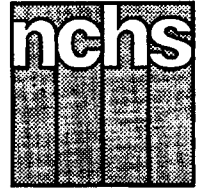


Advance Data



From Vital and Health Statistics of the CENTERS FOR DISEASE CONTROL AND PREVENTION/National Center for Health Statistics

An Overview of Home Health and Hospice Care Patients: Preliminary data From the 1993 National Home and Hospice Care Survey

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Introduction

This report presents preliminary statistics on an estimated 1.5 million current patients and 3.9 million discharges from about 8,400 home and hospice care agencies in the United States. These estimates are results from the 1993 National Home and Hospice Care Survey (NHHCS). The 1993 NHHCS, a segment of the long-term care component of the National Health Care Survey (1), is the second in a series of annual surveys of home health agencies and hospices and their current patients and discharges. The National Center for Health Statistics instituted this nationwide sample survey in 1992, in response to the rapid growth in the number of these agencies throughout the United States. This growth resulted in the need to access the availability and utilization of these services.

The efforts to control health care cost can be seen as one reason for the massive growth in the health care industry. The average cost of a home care visit is considerably less than a day in a hospital or a day in a skilled long-term care facility. The steady increase in the elderly Medicare population, about 1.9 percent per year

over the past decade, plays a part in this growth (2). Elderly patients tend to prefer to recover from illnesses at home rather than in a hospital or nursing home.

The data included in this report are preliminary because further editing of the data may produce estimates that are slightly different from the ones shown here. The 1,500 agencies included in the 1992 survey were selected from a universe of 8,036 agencies classified by the 1991 National Health Provider Inventory (NHPI) as agencies providing home health and hospice care. Also included in the universe was a sample of potentially new agencies identified between the time the 1991 NHPI was conducted and June 1992. These same places were revisited during the 1993 Survey. Excluded in the 1993 survey were 42 agencies that had merged with other agencies, that were determined to be duplicate of other agencies, or were out of scope for the survey.

Data collection for the 1993 NHHCS was conducted between September and December 1993. Detailed information on sample design, data collection procedures, and sampling errors is included in the Technical notes and in a forthcoming report (3).

Home health care agencies and hospices are usually defined in terms of the type of care they provide. Home health care is provided to individuals and families in their place of residence for promoting, maintaining, or restoring health; or for maximizing the level of independence while minimizing the effects of disability and illness, including terminal illness. These agencies are often referred to today as "hospitals without walls," because advances in technology allow dozens of complex illnesses once treated almost exclusively in the hospital to be treated at home. Hospice care is defined as a program of palliative and supportive care services providing physical, psychological, social, and spiritual care for dying persons, their families and other loved ones. Hospice services are available in both the home and inpatient settings.

The focus of this report is on characteristics of patients receiving care from agencies that provide home health care and hospice services. For these two types of agencies, estimates are presented for current patients who were on the rolls of the agency as of midnight on the day immediately before the date of the survey, and for



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Table 1. Number, percent, and percent distribution of home health care agencies and hospices by type of agency, according to ownership, certification, and geographic region: United States, 1993

Characteristic	Total	Type of agency	
		Home health care	Hospice
		Number	
All agencies	8,400	7,400	1,000
		Percent distribution	
Total	100.0	100.0	100.0
Ownership			
Proprietary	33.1	37.1	3.6
Voluntary nonprofit	48.5	42.5	93.9
Government and other	18.4	20.5	2.4
Region			
Northeast	21.8	22.4	17.0
Midwest	28.3	28.1	29.8
South	35.7	36.0	33.3
West	14.3	13.5	19.9
Certification			
Certified by Medicare	82.0	83.5	70.6
Certified by Medicaid	80.7	83.0	63.2

discharged patients who had been removed from the rolls of the agency (including those whose episode of care ended because of death) during a designated month that was randomly selected for that agency. These estimates are presented by agency, demographic, and diagnostic characteristics.

Agency characteristics

The 1993 preliminary estimate of 8,400 home care agencies (home health and hospice) represents a 5-percent increase in the number of agencies since 1992 (4). This continuing growth was sparked in 1965 by enactment of the Medicare law, which paid for certain home health services, thereby making them more available to the elderly. The growth was further enhanced when, in 1973, certain disabled younger Americans also qualified as Medicaid recipients of care from this industry.

