Home Health Care and Discharged Hospice Care Patients: United States, 2000 and 2007

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Abstract

Objectives—This report presents national estimates on home health care patients and discharged hospice care patients. Information on characteristics, length of service, medical diagnoses, functional limitations, service use, advance care planning, and emergent and hospital care use are presented for home health care patients and hospice care discharges. A comparison of selected characteristics for 2000 and 2007 is also provided to highlight changes.

Methods—Estimates are based on data collected on agencies from the 2000 and 2007 National Home and Hospice Care Survey, conducted by the Centers for Disease Control and Prevention's National Center for Health Statistics. Estimates are derived from data collected during interviews with administrators and staff designated by the administrators.

Results—Each day in 2007, there were an estimated 1,459,900 home health care patients. They were predominantly aged 65 years or over, female, and white. Their mean length of service was 315 days, and their most common primary diagnosis at admission was diabetes mellitus. About one-fourth of them had advance care planning and one-fifth had at least one overnight hospital stay since admission to the home health care agency. In 2007, there were 1,045,100 discharged hospice care patients. The majority of discharged patients were aged 65 or over, female, and white, and most were discharged deceased. Their mean length of service was 65 days, and the most common primary diagnosis at admission was malignant neoplasm. Most of them had advance care planning, and about one-fourth had three or more types of advance care planning instruments.

Keywords: National Home and Hospice Care Survey ● patient characteristics ● advance care planning ● long-term care

Introduction

By 2050, an estimated 27 million people will need some type of long-term care (1). Of those 27 million, the majority will receive long-term care in the community. Home health and hospice care agencies are major providers of formal, community-based long-term care. Currently, about 7.6 million people receive community-based care to help with post-acute and chronic conditions, disabilities, or terminal illnesses (2). This number is expected to increase as the population ages and the desire to "age in place" continues (3–5). Older Americans will increasingly constitute a larger percentage of the population in the future—from about 12% in 2006 to almost 20% in 2030 (6). The majority of people using home health and hospice care services are over age 65 years (7). Most of them have multiple chronic conditions, and home health and hospice care services enable many of them to receive services in their homes and communities (4).

Home health care includes a range of medical and therapeutic services as well as other services delivered at a patient's home or in a residential setting for promoting, maintaining, or restoring health, or maximizing the level of independence, while minimizing the effects of disability and illness. Hospice care emphasizes relieving pain and uncomfortable symptoms of persons with terminal illness and providing emotional and spiritual support to both the terminally ill and their family members.

Despite the growth in home health and hospice care, and the projected increased demand for these services, national data on long-term care recipients are limited. This report attempts to fill this gap by presenting

summary information on home health care patients and discharged hospice care patients. The figures and tables present characteristics, length of service, medical diagnoses, functional limitations, service use, advance care planning, and emergent and hospital care use for both groups of patients. Data from 2000 and prior years have been published previously (7–10). This report presents estimates from 2007 and highlights changes between 2000 and 2007. Selected longer-term trends are also presented.

Methods

The data in this report are from the National Home and Hospice Care Survey (NHHCS), which has been conducted periodically since 1992 by the Centers for Disease Control and Prevention's National Center for Health Statistics. Most of the statistics in this report are based on information collected in 2000 and 2007 (7–10).

NHHCS is a national probability sample survey that collects data on U.S. home health and hospice care agencies, their staff members, the services they provide, and the people they serve. Agencies that provided home health or hospice care services at the time of the survey were eligible to participate in NHHCS. Up to 10 patients were randomly selected per home health care, hospice care, or mixed agency. Current home health care patients were defined as patients who were on the rolls of the agency as of midnight of the day immediately before the agency interview. Discharged hospice care patients were defined as patients who were discharged from the hospice agency during the 3-month period beginning 4 months before the agency interview.

The 2007 NHHCS represents a redesign from previous NHHCS years, including many new data items (such as advance care planning and emergent care), and collecting data using a computer-assisted personal interviewing, or CAPI, system. Nonetheless, all data collection years of NHHCS share important common features: cases in NHHCS for each survey year were

associated with a sample weight, whereby national estimates can be made reflecting the composition of U.S. home health and hospice care agencies in each survey year; and many core data items were collected in a consistent manner. These core items include selected patient characteristics and the receipt of selected services; many of these are presented in this report. For further information on the sampling, survey design, and other survey methodology, see "Technical Notes" in this report and the documentation for each survey year available from: http://www.cdc.gov/nchs/nhhcs.htm.

Data analysis

All analyses were performed in SAS-callable SUDAAN (11) to account for sampling weights and the complex sampling design. Chi-square tests and t tests were used to test for statistical significance at the $p < 0.05$ level. No adjustments were made for multiple comparisons. Terms such as "similar" or "no significant differences" are used to denote that the estimates being compared are not significantly different statistically. Comparisons not mentioned may or may not be statistically significant. A weighted least squares technique was used (12) to test linear trends across survey years. A downward or upward trend is mentioned if it is statistically significant. For length of service changes between 2000 and 2007, t tests were done for means and medians.

Nonresponses (e.g., "don't know" and "refused") for categorical variables were recoded as unknown and included in analyses. Among home health care patients, the percentage of cases with nonresponses ranged from 0.1% for payment source in 2007 to 6.2% for Hispanic or Latino origin in 2007. Among discharged hospice care patients, the percentage of cases with nonresponses ranged from 0.1% for certification status of the hospice care provider in 2007 to 4.1% for Hispanic or Latino origin in 2007. When 5% or more of the responses are unknown, an unknown category is included in the tables. When an unknown category has

less than 5% nonresponse, the unknown category is not reported in the tables. Unknowns are included in the denominators for percent distribution estimates regardless of the percentage unknown and whether they are reported in the table. Except where noted, figures depicting percentages also include the unknown category in the denominator, even when the unknown category itself is not depicted in the figure. For this reason, category-specific sample sizes may sum to less than table or figure totals, and percent distributions may sum to less than 100%.

Unknowns were excluded for the continuous variables: length of service, total number of activities of daily living (ADLs) limitations, number of ADLs with which staff assist, and number of advance care planning instruments. Among home health care patients, the percentage of cases with nonresponses for length of service was 0.6% and for number of advance care planning instruments, 3.0%. Among discharged hospice care patients, the percentage of cases with nonresponses for length of service was 0.2% and for number of advance care planning instruments, 1.7%. See footnotes in tables and figures for further detail on how unknowns were handled.

Results

Home health care patients

Characteristics

- Each day in 2007, there were an estimated 1,459,900 home health care patients (Table 1). This is an increase from 2000, when each day there were 1,355,300 home health care patients (data not shown). A majority of home health care patients lived with family or nonfamily members (68.5%).
- Most home health care patients were aged 65 or over (68.7%). About 6 out of 10 (64.0%) home health care patients were women. About 8 out of 10 (81.7%) patients were white.
- In 2007, more than one-half of all patients (55.2%) received care through proprietary agencies, 38.3% through voluntary nonprofit agencies, and the remaining 6.5% through

government or other agencies. From 2000 through 2007, there was an increase in the percentage of patients receiving care through proprietary agencies (34.1% in 2000 and 55.2% in 2007) and a related decrease in the percentage receiving care through voluntary nonprofit agencies (56.6% in 2000 and 38.3% in 2007); there was no difference in government or other agencies (data not shown).

