27.8	17.4	18.3	17.2	18.2	18.6
Transferring:								
No assistance received	413,500	26.4	29.3	35.3	25.5	24.4	32.6	24.0
Assistance received	706,500	45.2	31.9	41.4	46.6	47.6	42.0	46.4
Totally dependent	443,800	28.4	38.8	23.3	27.9	28.0	25.4	29.6
Mobility:								
No assistance received	524,800	33.6	43.0	42.9	33.1	29.9	39.9	31.1
Assistance received	570,000	36.5	22.1	33.3	36.1	40.0	33.3	37.7
Totally dependent	469,100	30.0	34.9	23.9	30.8	30.1	26.9	31.2
Toileting:								
No assistance received	317,300	20.3	24.5	27.3	18.1	19.2	24.5	18.7
Assistance received	647,100	41.4	32.2	37.4	43.6	42.7	39.4	42.2
Totally dependent	599,500	38.3	43.3	35.3	38.4	38.1	36.2	39.2

[a] Assistance includes supervision, limited assistance, and extensive assistance.

Note: ADLs include bathing, dressing, eating, transferring, mobility, and toileting. Categories may not add to totals due to rounding.

Source: Center for Cost and Financing Studies, Agency for Health Care Policy and Research: Medical Expenditure Panel Survey Nursing Home Component, 1996 (Round 1).

Table 3. Number and percent distribution of nursing home residents by type of incontinence, age, and sex: United States, January 1, 1996

Type of incontinence	All nursing home residents		Age in years				Sex	
	Number	Percent	Under 65	65-74	75-84	85 and over	Men	Women
Number	1,563,900	—	138,400	186,000	468,300	771,200	443,500	1,120,300
Percent	—	100.0	8.8	11.9	29.9	49.3	28.4	71.6
Type of incontinence			**Percent distribution**					
None	720,900	46.1	47.2	51.0	45.3	45.2	46.3	46.0
Bladder only	176,000	11.3	6.1	10.3	11.2	12.4	10.0	11.7
Bowel only	79,200	5.1	6.7	6.4	4.9	4.5	6.9	4.4
Bowel and bladder	587,700	37.6	40.0	32.3	38.5	37.9	36.8	37.9

Note: Categories may not add to totals due to rounding.

Source: Center for Cost and Financing Studies, Agency for Health Care Policy and Research: Medical Expenditure Panel Survey Nursing Home Component, 1996 (Round 1).

Table 4. Number and percent distribution of nursing home residents by selected memory and behavior characteristics, age, and sex: United States, January 1, 1996

Memory or behavior characteristic	All nursing home residents		Age in years				Sex	
	Number	Percent	Under 65	65-74	75-84	85 and over	Men	Women
Number	1,563,900	—	138,400	186,000	468,300	771,200	443,500	1,120,300
Percent	–	100.0	8.8	11.9	29.9	49.3	28.4	71.6
			Percent distribution					
Memory problems[a]								
No problem	451,400	29.2	47.0	39.9	29.1	23.6	33.5	27.5
Memory loss:								
Short-term	237,200	15.4	8.0	13.4	14.6	17.6	13.7	16.0
Long-term	39,500	2.6	*3.5	3.6	2.9	1.9	3.6	2.1
Long-and short-term	817,500	52.9	41.6	43.2	53.4	56.9	49.2	54.4
Orientation difficulties [a,b]								
No problem	416,000	27.1	19.3	20.6	28.3	29.3	23.8	28.4
Problem in:								
1 area	194,800	12.7	7.7	9.9	12.5	14.4	12.0	12.9
2 areas	157,400	10.3	10.3	10.3	8.4	11.5	9.8	10.4
3 or more areas	766,300	49.9	62.8	59.2	50.9	44.9	54.3	48.2
Ability to make daily decisions [a]								
Not impaired	299,600	19.4	29.7	26.0	19.0	16.2	21.0	18.7
Impaired	865,800	56.0	45.5	55.4	54.6	58.8	56.3	55.9
Severely impaired	381,000	24.6	24.8	18.6	26.4	25.4	22.7	25.4
Behavior problems[a]								
No problem	1,075,600	69.8	69.6	72.2	68.9	69.8	65.1	71.6
Any problem	465,900	30.2	30.4	27.8	31.1	30.2	34.9	28.4
Type of behavior problem[a]			Percent[c]					
Verbally abusive	182,200	11.8	13.4	10.4	11.4	12.0	14.3	10.8
Physically abusive	141,400	9.1	11.1	7.2	8.2	9.9	11.5	8.2
Socially inappropriate	223,800	14.5	20.8	13.9	13.6	14.0	15.6	14.0
Resistant to care	192,300	12.5	10.6	10.5	12.3	13.5	14.6	11.7
Wandering behavior	144,900	9.4	8.4	8.5	11.5	8.4	10.1	9.0

[a] Excludes less than 2 percent missing data.