According to the preliminary estimates from the 1993 survey, about 84 percent of the estimated 7,400 home health care agencies were Medicare and 83 percent were Medicaid certified. Medicare added hospice benefits in 1983 to their coverage, and in 10 years the number of hospices increased by several

hundred percent (5). In 1993 about 71 percent of the estimated 1,000 hospices were Medicare certified and 63 percent were Medicaid certified. This marks an increase in the number of hospices certified since 1992 (4).

About the same percent of home health care agencies were privately owned (37 percent) as were owned by nonprofit organizations (43 percent). Estimates from the survey show that almost all (94 percent) of the hospices were owned by voluntary nonprofit organizations. About 4 percent of the hospices were privately owned. The remaining 20 percent of the home health care agencies and 2 percent of the hospices were owned by government agencies.

Almost two-thirds of all hospices and home health care agencies are located in the South and the Midwest. There were 36 percent of home health care agencies and 33 percent of hospices in the Southern States. Fewer home health care agencies were located in the West than in the other three regions and fewer hospices were located in the Northeast and the West than in the Midwest or the South (table 1).

Patients by agency characteristics

Table 2 shows that the number of current patients receiving home care is greater in the South and the Northeast than in the West and Midwest. According to the 1993 survey, 68 percent of the 1.5 million current home health care and hospice patients were located in the Southern and Northeastern States.

Most current patients and discharges received home and hospice care from voluntary nonprofit agencies. In 1993 nonprofit agencies provided care for about 59 percent of all home health care patients and 91 percent of all hospice patients. Nonprofit home health care agencies provided care to 66 percent of all discharged home health care patients, while nonprofit agencies provided care to 91 percent of all discharged hospice patients. At least 90 percent of all current and discharged patients receiving home health care received that care from home health care agencies that were certified by Medicare and/or Medicaid. The increase in the percent of hospices certified by Medicare and Medicaid is reflected in the number of

Table 2. Number, percent, and percent distribution of current patients receiving home health and hospice care by type of agency, according to ownership, certification, and geographic region: United States, 1993

Characteristic	Total	Type of agency	
		Home health care	Hospice
		Number	
Total	1,498,900	1,448,800	50,100
Ownership			
Proprietary	396,800	392,600	4,200
Voluntary nonprofit	901,500	856,100	45,400
Government and other	200,600	200,100	500
Region			
Northeast	517,500	505,700	11,800
Midwest	281,200	268,400	12,800
South	499,000	482,100	17,000
West	201,200	192,700	8,500
Certification			
Certified by Medicare	1,350,100	1,302,500	47,600
Certified by Medicaid	1,359,800	1,313,900	45,900
		Percent distribution	
Total	100.0	100.0	100.0
Ownership			
Proprietary	26.5	27.1	8.3
Voluntary nonprofit	60.1	59.1	90.7
Government and other	13.4	13.8	0.9
Region			
Northeast	34.5	34.9	23.7
Midwest	18.8	18.5	25.6
South	33.3	33.3	33.9
West	13.4	13.3	16.9
Percent			
Certification			
Certified by Medicare	90.1	89.9	95.0
Certified by Medicaid	90.7	90.7	91.6

NOTE: Figures may not add to totals because of rounding.

patients receiving certified care. At least 90 percent of the current and discharged hospice patients received their care from hospices certified by Medicare and/or Medicaid (tables 2 and 3).

Patients by demographic characteristics

As in 1992, the 1993 preliminary estimates show that the 1.4 million current patients receiving home health care were elderly, female, white, and married or widowed. The likelihood of using home health services increases with age because usually functional status declines with age (6). In 1993 about 75 percent of all current home

health care patients were 65 years or older. More women (66 percent) were receiving home health care services than were their male (34 percent) counterparts, partly because women outlive males. Married and widowed patients receiving home health care accounted for 67 percent of all patients, about 22 percent were divorced, separated, single, or never married, and the marital status of the remaining 11 percent was unknown (table 4). The distribution of 3.7 million discharges shown in table 5 by age, sex, race, and marital status was similar to the distribution of current patients, except for marital status.

At the time of the 1993 survey, 1,000 hospices were serving 50,100

patients. Like home health care patients, hospice patients currently receiving care were elderly; more than 71 percent were 65 years of age or older. Unlike home health patients, however, hospice patients were nearly as likely to be male as female. Most current hospice patients were white and married. The 256,900 hospice patients who had been discharged from care (usually because they died) had demographic characteristics similar to current patients (table 5).