Length of service

- During 2007, the mean length of service for home health care patients was 315 days, with a median of 70 days (Table 2).
- Mean length of service was longer for patients who were under age 65 (474 days) than for those 65 and over (242 days). Among patients younger than age 65, mean length of service was longer for patients who were younger than age 45 (692 days) than for those aged 45–64 (326 days).
- Among the oldest-old patients (aged 85 and over), mean length of service decreased from 419 days in 2000 to 270 days in 2007; median length of service decreased from 155 days in 2000 to 91 days in 2007 (Figure 1).
- On average, patients receiving care from proprietary agencies had a longer mean period of service (374 days) than patients receiving care

from voluntary nonprofit agencies (203 days).

## Medical diagnoses

Primary diagnosis at admission

- In 2007, the most common primary diagnoses at admission among home health care patients were diabetes mellitus (10.1%); heart disease (8.8%), including congestive heart failure (4.3%); malignant neoplasm (3.9%); chronic obstructive pulmonary diseases and allied conditions (3.4%); essential hypertension (3.3%); and cerebrovascular disease (3.3%) (Table 3).
- Among home health care patients, 10.1% had as their primary diagnosis a condition coded within the major disease category of symptoms, signs, and ill-defined conditions; among these, the most common was abnormality of gait due to symptoms involving the nervous or musculoskeletal systems (4.3%) (data not shown).
- Another 10.4% of home health care patients had as their primary diagnosis a condition coded within the supplementary classification used for posthospital aftercare; among these, the most common was orthopedic aftercare (4.7%) (data not shown).

All-listed diagnoses at interview

- Among all-listed diagnoses at the time of interview, 41.1% of patients had essential hypertension, 31.3% had heart disease, 30.6% had diabetes mellitus, 13.5% had chronic obstructive pulmonary diseases and allied conditions, 10.0% had osteoarthritis (except spine), 8.6% had a malignant neoplasm, 7.1% had dementia, and 7.1% had cerebrovascular disease (Figure 2).
- Home health care patients had an average of 4.2 diagnoses per patient at the time of interview (data not shown).

Limitations in activities of daily living

- Five ADLs—bathing, dressing, transferring, using the toilet room, and eating—that reflect the home health care patient's capacity for self-care at interview were included in this report.
- In 2007, 84.0% of home health care patients had at least one ADL limitation and 14.8% had no ADL limitations (data not shown). Among home health care patients with at least one ADL limitation, 50.5% had four to five limitations, 21.7% had three limitations, 16.5% had two limitations, and 11.3% had one limitation. Among home health care patients with at least one ADL limitation, a larger percentage of those living with others (54.7%) had four to five limitations compared with those living alone (39.4%) (Figure 3).
- In 2007, among home health care patients with at least one ADL limitation, 48.0% were receiving no help with their limitation from home health care agency staff. Among home health care patients with at least one ADL limitation, those living with others were more likely to receive no ADL assistance from agency staff compared with patients living alone (51.0% compared with 40.6%).

NOTES: Percentages are based on unrounded numbers. Denominator does not include unknowns.
SOURCE: CDC/NCHS, National Home and Hospice Care Survey, 2000 and 2007.
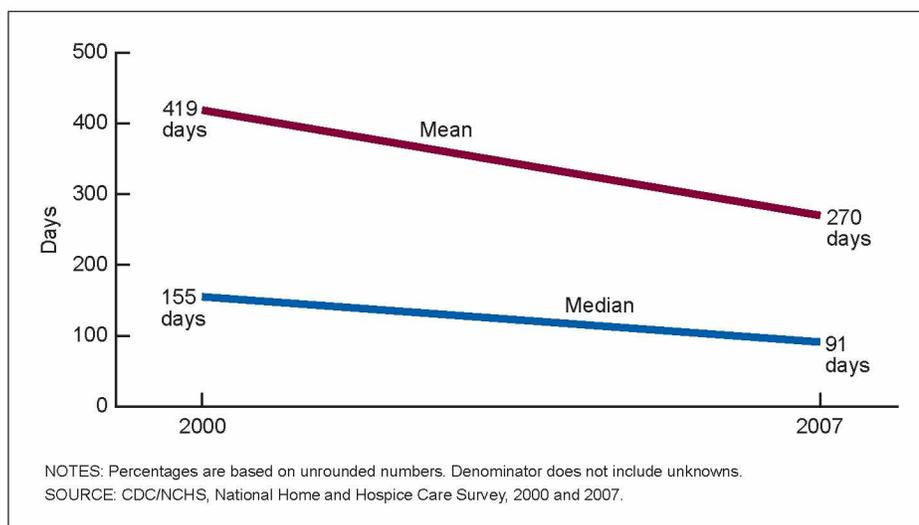
Figure 1. Length of service for home health care patients aged 85 and over: United States, 2000 and 2007
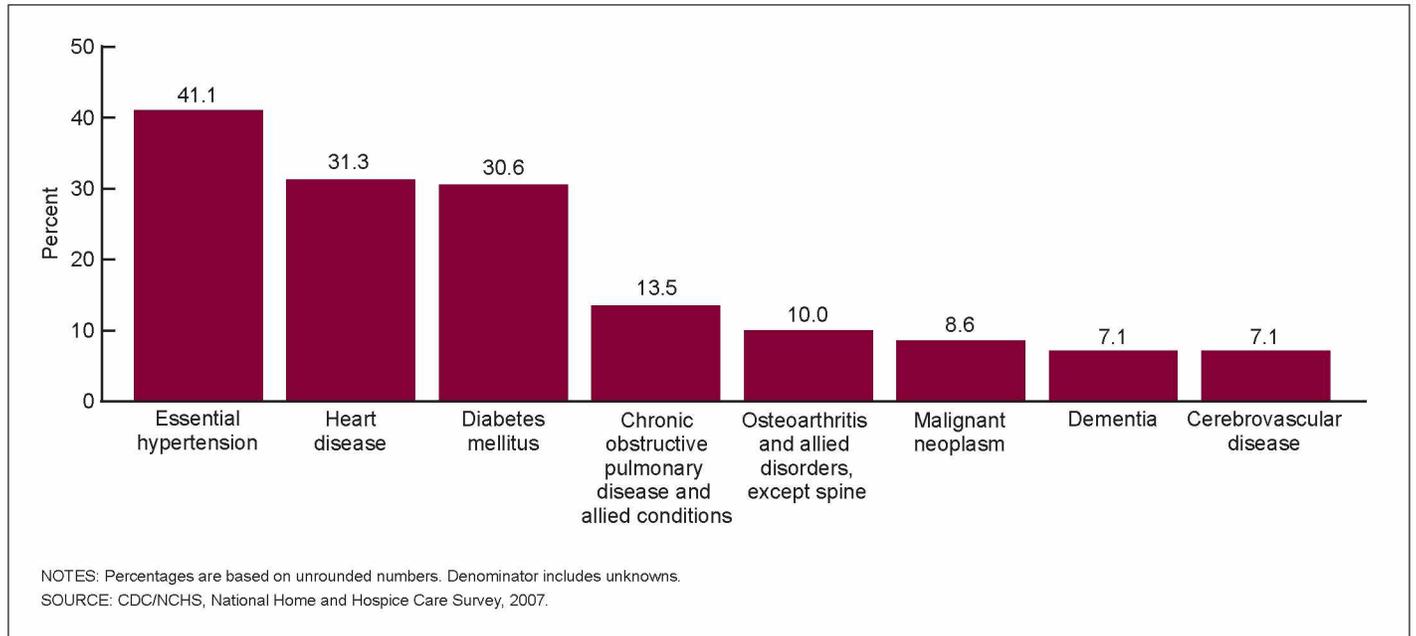
Figure 2. Selected chronic conditions of home health care patients at interview: United States, 2007
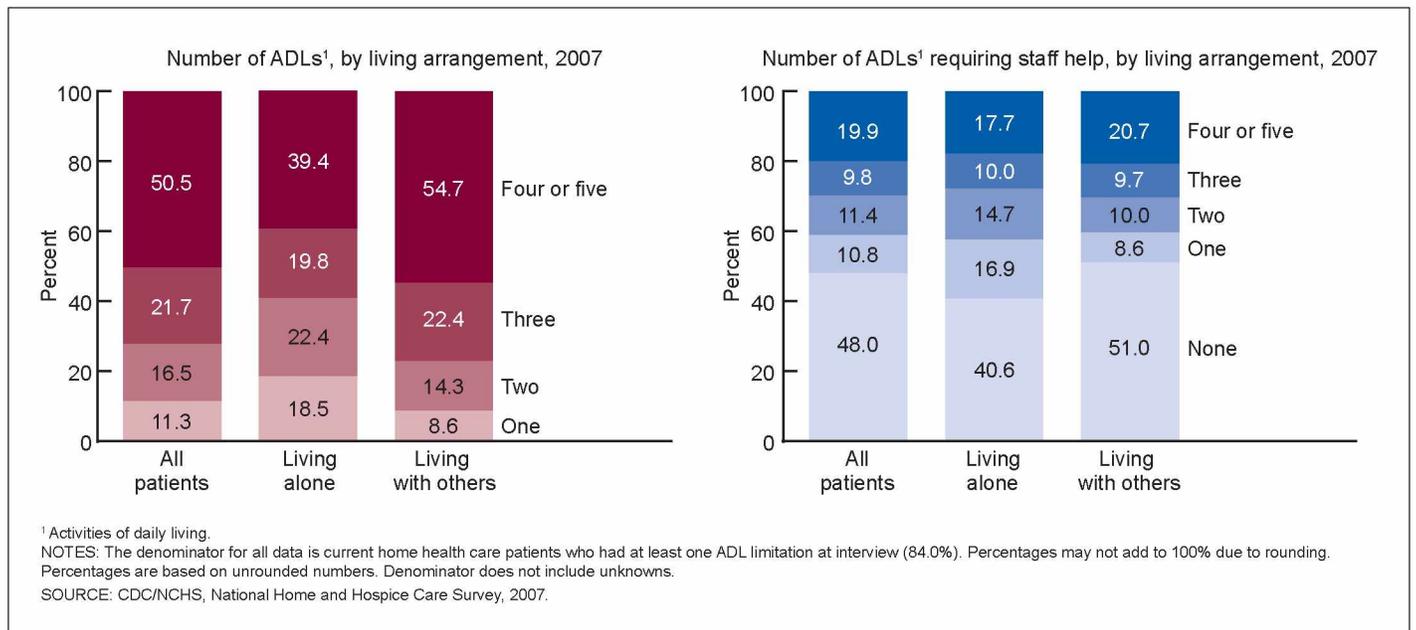
Figure 3. Home health care patients with at least one limitation in activities of daily living, by living arrangement: United States, 2007