[b] Areas of orientation include time, place, and person.

[c] Persons may have more than one type of behavior problem. Problems are calculated individually and do not add to 100 percent.

* Relative standard error is equal to or greater than .3 and should not be assumed to be reliable.

Note: Categories may not add to totals due to rounding and nonresponse.

Source: Center for Cost and Financing Studies, Agency for Health Care Policy and Research: Medical Expenditure Panel Survey Nursing Home Component, 1996 (Round 1).

Table 5. Number and percent of nursing home residents by the 10 most frequently occurring health conditions among nursing home residents, sex, age: United States, January 1, 1996

Health conditions and characteristics	All nursing home residents		Age in years				Sex	
	Number	Percent	Under 65	65-74	75-84	85 and over	Men	Women
Number	1,563,900	—	138,400	186,000	468,300	771,200	443,500	1,120,300
Percent	–	100.0	8.8	11.9	29.9	49.3	28.4	71.6
Most frequently occurring conditions[a]			**Percent with condition**					
Dementia[b]	746,100	47.7	17.7	39.1	50.2	53.6	44.6	48.9
Heart disease[c]	711,700	45.5	16.6	33.8	42.2	55.6	44.0	46.1
Hypertension	572,400	36.6	25.3	41.1	37.6	37.0	32.0	38.4
Arthritis	379,300	24.3	4.5	16.9	22.5	30.6	17.5	26.9
Cerebrovascular accident	332,300	21.2	18.9	28.6	24.3	18.0	26.3	19.2
Depression	315,600	20.2	17.2	23.8	23.1	18.1	17.0	21.4
Diabetes mellitus	281,500	18.0	18.8	25.9	21.2	14.0	18.8	17.7
Anemia	271,300	17.4	14.5	12.5	16.0	19.9	15.2	18.2
Allergies	267,200	17.1	15.0	17.4	19.3	16.1	12.6	18.9
Chronic obstructive pulmonary disease	197,900	12.7	6.9	21.2	15.4	10.0	17.9	10.6
			Percent distribution					
Hearing[d]								
Adequate	994,000	64.4	89.0	82.6	71.2	51.6	65.1	64.1
Impaired	354,600	23.0	6.7	12.3	21.4	29.4	21.3	23.6
Highly impaired[e]	194,300	12.6	4.3	5.1	7.4	19.0	13.5	12.2
Sight[d]								
Adequate	931,900	60.8	71.1	68.4	65.1	54.4	62.4	60.1
Impaired	396,700	25.9	16.4	22.7	22.9	30.1	24.4	26.4
Highly impaired[e]	205,300	13.4	12.5	8.9	12.0	15.5	13.2	13.5
Communication[d]								
No problem	618,200	39.9	46.5	45.4	40.8	36.9	41.2	39.5
Problem being understood	76,700	5.0	11.2	7.7	4.8	3.3	7.4	4.0
Problem understanding others	168,400	10.9	*3.2	6.8	9.7	13.9	10.3	11.1
Both	685,800	44.3	39.1	40.1	44.8	45.9	41.1	45.5

[a] Persons may have more than one condition. Conditions are calculated separately and do not add to 100 percent.
[b] Includes Alzheimer's disease and related dementias.
[c] Includes arteriosclerotic heart disease, cardiac dysrhythmias, cardiovascular disease, and congestive heart failure.
[d] Excludes less than 2 percent missing data.
[e] Responses of "highly impaired" and "severely impaired" were combined and classified as highly impaired.
* Relative standard error is equal to or greater than .3 and should not be assumed to be reliable.

Note: Categories may not add to totals because of rounding and, in the case of hearing, sight, and communication, nonresponse.

Source: Center for Cost and Financing Studies, Agency for Health Care Policy and Research: Medical Expenditure Panel Survey Nursing Home Component, 1996 (Round 1).

Technical Appendix

Data Sources and Methods of Estimation

The data in this report were obtained from a nationally representative sample of nursing homes from the Nursing Home Component (NHC) of the 1996 Medical Expenditure Panel Survey (MEPS). The sampling frame was derived from the updated 1991 National Health Provider Inventory. The NHC was primarily designed to provide unbiased national and regional estimates for the population in nursing homes, as well as estimates of these facilities and a range of their characteristics.

The sample was selected using a two-stage stratified probability design, with facility selection in the first stage. The second stage of selection consisted of a sample of residents as of January 1, 1996, and a rolling sample of persons admitted during the year (Bethel, Broene, and Sommers, 1998). Of the 1,123 eligible nursing homes sampled in the NHC, 85 percent responded. Estimates in this report are based on these 952 eligible responding facilities. To bring the sample size in line with the original design of approximately 800 facilities by the end of Round 3, the facility sample was subsampled at the end of Round 1. A total of 127 facilities were randomly deselected.