Patients by diagnoses

Information on the primary and other diagnoses at the time of admission

Table 3. Number, percent, and percent distribution of discharged patients who received home health and hospice care by type of agency, according to ownership, certification, and geographic region: United States, 1993

Characteristic	Total	Type of agency	
		Home health care	Hospice
Total	3,929,600	3,672,700	256,900
Ownership			
Proprietary	923,600	904,100	19,500
Voluntary nonprofit	2,653,200	2,419,100	234,100
Government and other	352,800	349,500	3,300
Region			
Northeast	1,316,200	1,251,800	64,400
Midwest	788,800	721,900	66,900
South	1,045,900	964,500	81,400
West	778,600	734,400	44,100
Certification			
Certified by Medicare	3,774,000	3,535,000	239,000
Certified by Medicaid	3,669,300	3,438,300	231,000
Percent distribution			
Total	100.0	100.0	100.0
Ownership			
Proprietary	23.5	24.6	7.6
Voluntary nonprofit	67.5	65.9	91.1
Government and other	9.0	9.5	1.3
Region			
Northeast	33.5	34.1	25.1
Midwest	20.1	19.7	26.0
South	26.6	26.3	31.7
West	19.8	20.0	17.2
Percent			
Certification			
Certified by Medicare	96.0	96.3	93.0
Certified by Medicaid	93.4	93.6	89.9

NOTE: Figures may not add to totals because of rounding.

was collected from the medical records for each home health care and hospice patient in the 1993 survey. Diagnoses were coded according to the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD-9-CM) (7). The first-listed diagnosis at admission for home health care and hospice patients who are currently receiving care is shown in table 6, grouped by ICD-9-CM chapter.

About 26 percent of the 1.4 million home health care patients had conditions that are in the ICD-9-CM chapter, "Diseases of the circulatory system" (390-459). Persons with heart disease,

including congestive heart failure, made up 49 percent of all conditions in this group. Stroke, diabetes, and hypertension were also frequent admission diagnoses for current home health care patients.

Most hospice patients (71 percent) had a first-listed diagnosis of neoplasms (140-239). Cancer of the lungs, breast, colon, and prostate accounted for nearly 60 percent of all neoplasms. The second largest group—diseases of the circulatory system with congestive heart failure—accounted for about 9 percent of the admission diagnoses for this group. Hospice patients with human

immunodeficiency virus (HIV) diagnoses were the total of the ICD-9-CM chapter on infectious and parasitic diseases. Because hospice care is provided to patients who are in the terminal stage of their illness, it is not unexpected that these patients would have a first-listed admission diagnosis of a serious illness.

Table 4. Number and percent distribution of current patients receiving home health and hospice care by type of care received, according to age, sex, race, and marital status at admission: United States, 1993

Characteristic	Total	Type of care received	
		Home health care	Hospice
		Number	
Total	1,498,900	1,448,800	50,100
Age			
Under 45 years	187,300	183,000	4,300
45-54 years	61,000	57,800	3,200
55-64 years	124,400	118,300	6,200
65 years and over	1,114,700	1,078,900	35,800
65-69 years	144,800	139,400	5,400
70-74 years	217,200	208,100	9,100
75-79 years	233,500	227,100	6,400
80-84 years	240,500	233,000	7,500
85 years and over	278,600	271,300	7,300
Unknown	11,500	10,800	*
Sex			
Male	513,500	492,900	20,600
Female	985,400	955,800	29,500
Race			
White	1,026,300	986,100	40,200
Black	203,100	198,600	4,600
Other or unknown	269,500	264,100	5,300
Marital status			
Married	449,400	425,600	23,800
Widowed	560,600	544,800	15,700
Divorced or separated	76,800	74,100	2,700
Never married	256,300	251,100	5,200
Unknown	155,800	153,100	2,700
Percent distribution			
Total	100.0	100.0	100.0
Age			
Under 45 years	12.5	12.6	8.5
45-54 years	4.1	4.0	6.4
55-64 years	8.3	8.2	12.3
65 years and over	74.4	74.5	71.5
65-69 years	9.7	9.6	10.8
70-74 years	14.5	14.4	18.2
75-79 years	15.6	15.7	12.9
80-84 years	16.0	16.1	15.0
85 years and over	18.6	18.7	14.6
Unknown	0.8	0.7	*
Sex			
Male	34.3	34.0	41.1
Female	65.7	66.0	58.9
Race			
White	68.5	68.1	80.2
Black	13.6	13.7	9.1
Other or unknown	18.0	18.2	10.7
Marital status			
Married	30.0	29.4	47.5
Widowed	37.4	37.6	31.4
Divorced or separated	5.1	5.1	5.4
Never married	17.1	17.3	10.4
Unknown	10.4	10.6	5.3

NOTE: Figures may not add to totals because of rounding.