Advance care planning

- During 2007, patients under age 45 had a significantly lower likelihood of having advance care planning at interview than older patients (12.0% compared with 21.2% of those aged 45–64 and 33.6% aged 65 or over) (Table 4, Figure 4).

- White home health care patients were about 2½ times as likely to have advance care planning as black home health care patients (32.0% compared with 12.5%).
- Living wills (16.8%) and durable power of attorney (13.7%) were the two most common types of advance care planning instruments reported for home health care patients; about 8% (data not shown) of home health care patients had both a living will and a durable power of attorney.

Emergent care and hospital use

- More than one-tenth (12.7%) of home health care patients had at least one emergent care service in the 60 days before the agency interview (Figure 5). Of these patients, 87.4%
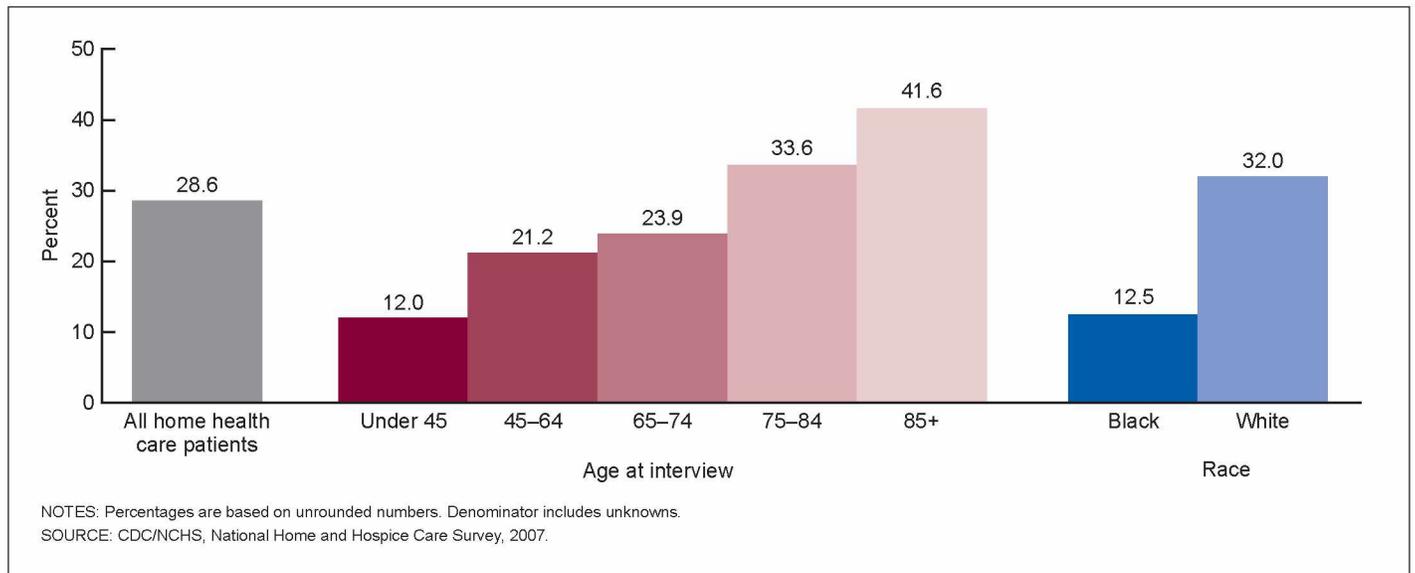
Figure 4. Home health care patients with advance care planning at interview, by age and race: United States, 2007
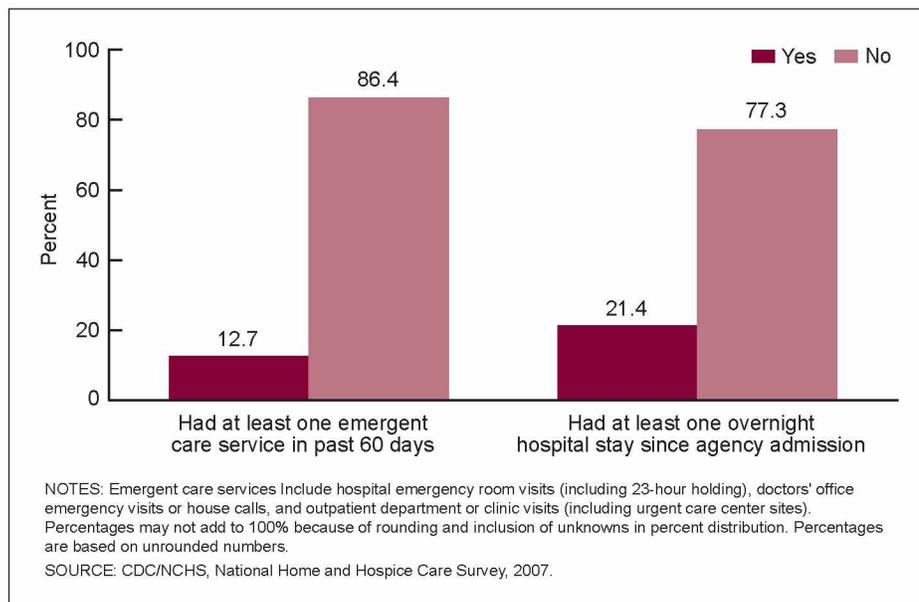
Figure 5. Use of emergent care services and overnight hospital stays for home health care patients: United States, 2007