The MEPS NHC data analyzed here were collected in person during the first of three rounds of data collection. A computer-assisted personal interview (CAPI) system was used for data collection. The Round 1 interview took place during the period March-June 1996. The entire three-round data collection effort took place over a 1-1/2 year period, with the reference period being January 1, 1996, to December 31, 1996 (Potter, 1998).

The facility questionnaire was designed to elicit information on the complex structure of institutions that provide residential care or treatment. Some nursing homes or units exist within larger establishments. In such cases, the entity that appeared on the sampling frame might be the larger facility, the nursing home or unit within the larger facility, or only one of several nursing units within the larger facility. Therefore, the NHC's Round 1 facility questionnaire was designed to identify the larger facility, each eligible nursing home or unit within the larger establishment, and other nonhospital residential parts. Because of this, the point of reference for a specific question may be the sampled nursing home or unit (hereafter referred to as "nursing home"), a larger facility, another nonhospital residential part of a larger facility, one or several nursing homes within a larger facility, or a smaller subunit of the eligible nursing home (Agency for Health Care Policy and Research, 1997).

Data on the sampled nursing homes were obtained using a facility questionnaire administered through CAPI to facility administrators or designated staff. Estimates provided are preliminary and are subject to revision as more information from other parts of the NHC becomes available.

Data in data files released to the public have, in some instances, been masked to preserve the confidentiality of responding nursing homes. As a result, estimates made using the public use version of the data may differ slightly from the estimates presented in this report.

Facility Eligibility

Only nursing homes were eligible for inclusion in the MEPS NHC. To be included as a nursing home, a facility must have at least three beds and meet one of the following criteria:

- It must have a facility or distinct portion of a facility certified as a Medicare skilled nursing facility (SNF).
- It must have a facility or distinct portion of a facility certified as a Medicaid nursing facility (NF).
- It must have a facility or distinct portion of a facility that is licensed as a nursing home by the State health department or by some other State or Federal agency and that provides onsite supervision by a registered nurse or licensed practical nurse 24 hours a day, 7 days a week (Bethel, Broene, and Sommers, 1998).

By this definition, all SNF- or NF-certified units of licensed hospitals are eligible for the sample, as are all Department of Veterans Affairs (VA) long-term care nursing units. In such cases, and in the case of retirement communities with nursing facilities, only the long-term care nursing units(s) of the facility were eligible for inclusion in the sample. If a facility also contained a long-term care unit that provided assistance only with

activities of daily living (e.g., a personal care unit) or provided nursing care at a level below that required to be classified as a nursing facility, that unit was excluded from the sample (Potter, 1998).

Current-Residents Sample

To allow a chance of selection for all persons in this universe, two samples of persons were selected within each cooperating sampled facility: (1) a cross-sectional sample of persons who were residents on January 1, 1996 (referred to as current residents) and (2) a sample of persons admitted to the nursing home at any time during 1996, with no prior admissions to an eligible nursing home during 1996 (referred to as first admissions). This report is limited to data collected during Round 1, so estimates are for current residents only. For details on first-admissions sampling, refer to Bethel, Broene, and Sommers (1998).

The interviewer in each sampled facility compiled a list of current residents as of January 1, 1996. Within each facility, a systematic random sample of four current residents was drawn using the CAPI system.

The overall response rate for the current-residents sample was 84 percent (.85 facility response rate × .99 current response rate). To be considered a respondent, the sampled resident had to have 75 percent of the baseline health status items complete, and age, sex, and race had to be reported. Forty-four eligible current residents did not meet this requirement, and 17 sampled persons were ineligible.

Definitions of Variables

Nursing Home Residents

Nursing home residents included only persons residing in licensed parts of sampled nursing homes. Residents of unlicensed parts of sampled facilities were excluded.

Ownership

Respondents reported the ownership type that best described their facility (or larger part of the facility, in situations where the sampled nursing home was part of a larger facility), as follows:

- For-profit (i.e., individual, partnership, or corporation).
- Private nonprofit (e.g., religious group, nonprofit corporation).
- One of four types of public ownership—city/county government, State government, VA, or other Federal agency.

Respondents also reported whether their facility was part of a chain or group of nursing facilities operating under common management. Three facilities whose ownership type originally was reported as "other specify" were recoded based on the 1996 American Hospital Association Guide to Hospitals (American Hospital Association, 1996).

Facility Type

This variable, constructed from data from the facility questionnaire, defines the facility's organizational structure as one of three types:

- *Hospital-based nursing home.* This indicates that the sampled nursing home was part of a hospital or was a hospital-based Medicare SNF.
- *Nursing home with independent living or personal care unit.* This category includes continuing care retirement communities (CCRCs) and retirement centers that have independent living and/or personal care units, as well as nursing homes that contain personal care units. Non-hospital-based nursing homes with a separate unit in which personal care assistance is provided also are included.
- *Nursing home with only nursing home beds.* This category includes a small number of nursing homes (less than 1 percent) with an intermediate care unit for the mentally retarded (ICF-MR).