Table 5. Number and percent distribution of discharges by type of care received, according to age, sex, and marital status at admission: United States, 1993

Characteristic	Total	Type of care received	
		Home health care	Hospice
Total	3,929,600	3,672,700	256,900
Age			
Under 45 years	552,600	530,900	21,700
45-54 years	185,800	169,900	15,900
55-64 years	370,500	335,300	35,200
65 years and over	2,794,400	2,611,200	183,300
65-69 years	402,700	361,500	41,200
70-74 years	586,400	538,400	48,000
75-79 years	607,900	571,800	36,100
80-84 years	572,800	546,500	26,300
85 years and over	624,600	592,900	31,700
Unknown	26,300	25,400	*
Sex			
Male	1,463,900	1,339,700	124,200
Female	2,465,700	2,333,000	132,700
Race			
White	2,681,400	2,479,900	201,500
Black	383,100	357,500	25,600
Other or unknown	865,100	835,300	29,800
Marital status			
Married	1,515,500	1,371,700	143,700
Widowed	1,238,700	1,179,900	58,800
Divorced or separated	182,600	164,700	17,900
Never married	575,800	546,400	29,400
Unknown	417,000	409,900	7,000
		Percent distribution	
Total	100.00	100.00	100.00
Age			
Under 45 years	14.1	14.5	8.4
45-54 years	4.7	4.6	6.2
55-64 years	9.4	9.1	13.7
65 years and over	71.1	71.1	71.3
65-69 years	10.2	9.8	16.0
70-74 years	14.9	14.7	18.7
75-79 years	15.5	15.6	14.0
80-84 years	14.6	14.9	10.2
85 years and over	15.9	16.1	12.3
Unknown	0.7	0.7	*
Sex			
Male	37.3	36.5	48.4
Female	62.7	63.5	51.6
Race			
White	68.2	67.5	78.4
Black	9.7	9.7	10.0
Other or unknown	22.0	22.7	11.6
Marital status			
Married	38.6	37.3	55.9
Widowed	31.5	32.1	22.9
Divorced or separated	4.6	4.5	7.0
Never married	14.7	14.9	11.5
Unknown	10.6	11.2	2.7

NOTE: Figures may not add to totals because of rounding.

Table 6. Number of current home health care and hospice patients by first-listed diagnoses at admission: United States, 1993

<i>ICD-9-CM procedure category and code</i>	<i>Home health care patients</i>	<i>Hospice patients</i>
Total	1,448,800	50,100
Infectious and parasitic diseases 001-139	17,500	1,400
Neoplasms 140-239	94,900	35,600
Endocrine, nutritional and metabolic, and immunity disorders 240-279	126,800	*
Diseases of the blood and blood-forming organs 280-289	36,700	*
Mental disorders 290-319	48,800	*
Diseases of the nervous system and sense organs 320-389	93,600	2,100
Diseases of the circulatory system 390-459	381,400	4,700
Diseases of the respiratory system 460-519	87,100	3,100
Diseases of the digestive system 520-579	50,800	*
Diseases of the genitourinary system 580-629	35,100	*
Diseases of the skin and subcutaneous tissue 680-709	44,200	-
Diseases of the musculoskeletal system and connective tissue 710-739	122,200	*
Congenital anomalies 740-759	9,900	*
Certain conditions originating in the perinatal period 760-779	12,700	*
Symptoms, signs, and ill-defined conditions 780-799	102,100	*
Injury and poisoning 800-999	132,200	*
All other or unknown	53,800	*

NOTE: Figures may not add to totals because of rounding.