visited a hospital emergency room (data not shown).

● More than one-fifth (21.4%) of home health care patients had at least one overnight hospital stay since admission to the home health care agency.

Discharged hospice care patients

Characteristics

● During 2007, there were 1,045,100 patients discharged from hospice care, a 68% increase since 2000 when there were 621,000 patients discharged from hospice care (data not shown for 2000). The most common reason for discharge was

death (84.3%); the remaining 15.6% were discharged because their condition had stabilized and they no longer needed services, or because they were transferred to an inpatient care or another hospice care facility (Table 5).

● The majority of discharged hospice care patients were aged 65 and over (83.1%). Discharged patients were predominantly white (90.7%) and not of Hispanic or Latino origin (91.9%). In 2007, there were more women (55.1%) among discharged hospice care patients than men (44.9%)—a change from 2000, when there was no significant difference by sex (data not shown for 2000).

● Most of the discharged patients received services from a voluntary nonprofit agency (66.7%), and another 31.2% received care from proprietary agencies. Although the relative number of discharged patients receiving services in proprietary agencies increased in 2007 from 2000, the percentage receiving services in proprietary agencies almost doubled, from 15.8% in 2000 to 31.2% in 2007; a related decrease was evident among those receiving services through voluntary agencies (80.0% in 2000 and 66.7% in 2007) (Figure 6). In 2007, about one-quarter (27.2%) of discharged patients
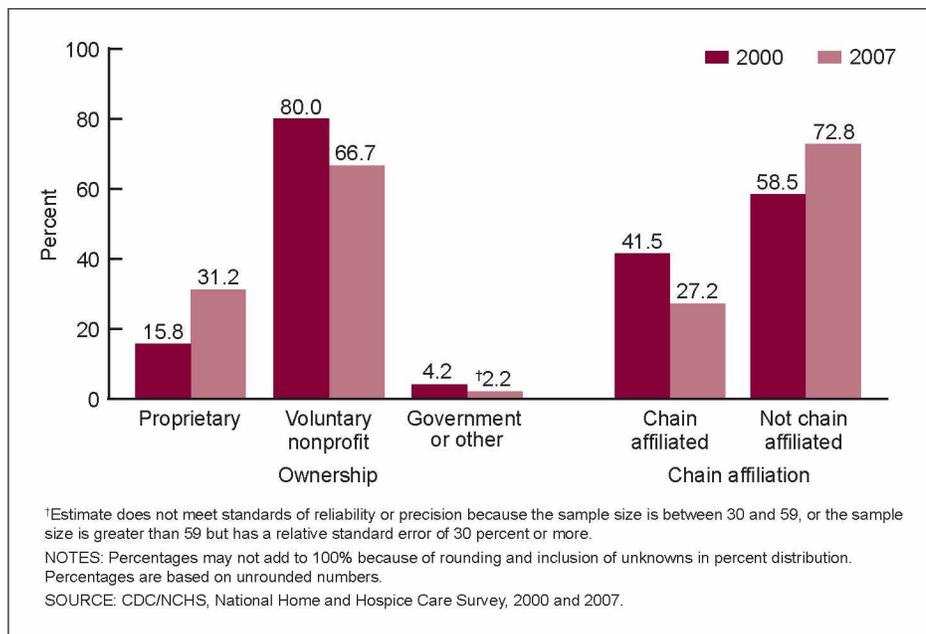
Figure 6. Discharged hospice care patients, by selected agency characteristics: United States, 2000 and 2007
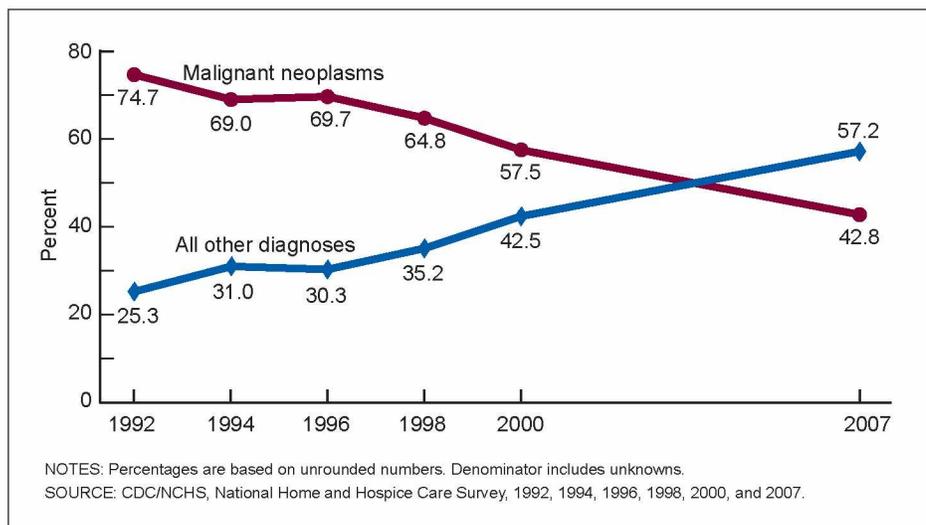
Figure 7. Discharged hospice care patients, by primary admission diagnosis: United States, selected years, 1992–2007

received care from chain-affiliated agencies, a decrease from 2000 when 41.5% of discharged patients received services from chain affiliates.