The order of priority for coding facility type followed the sequence listed above. Eleven facilities initially classified as "other nursing home type" were recoded to the latter two categories on further review.

Census Region

Sampled nursing homes or units were classified in one of four regions–Northeast, Midwest, South, and West–based on their geographic location according to the

MEPS NHC sampling frame. These regions are defined by the U.S. Bureau of the Census.

Facility Location

A metropolitan statistical area (MSA) was defined as including (1) at least one city with 50,000 or more inhabitants or (2) a Census Bureau-defined urbanized area of at least 50,000 inhabitants and a total metropolitan population of at least 100,000 (75,000 in New England) (U.S. Bureau of the Census, 1996).

Insurance Enrollment

Main insurance enrollment was aggregated into four mutually exclusive groups: Medicare only, Medicaid only, both Medicare and Medicaid, and neither Medicare nor Medicaid. Persons covered by Medicare, Medicaid, or both may also have had other insurance coverage, such as private insurance or veterans benefits. Persons with neither Medicare nor Medicaid coverage included 1.3 percent of sampled persons with private coverage only, .7 percent of sampled persons with veterans benefits (some of whom also had private insurance), and .4 percent of sampled persons for whom no insurance coverage was identified. These data reflect insurance coverage only. The actual source of payment for nursing home stays will not be available until the release of full-year nursing home data for 1996.

Activities of Daily Living (ADLs)

Respondents were asked to indicate whether the sampled resident received assistance with personal care activities commonly known as activities of daily living. Six activities were included in the summary ADL measure in Table 1: dressing, bathing, eating, transferring from a bed or chair, mobility, and toileting. Of those sampled, 32 persons (less than 1 percent of the total) were comatose and initially had all ADLs classified as "inapplicable." These cases, along with all cases for whom it was indicated that the "activity did not occur" (less than 2 percent of the total), were reclassified as "totally dependent." Persons with missing data (not more than .5 percent of the total sample of any ADL) were assumed to have no difficulty with activities and were reclassified as "no assistance received." For Table 2, persons functioning independently were classified as "no assistance received" and persons who required supervision or limited or extensive assistance were classified as "assistance received."

Marital Status

Facility respondents were asked if, on January 1, 1996, the sampled person was married, widowed, divorced, separated, or never married.

Race

Respondents were asked if the race of each resident was best described as American Indian, Alaska Native, Asian or Pacific Islander, black, white, or other. Estimates of race were collapsed into three categories: white, black, and other. Less than .5 percent of residents initially classified as "other" were reclassified as white. The other race categories are not shown separately due to small sample size.

Memory Problems

Respondents were asked two questions about the sample resident's memory: whether the resident had a short-term memory problem and whether the resident had a long-term memory problem. Responses were limited to "yes" or "no." Approximately 1.2 percent missing data (not included in Table 4) existed for each item.

Orientation Difficulties

To assess orientation to time, place, and person, respondents were asked whether the sample resident was able to recall the current season, location of own room, staff names/faces, or that he or she was in a nursing home. The summary variable in Table 4 indicates the number of items with which the resident had difficulty. Missing data, which were not included in the table, did not exceed 1.2 percent for any item.

Ability to Make Daily Decisions

Respondents reported the sample resident's ability to make daily decisions. Residents reported to be independent were classified as "no impairment"; those with modified independence and moderately impaired were classified as "some impairment"; and those who were severely impaired was classified as "severe

impairment." Missing data (less than 1.2 percent) were not included in Table 4.

Behavior Problems

Respondents were asked how often the sample resident exhibited the following problems: verbally abusive behavior, physically abusive behavior, wandering, resistance to care, or disruptive behavior. The summary variable indicates the presence of one or more of these behaviors. No individual behavior problem had more than 1.8 percent missing data. Missing data were not included in Table 4. For both the summary measures and measures of individual behavior problems, responses indicating that the resident had a problem "less than daily" and "daily or more frequently" were both classified as having a behavior problem.

Communication

Respondents reported how well the sample resident was able to understand others and whether he or she could be understood by others. Positive responses for "understood" and "usually understood" were classified as no problem; "sometimes understood" and "rarely/never understood" were classified as having a problem. Understanding others was classified in a similar manner. Responses for both variables were collapsed into four mutually exclusive categories: no problem, problem being understood, problem understanding others, or both. Missing data (less than 1 percent across both variables) were not included in Table 5.