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Symbols

- - - Data not available
- . . . Category not applicable
- Quantity zero
- 0.0 Quantity more than zero but less than 0.05
- Z Quantity more than zero but less than 500 where numbers are rounded to thousands
- * Figure does not meet standard of reliability or precision

Technical notes

Source of data

The sample for the 1993 National Home and Hospice Care Survey (NHHCS) was the same basic sample used in the 1992 survey with few exceptions. The 1993 sample contained 1,458 agencies. About 40 agencies were removed from the 1992 sample because they had merged with other agencies in the sample, they were determined to be duplicates of other agencies in the sample, or they were considered out of scope for the survey. The original sample was taken from a frame that consisted of all home health care agencies and hospices identified in the 1991 National Health Provider Inventory (NHPI) and all agencies opened for business between 1991 and June 30, 1992, as identified through the Agency Reporting System (8). The NHPI is a comprehensive census of nursing and related care homes, residential care homes, home health care agencies, and hospices conducted periodically by the National Center for Health Statistics (9).

Sample design

The sample design for the 1993 NHHCS is a stratified three-stage probability design. Primary Sampling Units (PSUs) are selected at the first stage, agencies are selected at the second stage, and current residents and discharges are selected at the third stage.

The first stage utilized the selection procedures that obtained the 198 PSUs used for the National Health Interview Survey (NHIS), a survey of the civilian noninstitutionalized population of the United States (10). The PSUs are counties, groups of counties, county equivalents (such as parishes or independent cities), or towns and townships (for some PSUs in New England). Home health agencies and hospices were selected within the same PSUs included in the NHIS to minimize data collection costs and to establish linkage between the two surveys, allowing future research on availability and use of services (9).

The second stage involved the selection of agencies within six primary strata of agencies. These strata were

formed in the 1992 sampling frame on the basis of type of agency (hospices versus home health care agencies and mixed agencies—providing both types of care or unknown) and type of PSU (self-representing (SR) versus nonself-representing (NSR), and within nonself-representing PSUs—Metropolitan Statistical Area (MSA) versus non-MSA). MSA is a metropolitan statistical area defined by the U.S. Office of Management and Budget on the basis of the 1990 Census. Within these sampling stratum, agencies were arrayed by four regions, five types of ownership, two types of certification status, and finally by the number of the patients currently being served by the agency. The number of agencies selected from each sampling stratum was based primarily on results of research into the optimum sample design for the 1992 NHHCS. Hospices in the nonself-representing PSUs and home health care agencies and mixed agencies in the non-MSA, nonself-representing PSUs were selected with certainty. Hospices in the self-representing PSUs and home health care agencies and mixed agencies in the MSA, nonself-representing PSUs and the self-representing PSUs were selected with probability proportional to the current patient size (as reported in the NHPI sampling frame). A total sample

of 1,500 agencies was selected; 384 were hospices, and the balance was home health care agencies or mixed agencies (11). In 1993 there were 1,458 agencies in the sample.

The final stage is a systematic random selection of six patients being currently served by the agency and six patients discharged from care during a designated month from October 1992 to September 1993. The designated month was randomly selected for each agency. Therefore the coverage for discharges was the 12-month period from October 1992 to September 1993.

Data collection procedures

Data collection for the 1993 NHHCS began with a letter sent to all 1,458 sampled agencies, informing the administrator of the authorizing legislation the purpose and content of the survey. Within a week to 10 days after the letter was mailed, the interviewer assigned to conduct the survey for a particular agency made telephone contact to discuss the survey and to arrange an appointment with the administrator or person designated by the administrator.

Three questionnaires and two sampling lists were used to collect the data. The Agency Questionnaire was

Table 1. Standard errors for number, percent, and percent distribution of home health care agencies and hospices by type of agency, according to ownership, certification, and geographic region: United States, 1993

Characteristic	Total	Type of agency	
		Home health care	Hospice
		Number	
All agencies	254	227	113
		Percent ¹	
Ownership			
Proprietary	1.9	2.1	0.7
Voluntary nonprofit	1.9	1.9	1.1
Government and other	1.8	0.2	0.6
Certification			
Certified by Medicare	1.7	1.6	7.0
Certified by Medicaid	2.1	2.1	6.6
Region			
Northeast	0.9	0.1	2.4
Midwest	1.3	1.4	4.2
South	1.6	1.7	4.6
West	1.4	0.1	7.2

¹Standard errors for percents are based on an approximation by a multinomial distribution.