Length of service

● During 2007, only 37% of discharged hospice care patients received care for at least 30 days (data not shown), which is considered to be the most effective length of stay for hospice

care (13,14). The mean length of service for discharged hospice care patients was 65 days; the median length of service was 16 days (Table 6).

● Mean length of service varied by age: The average length of service increased with age and was longest for discharged patients who were aged 75–84 (68 days) and 85 or over (80 days). The mean length of service

was also longer for females (75 days) than males (53 days).

● The mean length of service was significantly longer for those discharged alive (138 days) than for those who were deceased at discharge (52 days).

● The mean length of service was longer in proprietary agencies (83 days) than in government or other agencies (60 days) and voluntary nonprofits (57 days). Mean length of service was also longer for discharged patients receiving care from chain-affiliated agencies (83 days) compared with nonchain-affiliated agencies (59 days).

Medical diagnoses

Primary diagnosis at admission

● The most common primary admission diagnosis among discharged hospice care patients in 2007 was malignant neoplasm (42.8%) (Table 7). The most common noncancer primary admission diagnoses were heart disease (11.1%), including congestive heart failure (6.4%); dementia (6.6%, data not shown); chronic obstructive pulmonary disease and allied conditions (4.7%); and cerebrovascular disease (4.5%).

● Hospice care patients are no longer predominantly cancer patients. In recent years, hospice care has come to be used increasingly by persons with primary diagnoses other than cancer. Data from NHHCS reflect this trend (Figure 7). The numbers of discharged hospice care patients with a primary diagnosis of malignant neoplasm at admission increased from 1992 (163,800) (data not shown) through 2007 (447,600). However, the percentage of discharged hospice care patients with this diagnosis at admission steadily declined, from 74.7% in 1992 when NHHCS started monitoring it to 42.8% in 2007. The percentage of discharged patients with noncancerous primary diagnoses has increased from 25.3% in 2000 to 57.2% in 2007.

All-listed diagnoses at discharge

● Discharged hospice care patients had an average of 3.3 diagnoses at time of discharge (data not shown).
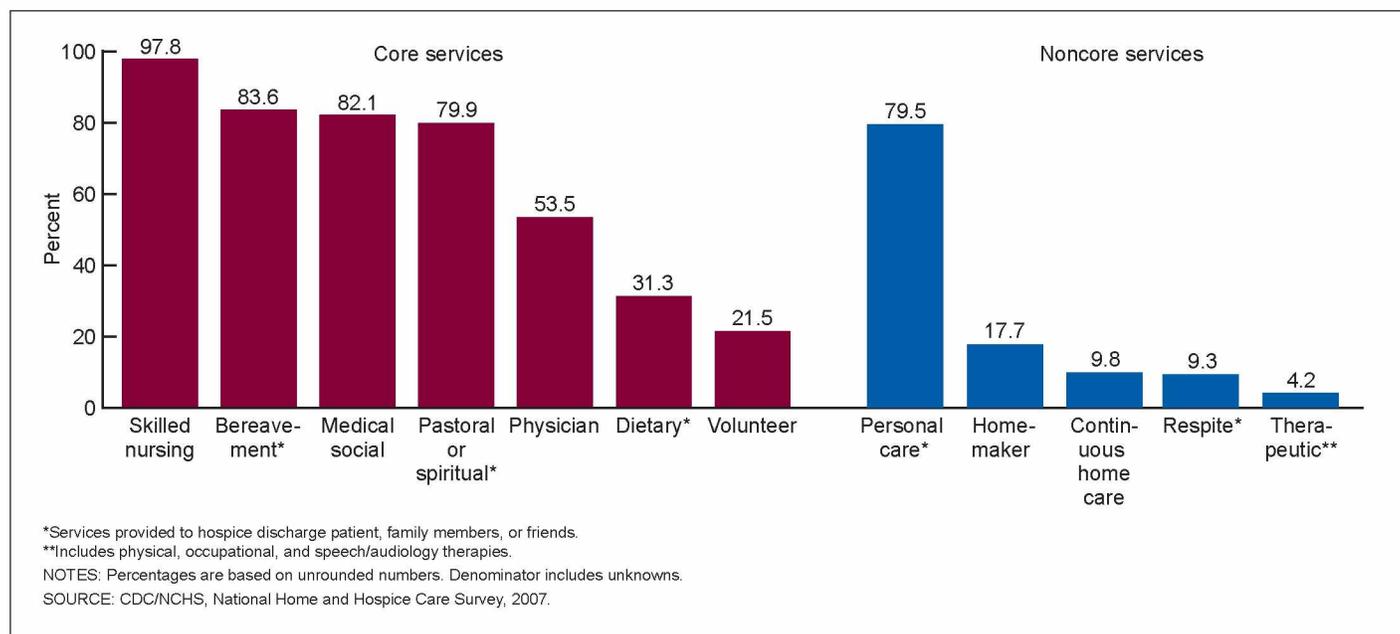
Figure 8. Service use involving discharged hospice care patients: United States, 2007

- Among all-listed diagnoses at time of discharge among hospice care patients in 2007, the most common diagnosis was malignant neoplasm (46.4%). Other all-listed diagnoses at time of discharge in 2007 were heart disease (32.2%), including congestive heart failure (15.4%); essential hypertension (23.5%); dementia (21.3%), (data not shown), (see "Technical Notes" for definition); chronic obstructive pulmonary disease and allied conditions (14.8%); diabetes mellitus (12.2%); and cerebrovascular disease (10.9%) (Table 7).
- In addition, 20.7% of discharged hospice care patients had a diagnosis coded in the major disease category of symptoms, signs, and ill-defined conditions; of these, 5.2% were adult failure to thrive and 6.4% had an unspecified debility (excluding asthenia) (data not shown).

Service use

- Among core services (see "Technical Notes" for definition), almost all discharged hospice care patients in 2007 received skilled nursing services (97.8%), up from 91.8% in 2000 (Figure 8, data not shown for 2000). In 2007, 83.6% received bereavement

services, 82.1% received medical social services, 79.9% received pastoral or spiritual services, more than one-half (53.5%) received physician services, about one-third (31.3%) received dietary services, and more than one-fifth (21.5%) received volunteer services. Discharged hospice care patients in agencies that were part of a chain were more likely to receive physician services (63.3%) than discharged hospice care patients in agencies that were not part of a chain (49.8%) (data not shown).
- Among noncore services (see "Technical Notes" for definition), almost 8 out of 10 (79.5%) discharged hospice care patients received personal care, that is, assistance with ADLs. In 2007, 17.7% of discharged hospice care patients received homemaker services, up from 12.6% in 2000 (data not shown). About one-tenth (9.8%) received continuous home care, 9.3% received respite services, and 4.2% received therapeutic services.
- Just over one-third (35.1%) of discharged hospice care patients received formal care services in 2007 (see "Technical Notes" for definition) (data not shown). Patients discharged deceased (37.5%) were more likely to have received formal care than those

discharged alive (22.6%) (data not shown).

Advance care planning

Regardless of age, in 2007 the vast majority of discharged hospice care patients had advance care planning, from 75.8% of those under age 45 (data not shown) to 93.1% of those aged 85 and over (Table 8).