Health Conditions

Conditions are active diagnoses that have a relationship to current ADL status, cognitive status, mood and behavior status, medical treatments, nurse monitoring, or risk of death. The health conditions listed in Table 5 were collected from the sample resident's Minimum Data Set (MDS). The MDS is a uniform series of questions assessing the nursing home resident's physical and mental status and is required by law for anyone entering a federally assisted nursing home. If a valid MDS was not available, conditions were collected from the resident's medical record. Condition estimates are preliminary and will change when full-year data are edited. Data in this report do not include conditions listed as "other specify," nor do they include conditions identified from other medical records if the resident had a valid MDS. However, these data will be included in the full-year file.

Hearing and Vision

Respondents reported sample residents' ability to hear and see using four categories ranging from adequate to severely impaired. "Minimal difficulty" was classified as "impaired," and "highly" and "severely" impaired were combined and classified as "highly impaired." Missing data (less than 2 percent for both items) were not included in Table 5.

Incontinence

Data on bladder and bowel control were collected from the MDS and refer to continence in the last 14 days. Residents were classified as incontinent if the response indicated that they were incontinent or frequently incontinent. Residents reported to be continent, usually continent, or occasionally incontinent were classified as having no incontinence. Responses for bladder and bowel control were collapsed into four mutually exclusive categories: no incontinence, bladder incontinence only, bowel incontinence only, and both bladder and bowel incontinence. Of the sample, 32 persons (less than 1 percent of the total) were comatose and initially classified as "inapplicable." These cases were reclassified as incontinent. Persons with missing data ("don't know") were assumed to have no difficulty with bowel and/or bladder control and were reclassified as continent; these persons represented less than .5 percent of the total sample for any item.

Reliability and Standard Error Estimates

Since the statistics presented in this report are based on a sample, they may differ somewhat from the figures that would have been obtained if a complete census had been taken. This potential difference between sample results and a complete count is the sampling error of the estimate.

The chance that an estimate from the sample would differ from the value for a complete census by less than one standard error is about 68 out of 100.

The chance that the difference between the sample estimate and a complete census would be less than twice the standard error is about 95 out of 100.

Tests of statistical significance were used to determine whether differences between estimates exist at specified levels of confidence or whether they simply occurred by chance. Differences were tested using *Z*-scores having asymptotic normal properties, based on the rounded figures at the .05 level of significance.

Estimates for sample sizes of less than 50 do not meet standards of reliability or precision and are not reported. In addition, estimates with a relative standard error greater than 30 percent are marked with an asterisk. Such estimates cannot be assumed to be reliable.

Rounding

Estimates presented in the tables have been rounded to the nearest .1 percent. Population estimates have been rounded to the nearest hundred. The rounded estimates, including those underlying the standard errors, will not always add to 100 percent or the full total.

Standard Errors

The standard errors in this report are based on estimates of standard errors derived using the Taylor series linearization method to account for the complex survey design. The standard error estimates were computed using SUDAAN (Shah, Barnwell, and Bieler, 1995). The direct estimates of the standard errors for the estimates in Tables 1-5 in the text are provided in Tables A-E, respectively.

For example, the estimate for male nursing home residents of 28.4 percent (Table 1) has an estimated standard error of .8 percent (Table A). The estimate for white nursing home residents of 1,387,000 (Table 1) has an estimated standard error of 15,089 residents (Table A).

Table A. Standard errors for the number and percent distribution of nursing home residents by selected demographic characteristics, facility ownership, and type of nursing home: United States, January 1, 1996
(Corresponds to Table 1)

Resident characteristic	All nursing home residents		Facility ownership			Type of nursing home		
	Number	Percent	For profit	Nonprofit	Government	Hospital-based	With independent living or personal unit[a]	With only nursing home beds[b]
Number	11,829	—	24,163	21,983	13,848	9,394	17,076	20,746
Percent	—	—	1.5	1.4	.9	.6	1.1	1.20
			Percent distribution					
Sex								
Male	13,172	.8	1.0	1.5	3.6	3.9	2.5	.9
Female	15,534	.8	1.0	1.5	3.6	3.9	2.5	.9
Age in years								
Under 65	9,062	.6	.7	1.0	2.1	2.4	1.2	.7
65-74	9,080	.6	.7	.9	2.4	2.0	1.5	.7
75-84	12,518	.8	.9	1.6	2.8	3.2	2.2	.9
85 and over	15,953	.9	1.1	1.9	2.9	3.1	2.7	1.0
Race								
White	15,089	.7	.9	1.4	2.3	2.7	1.5	.8
Black	9,997	.6	.8	1.3	1.8	2.2	1.4	.7
Other	5,581	.4	.5	.6	1.3	1.2	.7	.4
Marital status[c]								
Married	10,108	.6	.8	1.1	2.4	2.6	2.0	.7
Widowed	16,042	.9	1.1	1.8	3.0	3.4	2.6	1.0
Divorced or separated	8,278	.5	.7	.9	1.9	1.7	1.4	.6
Never married	10,070	.6	.8	1.4	2.0	2.9	1.5	.7
Census region								
Northeast	21,802	1.4	1.6	3.1	5.0	5.0	3.7	1.6
Midwest	20,257	1.3	1.6	3.2	5.1	5.1	4.6	1.5
South	23,983	1.5	1.9	2.7	4.7	5.7	4.5	1.7
West	16,477	1.1	1.4	1.9	3.5	5.1	2.4	1.2
Metropolitan statistical area (MSA)								
MSA	25,712	1.5	1.9	3.0	5.3	6.1	4.5	1.7
Not MSA	24,015	1.5	1.9	3.0	5.3	6.1	4.5	1.7