Table II. Standard errors for number, percent, and percent distribution of current patients receiving home health and hospice care by type of agency, according to ownership, certification, and geographic region: United States, 1993

Characteristic	Total	Percent ¹	Home health care		Hospice care	
			Total	Percent ¹	Total	Percent ¹
Total	52,376	...	52,129	...	3,612	...
Ownership						
Proprietary	26,266	1.9	26,203	2.0	919	1.8
Voluntary nonprofit	48,737	2.3	48,375	2.4	3,536	1.9
Government and others	25,593	1.8	25,592	1.8	114	0.2
Certification						
Certified by Medicare	52,382	1.3	52,099	1.4	3,619	1.5
Certified by Medicaid	53,005	1.2	52,731	1.2	3,647	1.8
Census region						
Northeast	41,434	2.2	41,312	2.2	2,091	3.6
Midwest	15,626	1.2	15,633	1.2	1,362	2.6
South	24,513	1.7	24,357	1.7	2,219	3.6
West	13,469	1.0	13,159	1.0	1,378	2.6

¹Standard errors for percents are based on an approximation by a multinomial distribution.

Table III. Standard errors for number, percent, and percent distribution of discharged patients who received home health and hospice care by type of agency, according to ownership, certification, and geographic region: United States, 1993

Characteristic	Total	Percent ¹	Home health care		Hospice care	
			Total	Percent ¹	Total	Percent ¹
Total	128,678	...	126,841	...	19,945	...
Ownership						
Proprietary	65,620	1.7	65,380	1.9	3,828	1.5
Voluntary nonprofit	120,358	2.0	117,723	2.1	19,719	1.6
Government and others	44,592	1.2	44,491	1.3	1,040	0.4
Certification						
Certified by Medicare	129,466	0.7	127,663	0.7	18,925	2.6
Certified by Medicaid	129,625	0.9	127,792	0.9	18,990	2.6
Census region						
Northeast	90,609	1.9	90,167	2.0	11,723	3.9
Midwest	52,258	1.3	51,958	1.4	6,611	2.6
South	60,811	1.5	58,704	1.6	11,907	3.8
West	43,810	1.2	42,578	1.2	8,657	3.1

¹Standard errors for percents are based on an approximation by a multinomial distribution.

completed with the administrator or designee. The interviewer would next complete the Current Patient Sampling List (CPSL) and Discharged Patient Sampling List (DPSL). The interviewer used the CPSL to list all patients on the register of the agency on the evening before the day of the survey. The DPSL was used to list all discharges from the agency for their designated month. Sampling of current patients and discharged patients within agencies was accomplished by using tables showing sets of sample line numbers for each

possible count of current patient and discharged patient in the agency. The interviewer drew a sample of up to six current patients and up to six discharges.

After the samples had been selected, the Current Patient Questionnaire and Discharged Patient Questionnaire were completed for each sampled person by interviewing the staff member most familiar with the care provided to the patient. The respondent was requested to refer to the medical or other records whenever necessary.

Sampling errors

Because the statistics presented in this report are based on a sample, they will differ somewhat from figures that would have been obtained if a complete census had been taken using the same schedules, instructions, and procedures. The standard error is primarily a measure of the variability that occurs by chance because only a sample, rather than the entire universe, is surveyed. The standard error also reflects part of

Table IV. Standard errors for number and percent distribution of current patients receiving home health and hospice care by type of care received, according to age, sex, race, and marital status at admission: United States, 1993

Characteristic	Total	Percent ¹	Home health care		Hospice care	
			Total	Percent ¹	Total	Percent ¹
Total	52,376	...	52,129	100.0	50,100	100.0
Age						
Under 45 years	13,500	0.8	13,470	0.8	720	1.4
45-54 years	5,210	0.4	5,160	0.4	758	1.4
55-64 years	10,345	0.6	10,285	0.6	978	1.9
65 years and over	39,695	1.0	39,506	1.1	3,016	2.6
65-69 years	8,823	0.6	8,788	0.7	799	1.5
70-74 years	20,776	1.4	20,723	1.2	1,539	2.5
75-79 years	12,100	0.8	12,048	0.8	750	1.4
80-84 years	12,412	0.6	12,344	0.6	1,300	2.2
85 years and over	13,200	0.9	13,367	1.0	1,100	2.1
Unknown	3,275	0.2	3,238	0.2	*	*
Sex						
Male	22,900	1.0	23,000	1.0	1,845	2.5
Female	36,300	1.0	36,000	1.0	2,567	2.5
Race						
White	34,200	1.7	33,900	1.8	3,200	2.5
Black	19,300	1.1	19,200	1.2	940	1.7
Other or unknown	22,100	1.3	22,000	1.3	1,100	2.1
Marital status						
Married	17,800	1.3	17,500	1.3	2,300	2.7
Widowed	27,600	1.1	27,600	1.2	1,800	2.6
Divorced or separated	8,700	0.5	8,700	0.6	500	0.9
Never married	14,700	0.9	14,700	0.9	860	1.7
Unknown	13,400	0.8	13,400	0.8	700	1.4