- Over one-fourth (26.9%) of all discharged hospice care patients had three or more types of advance care planning instruments.
- White discharged hospice care patients were more likely to have advance care planning (89.4%) than those who were either black (79.5%) or of some other race (75.5%).
- The most common type of advance care planning instrument among discharged hospice care patients was a do-not-resuscitate order (80.2%), followed by a durable power of attorney (36.4%) and a living will (25.3%) (Table 8, Figure 9).

Emergent care use

- More than 5% of discharged hospice care patients (6.3%) had at least one emergent care service while receiving care from the hospice care organization (data not shown).
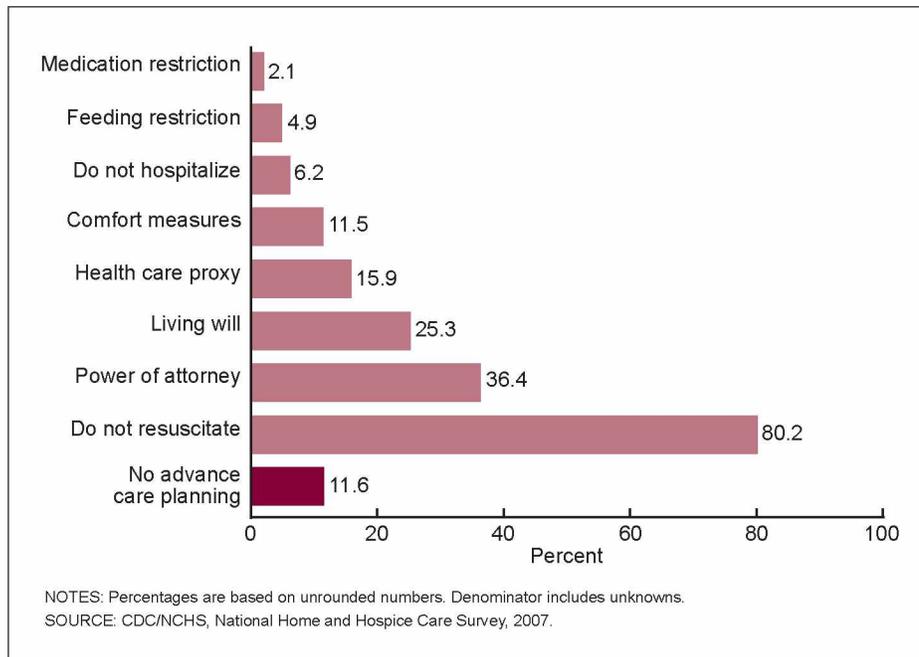
Figure 9. Discharged hospice care patients with advance care planning: United States, 2007

- Hospice care patients discharged alive were almost four times as likely (16.9%) as those discharged deceased (4.3%) to have had an emergent care service while in hospice care (data not shown).

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Table 1. Selected characteristics of home health care patients: United States, 2007

Characteristic	Number	(Standard error)	Percent distribution	(Standard error)
Total.	1,459,900	(65,902)	100.0	. . .
Age[1]				
Under 65 years	456,600	(33,009)	31.3	(1.7)
Under 18 years	67,200	(12,640)	4.6	(0.8)
18–44 years	118,100	(14,513)	8.1	(0.9)
45–64 years	271,300	(20,777)	18.6	(1.1)
65 years and over	1,003,400	(51,733)	68.7	(1.7)
65–69 years	120,500	(11,112)	8.3	(0.6)
70–74 years	140,600	(13,073)	9.6	(0.8)
75–79 years	204,100	(16,054)	14.0	(0.8)
80–84 years	220,400	(16,946)	15.1	(0.9)
85–89 years	195,500	(14,239)	13.4	(0.8)
90–94 years	94,700	(8,309)	6.5	(0.5)
95 years and over.	27,600	(5,158)	1.9	(0.3)
Sex				
Male	525,200	(28,317)	36.0	(1.4)
Female	934,700	(49,421)	64.0	(1.4)
Hispanic or Latino origin				
Hispanic or Latino	111,900	(15,041)	7.7	(1.0)
Not Hispanic or Latino	1,257,100	(64,087)	86.1	(1.7)
Unknown.	90,900	(20,215)	6.2	(1.4)
Race				
White	1,192,100	(58,936)	81.7	(1.7)
Black	230,400	(27,679)	15.8	(1.7)
Other[2]	37,400	(8,017)	2.6	(0.5)
Living arrangements				
Living alone	441,900	(30,473)	30.3	(1.5)
Living with others.	999,900	(49,178)	68.5	(1.5)
Ownership				
Proprietary.	806,500	(60,973)	55.2	(3.5)
Voluntary nonprofit.	558,600	(58,041)	38.3	(3.4)
Government and other	94,900	(21,408)	6.5	(1.5)
Chain affiliation				
Part of a chain	408,600	(46,915)	28.0	(3.1)
Not part of a chain.	1,051,300	(69,885)	72.0	(3.1)
Certification				
Medicare and Medicaid.	1,154,800	(70,446)	79.1	(2.9)
Medicare.	142,500	(29,934)	9.8	(2.1)
Medicaid.	117,000	(33,239)	8.0	(2.2)
Not certified[3]	†29,300	(12,047)	†2.0	(0.8)
Geographic region				
Northeast	267,000	(35,188)	18.3	(2.4)
Midwest	354,500	(55,799)	24.3	(3.4)
South.	634,500	(60,928)	43.5	(3.6)
West	204,000	(30,779)	14.0	(2.2)
Location of agency				
Metropolitan statistical area[4].	1,199,100	(64,182)	82.1	(1.2)
Micropolitan statistical area[5].	157,500	(12,007)	10.8	(0.9)
Neither	103,300	(10,632)	7.1	(0.7)

. . . Category not applicable.

† Estimate does not meet standards of reliability or precision because the sample size is between 30 and 59, or the sample size is greater than 59 but has a relative standard error of 30% or more.

[1]Patient's age at time of survey.

[2]Includes Asian, Native Hawaiian or Other Pacific Islander, American Indian or Alaska Native, and multiple races. All race categories include persons of Hispanic and non-Hispanic origin. Persons of Hispanic origin may be of any race.

[3]Includes agencies pending certification.

[4]A county or group of contiguous counties that contains at least one urbanized area of 50,000 or more population. The area may also contain other counties that are economically and socially integrated with the central county, as measured by commuting.

[5]A nonmetropolitan county or group of contiguous nonmetropolitan counties that contains an urban cluster of 10,000–49,999 persons. The area may include surrounding counties if strong economic ties exist between the counties, based on commuting patterns.

NOTE: Numbers may not add to totals, and percent distributions may not add to 100%, because of rounding and because the denominators for percent distributions may include a category of unknowns not reported in the table.

DATA SOURCE: CDC/NCHS, National Home and Hospice Care Survey, 2007.