Continued

Table A. Standard errors for the number and percent distribution of nursing home residents by selected demographic characteristics, facility ownership, and type of nursing home: United States, January 1, 1996 *(continued)*
(*Corresponds to Table 1*)

Resident characteristic	All nursing home residents		Facility ownership			Type of nursing home		
	Number	Percent	For profit	Nonprofit	Government	Hospital-based	With independent living or personal unit[a]	With only nursing home beds[b]
Insurance enrollment[c]								
Medicare only[d]	15,375	1.0	1.2	2.1	3.2	4.0	3.1	1.0
Medicaid only[e]	6,619	.4	.5	.6	1.3	1.6	.9	.5
Medicare and Medicaid[f]	17,547	1.0	1.2	2.1	3.6	4.0	3.1	1.1
Neither Medicare nor Medicaid[g]	4,732	.3	.4	.4	1.8	2.7	.8	.3
Number of ADLs in which assistance received[h]								
0	4,774	.3	.4	.5	1.5	1.7	1.0	.3
1-2	9,942	.6	.8	1.2	2.0	1.8	1.8	.7
3 or more	14,924	.7	.9	1.3	2.5	2.5	2.0	.8

[a] Includes continuing care retirement communities (CCRCs) and retirement centers that have independent living and/or personal care units, as well as nursing homes that contain or are affiliated with personal care units.
[b] Includes a small number of nursing homes (less than 1 percent of this category) with an intermediate care facility for the mentally retarded.
[c] Excludes less than 2 percent missing data.
[d] Includes less than 1.5 percent of residents with other public coverage, such as veterans benefits; excludes persons with Medicaid.
[e] Includes less than 1 percent of residents with other public coverage, such as veterans benefits, or some form of private coverage; excludes persons with Medicare.
[f] Includes less than 2 percent of residents with other public coverage such as veterans benefits.
[g] Includes less than 1.5 percent of residents with private coverage only and less than 1 percent of residents with public coverage (such as veterans benefits) with or without private coverage.
[h] ADLs (activities of daily living) include bathing, dressing, eating, transferring, mobility, and toileting.

Source: Center for Cost and Financing Studies, Agency for Health Care Policy and Research: Medical Expenditure Panel Survey Nursing Home Component, 1996 (Round 1).

Table B. Standard errors for the number and percent distribution of nursing home residents by level of dependence in activities of daily living (ADLs), age, and sex: United States, January 1, 1996
(Corresponds to Table 2)

Level and type of dependence	All nursing home residents		Age in years				Sex	
	Number	Percent	Under 65	65-74	75-84	85 and over	Men	Women
Number	11,829	—	9,062	9,080	12,518	15,953	13,712	15,534
Percent	—	—	.6	.6	.8	.9	.8	.8
Number of ADLs in which assistance received[a]			**Percent distribution**					
0	4,774	.3	1.7	1.2	.4	.3	.8	.3
1-2	9,942	.6	2.1	1.9	1.0	.9	1.1	.7
3 or more	14,924	.7	2.6	2.2	1.1	.9	1.3	.8
Type of ADL								
Dressing:								
No assistance received	9,507	.6	2.5	1.9	.9	10.4	1.2	.7
Assistance received	16,000	.9	2.9	2.5	1.5	1.3	1.7	1.1
Totally dependent	14,819	.9	2.9	2.2	1.5	1.2	1.5	1.1
Bathing:								
No assistance received	5,331	.3	1.8	1.4	.5	.4	.9	.3
Assistance received	15,879	1.0	2.9	2.5	1.6	1.3	1.7	1.1
Totally dependent	16,122	1.0	3.0	2.5	1.6	1.3	1.7	1.1
Eating:								
No assistance received	15,647	1.0	3.0	2.5	1.6	1.3	1.6	1.1
Assistance received	15,788	1.0	2.7	2.5	1.6	1.3	1.6	1.1
Totally dependent	11,231	.7	2.5	1.8	1.2	.9	1.2	.8
Transferring:								
No assistance received	12,522	.8	3.0	2.4	1.4	1.1	1.6	.9
Assistance received	15,433	.9	2.8	2.4	1.5	1.2	1.7	1.0
Totally dependent	12,878	.8	2.9	2.0	1.4	1.1	1.4	.9
Mobility:								
No assistance received	14,089	.9	3.1	2.5	1.5	1.1	1.6	1.0
Assistance received	15,217	.9	2.3	2.3	1.5	1.2	1.5	1.1
Totally dependent	13,263	.8	2.8	2.0	1.5	1.1	1.4	.9
Toileting:								
No assistance received	11,658	.7	2.9	2.3	1.2	1.0	1.4	.8
Assistance received	14,562	.9	2.7	2.4	1.5	1.2	1.6	1.0
Totally dependent	14,440	.9	3.0	3.4	1.5	1.2	1.6	1.0