¹Standard errors for percents are based on an approximation by a multinomial distribution.

the measurement error, but it does not measure any systematic biases in the data. The chances are 95 of 100 that an estimate from the sample differs from the value that would be obtained from a complete census by less than twice the standard error.

The standard errors used in this report were approximated using SUDAAN software. SUDAAN

computes standard errors by using a first-order Taylor approximation of the deviation of estimates from their expected values. A description of the software and the approach it uses has been published (12). Exact standard error estimates were used in tests of significance in this report. Standard errors for all estimates presented in this report are presented in tables I-VI. The

Z-test, with a 0.05 level of significance, was used to test all comparisons mentioned in this report. Not all observed differences were tested, so lack of comment in the text does not mean that the difference was not statistically significant.

Table V. Standard errors for number and percent distribution of discharges by type of care received, according by age, sex, race, and marital status at admission: United States, 1993

Characteristic	Total	Percent ¹	Home health care		Hospice care	
			Total	Percent ¹	Total	Percent ¹
Total	128,700	...	126,800	...	20,000	100.0
Age						
Under 45 years	37,000	0.9	37,000	0.9	4,000	1.5
45-54 years	14,800	0.4	14,700	0.4	2,600	1.1
55-64 years	22,900	0.6	22,300	0.6	5,400	1.6
65 years and over	101,400	1.0	99,900	1.1	15,700	2.1
65-69 years	24,300	0.6	23,100	0.6	6,800	2.2
70-74 years	36,600	0.8	35,600	0.9	6,100	2.0
75-79 years	31,700	0.7	31,300	0.8	4,800	1.6
80-84 years	33,700	0.7	33,400	0.8	4,700	1.5
85 years and over	35,300	0.7	34,800	0.8	5,000	1.8
Unknown	5,100	0.1	5,100	0.2	*	*
Sex						
Male	58,200	1.0	57,000	1.1	10,800	2.5
Female	91,900	1.0	90,700	1.1	12,800	2.5
Race						
White	97,200	1.5	94,800	1.5	16,700	2.4
Black	30,700	0.8	30,000	0.8	5,300	1.8
Other or unknown	59,900	1.4	59,700	1.5	4,900	1.8
Marital status						
Married	65,900	1.1	64,800	1.1	12,900	3.0
Widowed	53,200	1.0	52,700	1.1	6,500	2.3
Divorced or separated	16,200	0.4	15,600	0.4	3,300	1.2
Never married	35,300	0.9	34,200	0.9	7,800	2.7
Unknown	35,400	0.9	35,400	1.0	2,000	0.8

¹Standard errors for percents are based on an approximation by a multinomial distribution.

Table VI. Standard errors of number of current home health care and hospice patients by first-listed diagnoses at admission: United States, 1993

ICD-9-CM procedure category and code	Home health patients	Hospice patients
Total	52,129	3,612
Infectious and parasitic diseases 001-139	2,612	304
Neoplasms 140-239	9,858	3,077
Endocrine, nutritional and metabolic, and immunity disorders 240-279	7,881	*
Diseases of the blood and blood-forming organs 280-289	4,261	*
Mental disorders 290-319	5,107	*
Diseases of the nervous system and sense organs 320-389	7,567	530
Diseases of the circulatory system 390-459	18,842	656
Diseases of the respiratory system 460-519	5,945	651
Diseases of the digestive system 520-579	4,597	*
Diseases of the genitourinary system 580-629	3,629	*
Diseases of the skin and subcutaneous tissue 680-709	4,220	*
Diseases of the musculoskeletal system and connective tissue 710-739	8,896	*
Congenital anomalies 740-759	2,042	*
Certain conditions originating in the perinatal period 760-779	2,456	*
Symptoms, signs, and ill-defined conditions 780-799	9,909	*
Injury and poisoning 800-999	14,731	*
All other or unknown	6,271	*

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