Table 2. Length of service (in days) for home health care patients, by selected characteristics: United States, 2007

Characteristic	Number	Percent distribution	Mean	(Standard error)	Median	(Standard error)
Total.	1,459,900	100.0	315	(33.1)	70	(8.2)
Age[1]						
Under 65 years.	456,600	31.3	474	(83.6)	83	(16.3)
Under 45 years	185,300	12.7	692	(175.4)	†129	(69.7)
45–64 years	271,300	18.6	326	(43.5)	55	(11.8)
65 years and over	1,003,400	68.7	242	(21.1)	64	(7.2)
65–74 years	261,100	17.9	256	(45.3)	69	(10.0)
75–84 years	424,500	29.1	213	(20.1)	50	(5.3)
85 years and over.	317,800	21.8	270	(25.6)	91	(12.3)
Sex						
Male	525,200	36.0	343	(56.0)	78	(9.8)
Female.	934,700	64.0	299	(27.9)	64	(8.7)
Hispanic or Latino origin						
Hispanic or Latino	111,900	7.7	329	(61.3)	90	(26.2)
Not Hispanic or Latino.	1,257,100	86.1	319	(36.5)	70	(8.3)
Unknown.	90,900	6.2	238	(55.8)	†51	(19.4)
Race						
White	1,192,100	81.7	308	(36.7)	63	(7.6)
Black	230,400	15.8	333	(48.4)	100	(22.0)
Other[2]	37,400	2.6	423	(98.5)	†134	(47.4)
Living arangements						
Living alone	441,900	30.3	317	(32.8)	91	(15.4)
Living with others.	999,900	68.5	316	(42.5)	63	(6.4)
Primary source of payment[3]						
Private[4].	198,400	13.6	216	(34.1)	43	(6.4)
Medicare.	825,400	56.5	166	(12.8)	50	(3.4)
Medicaid	318,800	21.8	714	(107.3)	321	(76.5)
All other sources[5]	61,700	4.2	625	(109.6)	214	(61.0)
Ownership						
Proprietary.	806,500	55.2	374	(56.5)	94	(15.2)
Voluntary nonprofit.	558,600	38.3	203	(17.8)	44	(3.8)
Government or other	94,900	6.5	468	(89.6)	†159	(52.6)
Chain affiliation						
Part of a chain	408,600	28.0	335	(56.9)	64	(11.7)
Not part of a chain.	1,051,300	72.0	307	(40.4)	74	(9.6)
Certification						
Medicare and Medicaid	1,154,800	79.1	247	(19.2)	59	(6.3)
Medicare	142,500	9.8	117	(21.3)	45	(7.5)
Medicaid.	117,000	8.0	1,050	(274.9)	†468	(247.4)
Not certified[6]	†29,300	†2.0	715	(186.1)	425	(90.7)
Geographic region						
Northeast	267,000	18.3	495	(134.5)	83	(22.5)
Midwest	354,500	24.3	253	(43.1)	51	(10.1)
South	634,500	43.5	289	(35.7)	88	(13.8)
West	204,000	14.0	269	(50.0)	53	(13.2)
Location of agency						
Metropolitan statistical area[7].	1,199,100	82.1	309	(39.8)	63	(8.6)
Micropolitan statistical area[8]	157,500	10.8	324	(34.8)	105	(14.4)
Neither	103,300	7.1	373	(42.5)	124	(22.5)

† Estimate does not meet standards of reliability or precision because the sample size is between 30 and 59, or the sample size is greater than 59 but has a relative standard error of 30% or more.

[1]Patient's age at time of survey.

[2]Includes Asian, Native Hawaiian or Other Pacific Islander, American Indian or Alaska Native, and multiple races. All race categories include persons of Hispanic and non-Hispanic origin. Persons of Hispanic origin may be of any race.

[3]At time of interview.

[4]Includes private health insurance, long-term care insurance, and self-pay by patient or family.

[5]Includes Tricare, Department of Veteran Affairs, ChampVA, worker's compensation, other government, no charge for care, other source, and payment source not yet determined.

[6]Includes agencies pending certification.

[7]A county or group of contiguous counties that contains at least one urbanized area of 50,000 or more population. The area may also contain other counties that are economically and socially integrated with the central county, as measured by commuting.

[8]A nonmetropolitan county or group of contiguous nonmetropolitan counties that contains an urban cluster of 10,000–49,999 persons. The area may include surrounding counties if there are strong economic ties between the counties, based on commuting patterns.

NOTES: Numbers may not add to totals, and percent distributions may not add to 100%, because of rounding and because the denominators for percent distributions may include a category of unknowns not reported in the table. For length of service, six unknowns are excluded from the mean and median calculations.

DATA SOURCE: CDC/NCHS, National Home and Hospice Care Survey, 2007.

Table 3. Primary and all-listed diagnoses for home health care patients: United States, 2007