[a] Assistance includes supervision, limited assistance, and extensive assistance.
Note: ADLs include bathing, dressing, eating, transferring, mobility, and toileting. Categories may not add to totals due to rounding.
Source: Center for Cost and Financing Studies, Agency for Health Care Policy and Research: Medical Expenditure Panel Survey Nursing Home Component, 1996 (Round 1).

Table C. Standard errors for the number and percent distribution of nursing home residents by type of incontinence, age, and sex: United States, January 1, 1996
(Corresponds to Table 3)

Type of incontinence	All nursing home residents		Age in years				Sex	
	Number	Percent	Under 65	65-74	75-84	85 and over	Men	Women
Number	11,829	—	9,062	9,080	12,518	15,953	13,712	15,534
Percent	—	—	.6	.6	.8	.9	.8	.8
Type of incontinence			**Percent distribution**					
None	14,863	.9	3.0	2.4	1.6	1.2	1.6	1.0
Bladder only	9,025	.6	1.4	1.5	1.0	.8	1.0	.7
Bowel only	6,370	.4	1.4	1.2	.7	.5	.8	.4
Bowel and bladder	14,545	.9	2.8	2.3	1.5	1.2	1.6	1.0

Source: Center for Cost and Financing Studies, Agency for Health Care Policy and Research: Medical Expenditure Panel Survey Nursing Home Component, 1996 (Round 1).

Table D. Standard errors for the number and percent distribution of nursing home residents by selected memory and behavior characteristics, age, and sex: United States, January 1, 1996
(Corresponds to Table 4)

Memory or behavior characteristic	All nursing home residents		Age in years				Sex	
	Number	Percent	Under 65	65-74	75-84	85 and over	Men	Women
Number	11,970	—	8,987	9,059	12,583	15,824	13,549	15,425
Percent	—	—	.6	.6	.8	.9	.8	.8
Memory problems[a]			**Percent distribution**					
No problem	12,907	.8	3.1	2.5	1.4	1.0	1.6	.9
Memory loss:								
Short-term	10,784	.7	1.5	1.8	1.1	1.0	1.1	.8
Long-term	4,089	.3	1.0	.9	.5	.3	.6	.3
Long- and short-term	15,973	.9	3.0	2.5	1.6	1.3	1.6	1.1
Orientation difficulties[a,b]								
No problem	13,519	.8	2.3	2.0	1.5	1.2	1.4	1.0
Problem in:								
1 area	9,222	.6	1.7	1.5	1.0	.9	1.1	.7
2 areas	7,963	.5	1.8	1.5	.8	.8	.9	.6
3 or more areas	15,423	.9	2.8	2.5	1.6	1.3	1.6	1.1
Ability to make daily decisions[a]								
Not impaired	11,363	.7	2.8	2.2	1.2	.9	1.3	.8
Impaired	15,607	.9	2.9	2.5	1.6	1.3	1.6	1.1
Severely impaired	12,852	.8	2.6	2.0	1.4	1.1	1.4	1.0
Behavior problems[a]								
No problem	15,319	.8	2.9	2.3	1.5	1.1	1.6	1.0
Any problem	13,237	.8	2.9	2.3	1.5	1.1	1.6	1.0
Type of behavior problem[a]			**Percent[c]**					
Verbally abusive	8,828	.6	2.2	1.4	1.0	.8	1.2	.6
Physically abusive	7,712	.5	2.0	1.3	.8	.7	1.0	.6
Socially inappropriate	9,804	.6	2.5	1.7	1.1	.9	1.2	.7
Resistant to care	9,514	.6	1.9	1.5	1.1	.9	1.3	.7
Wandering behavior	8,208	.5	1.7	1.4	1.1	.7	1.0	.6

[a] Excludes less than 2 percent missing data.

[b] Areas of orientation include time, place, and person.

[c] Persons may have more than one type of behavior problem. Problems are calculated individually and do not add to 100 percent.

Source: Center for Cost and Financing Studies, Agency for Health Care Policy and Research: Medical Expenditure Panel Survey Nursing Home Component, 1996 (Round 1).

Table E. Standard errors for the number and percent of nursing home residents by the 10 most frequently occurring health conditions among nursing home residents, sex, and age: United States, January 1, 1996 *(Corresponds to Table 5)*

Health conditions and characteristics	All nursing home residents		Age in years				Sex	
	Number	Percent	Under 65	65-74	75-84	85 and over	Men	Women
Number	11,970	—	8,987	9,059	12,583	15,824	13,549	15,425
Percent	—	—	.6	.6	.8	.9	.8	.8
10 most frequently occurring conditions[a]			**Percent with condition**					
Dementia[b]	15,841	.9	2.3	2.4	1.5	1.2	1.6	1.0
Heart disease[c]	15,250	.9	2.1	2.4	1.5	1.3	1.6	1.1
Hypertension	13,605	.8	2.5	2.4	1.5	1.2	1.5	1.0
Arthritis	12,878	.8	1.2	1.8	1.3	1.2	1.3	1.0
Cerebrovascular accident	11,147	.7	2.2	2.2	1.3	.9	1.4	.8
Depression	11,119	.7	2.1	2.0	1.4	1.0	1.2	.8
Diabetes mellitus	10,047	.6	2.1	2.2	1.2	.8	1.2	.8
Anemia	10,555	.7	2.2	1.6	1.1	1.0	1.2	.8
Allergies	12,289	.8	2.2	1.9	1.3	1.0	1.1	.9
Chronic obstructive pulmonary disease	8,978	.6	1.4	2.0	1.1	.7	1.3	.6
			Percent distribution					
Hearing[d]								
Adequate	16,647	.9	1.9	1.9	1.5	1.3	1.6	1.1
Impaired	12,432	.8	1.6	1.6	1.4	1.1	1.3	.9
Highly impaired[e]	9,320	.6	1.2	1.1	.8	1.0	1.2	.7
Sight[d]								
Adequate	15,727	1.0	2.8	2.5	1.5	1.3	1.6	1.1
Impaired	13,298	.8	2.4	2.3	1.3	1.2	1.4	1.0
Highly impaired[e]	9,581	.6	1.9	1.4	1.0	.9	1.1	.7
Communication[d]								
No problem	15,186	.9	2.9	2.5	1.6	1.3	1.6	1.1
Problem being understood	6,045	.4	1.8	1.3	.7	.4	.9	.4
Problem understanding others	8,570	.5	1.0	1.2	.9	.9	1.0	.7
Both	16,789	1.0	3.0	2.5	1.6	1.3	1.6	1.2

[a] Persons may have more than one condition. Conditions are calculated separately and do not add to 100 percent.

[b] Includes Alzheimer's disease and related dementias.

[c] Includes arteriosclerotic heart disease, cardiac dysrhythmias, cardiovascular disease, and congestive heart failure.

[d] Excludes less than 2 percent missing data.

[e] Responses of "highly impaired" and "severely impaired" were combined and classified as highly impaired.

Source: Center for Cost and Financing Studies, Agency for Health Care Policy and Research: Medical Expenditure Panel Survey Nursing Home Component, 1996 (Round 1).

Table F. Standard errors for percent of the most frequently occurring health conditions for nursing home residents under age 65 and age 65 and over: United States, January 1, 1996
(Corresponds to Figure 1)

Condition	Age in years	
	Under 65	65 and over
Dementia	2.3	.9
Heart disease	2.1	1.0
Hypertension	2.5	.9
Arthritis	1.2	.9
Stroke	2.2	.7
Seizures	2.5	.4
Diabetes	2.1	.7

Note: The most frequently occurring conditions for nursing home residents under age 65 are seizures, hypertension, stroke, diabetes, and dementia. The most frequently occurring conditions for residents age 65 and over are dementia, heart disease, hypertension, arthritis, and stroke.

Source: Center for Cost and Financing Studies, Agency for Health Care Policy and Research: Medical Expenditure Panel Survey Nursing Home Component, 1996 (Round 1).

Table G. Standard errors for percent distribution of nursing home residents by presence of the most frequently occurring conditions for nursing home residents, by age: United States, January 1, 1996
(Corresponds to Figure 2)

Most frequently occurring conditions	Age in years	
	Under 65	65 and over
1	2.6	.8
More than 1	2.6	.9
None	2.7	.6

Note: The most frequently occurring conditions for nursing home residents under age 65 are seizures, hypertension, stroke, diabetes, and dementia. The most frequently occurring conditions for residents age 65 and over are dementia, heart disease, hypertension, arthritis, and stroke.

Source: Center for Cost and Financing Studies, Agency for Health Care Policy and Research Medical Expenditure Panel Survey Nursing Home Component,1996 (Round 1).

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