Diagnosis and ICD–9–CM code[1]	Primary diagnoses[2]								All-listed diagnoses[3]			
	At admission				At interview				At interview			
	Number	(Standard error)	Percent distribution	(Standard error)	Number	(Standard error)	Percent distribution	(Standard error)	Number	(Standard error)	Percent	(Standard error)
Total.	1,459,900	(65,902)	100.0	. . .	1,459,900	(65,902)	100.0	. . .	. . .	. . .	. . .	. . .
Infectious and parasitic diseases . . . .(001–139)	†12,400	(4,194)	†0.8	(0.3)	†12,000	(4,189)	†0.8	(0.3)	46,500	(7,651)	3.2	(0.5)
Neoplasms. . . . .(140–239)	59,600	(7,348)	4.1	(0.5)	59,200	(7,367)	4.1	(0.5)	128,800	(12,081)	8.8	(0.7)
Malignant neoplasm. . . . .(140–208,230–234)	57,400	(7,316)	3.9	(0.5)	58,000	(7,320)	4.0	(0.5)	124,800	(11,981)	8.6	(0.7)
Endocrine, nutritional, and metabolic diseases and immunity disorders . . . .(240–279)	166,762	(17,031)	11.4	(1.1)	184,500	(17,892)	12.6	(1.1)	583,000	(35,195)	39.9	(1.6)
Diabetes mellitus. . . . .(250)	146,800	(16,446)	10.1	(1.0)	164,300	(17,211)	11.3	(1.1)	447,200	(29,440)	30.6	(1.4)
Diseases of the blood and blood-forming organs . . . .(280–289)	20,000	(3,526)	1.4	(0.2)	25,800	(4,175)	1.8	(0.3)	132,700	(13,505)	9.1	(0.8)
Anemias. . . . .(280–285)	19,500	(3,519)	1.3	(0.2)	25,300	(4,169)	1.7	(0.3)	122,200	(12,604)	8.4	(0.8)
Mental disorders . . . .(290–319)	55,200	(11,170)	3.8	(0.7)	62,600	(11,745)	4.3	(0.8)	284,800	(22,370)	19.5	(1.3)
Senile dementia or organic brain syndrome . . . . .(290,310)	*	*	*	*	*	*	*	*	†9,300	(2,427)	†0.6	(0.2)
Mental retardation. . . . .(317–319)	*	*	*	*	*	*	*	*	32,300	(7,119)	2.2	(0.5)
Other mental disorders . . . .(291–309,311–316)	46,600	(10,638)	3.2	(0.7)	51,800	(11,217)	3.5	(0.7)	257,500	(20,946)	17.6	(1.2)
Diseases of the nervous system and sense organs. . .(320–389)	122,600	(13,858)	8.4	(0.9)	109,300	(11,173)	7.5	(0.7)	328,400	(24,050)	22.5	(1.4)
Alzheimer's disease. . . . .(331.0)	†14,200	(3,494)	†1.0	(0.2)	†11,900	(3,327)	†0.8	(0.2)	37,400	(6,024)	2.6	(0.4)
Parkinson's disease. . . . .(332)	†18,900	(4,437)	†1.3	(0.3)	†20,100	(4,726)	†1.4	(0.3)	38,400	(5,902)	2.6	(0.4)
Multiple sclerosis. . . . .(340)	20,900	(4,316)	1.4	(0.3)	20,100	(4,153)	1.4	(0.3)	27,800	(4,697)	1.9	(0.3)
Paralytic syndromes . . . .(342–344)	35,100	(6,677)	2.4	(0.4)	27,900	(5,132)	1.9	(0.4)	69,700	(10,632)	4.8	(0.7)
All other diseases of the nervous system and sense organs. . . . .(320–330,331.1–331.9,333–337,341,345–389)	33,400	(6,428)	2.3	(0.4)	29,400	(5,308)	2.0	(0.4)	181,900	(18,019)	12.5	(1.1)
Diseases of the circulatory system . . . .(390–459)	267,300	(21,850)	18.3	(1.0)	275,700	(22,160)	18.9	(1.1)	918,900	(50,013)	62.9	(1.6)
Essential hypertension . . . .(401)	48,800	(8,384)	3.3	(0.5)	56,500	(8,753)	3.9	(0.5)	600,100	(37,085)	41.1	(1.7)
Heart disease . . . .(391–392.0,393–398,402,404, 410–416,420–429)	129,100	(14,137)	8.8	(0.8)	135,700	(14,452)	9.3	(0.8)	457,700	(29,308)	31.3	(1.3)
Coronary atherosclerosis . . . .(414)	*	*	*	*	*	*	*	*	31,700	(6,132)	2.2	(0.4)
Other chronic ischemic heart disease . . .(412,414.1–414.9)	21,000	(4,346)	1.4	(0.3)	†18,900	(4,164)	†1.3	(0.3)	115,600	(13,447)	7.9	(0.9)
Cardiac dysrhythmias . . . .(427)	27,200	(6,295)	1.9	(0.4)	34,700	(6,851)	2.4	(0.5)	145,100	(14,559)	9.9	(0.9)
Congestive heart failure. . . . .(428.0)	62,500	(9,257)	4.3	(0.6)	59,800	(9,033)	4.1	(0.6)	208,400	(17,529)	14.3	(0.9)
Other heart disease. . . . . .(391–392.0,393–398,415–416, 420–426,428.1–429)	†13,300	(3,172)	†0.9	(0.2)	†13,100	(3,205)	†0.9	(0.2)	69,100	(7,478)	4.7	(0.5)
Cerebrovascular disease . . . .(430–435, 437–438)	48,600	(6,449)	3.3	(0.4)	44,800	(6,415)	3.1	(0.4)	103,200	(11,028)	7.1	(0.7)
Other diseases of the circulatory system . . . .(390,392.9,403,405,417,440–459)	40,800	(7,726)	2.8	(0.5)	38,700	(7,501)	2.7	(0.5)	154,200	(15,243)	10.6	(0.9)
Diseases of the respiratory system . . . .(460–519)	79,600	(9,625)	5.5	(0.6)	76,300	(9,124)	5.2	(0.6)	252,400	(18,596)	17.3	(1.0)
Pneumonia, all forms. . . . .(480–486)	22,200	(6,049)	1.5	(0.4)	†14,300	(4,765)	†1.0	(0.3)	30,300	(6,693)	2.1	(0.4)
Chronic obstructive pulmonary disease and allied conditions . . . .(490–491)	49,600	(7,224)	3.4	(0.5)	52,300	(7,254)	3.6	(0.5)	196,900	(2,542)	13.5	(0.2)
Other diseases of the respiratory system . . . .(460–478,487,500–519)	†7,900	(2,620)	†0.5	(0.2)	†9,800	(3,205)	†0.7	(0.2)	44,700	(6,557)	3.1	(0.4)
Diseases of the digestive system . . . .(520–579)	31,800	(5,180)	2.2	(0.3)	27,800	(4,862)	1.9	(0.3)	161,900	(12,988)	11.1	(0.9)
Diseases of the genitourinary system . . . .(580–629)	32,700	(5,433)	2.2	(0.4)	35,600	(5,750)	2.4	(0.4)	214,500	(17,819)	14.7	(1.0)
Urinary tract infection. . . . .(580–583,590,595,597,599.0)	†12,000	(3,481)	†0.8	(0.2)	*	*	*	*	59,800	(7,909)	4.1	(0.5)
Diseases of the skin and subcutaneous tissue. . . . .(680–709)	70,000	(8,465)	4.8	(0.5)	71,100	(8,466)	4.9	(0.5)	132,300	(11,780)	9.1	(0.8)
Cellulitis and abscess, except of digit . . . .(682.0)	21,700	(4,006)	1.5	(0.3)	19,700	(3,914)	1.3	(0.3)	28,300	(4,770)	1.9	(0.3)
Decubitus ulcer . . . .(707.0)	22,300	(3,936)	1.5	(0.3)	23,400	(4,020)	1.6	(0.3)	46,500	(6,121)	3.2	(0.4)
Diseases of the musculoskeletal system and connective tissue . . . .(710–739)	127,600	(11,660)	8.7	(0.7)	128,800	(12,009)	8.8	(0.7)	480,700	(34,236)	32.9	(1.7)

See footnotes at end of table.

Table 3. Primary and all-listed diagnoses for home health care patients: United States, 2007—Con.

Diagnosis and ICD–9–CM code[1]	Primary diagnoses[2]								All-listed diagnoses[3]			
	At admission				At interview				At interview			
	Number	(Standard error)	Percent distribution	(Standard error)	Number	(Standard error)	Percent distribution	(Standard error)	Number	(Standard error)	Percent	(Standard error)
Rheumatoid arthritis, except spine . . . .(714)	*	*	*	*	*	*	*	*	23,100	(4,670)	1.6	(0.3)
Osteoarthritis and allied disorders, except spine . . . . . .(715)	21,200	(4,142)	1.5	(0.3)	23,100	(4,584)	1.6	(0.3)	145,600	(15,322)	10.0	(0.9)
Other arthropathies and related disorders . . . .(710–713, 716–719)	41,200	(6,566)	2.8	(0.4)	37,200	(6,999)	2.6	(0.5)	148,700	(17,600)	10.2	(1.1)
Osteoporosis . . . .(733.0)	*	*	*	*	*	*	*	*	55,500	(7,742)	3.8	(0.5)
Other diseases of the musculoskeletal system . . . .(720–732,733.2–739)	51,200	(6,523)	3.5	(0.4)	52,600	(6,476)	3.6	(0.4)	206,500	(18,817)	14.1	(1.1)
Symptoms, signs, and ill-defined conditions . . . . . .(780–799)	147,700	(14,881)	10.1	(0.9)	143,900	(13,730)	9.9	(0.9)	551,100	(35,351)	37.8	(1.7)
Injuries and poisonings . . . .(800–999)	68,700	(8,902)	4.7	(0.6)	66,800	(8,851)	4.6	(0.6)	106,400	(10,868)	7.3	(0.7)
Supplementary classification . . . .(V01–V82)	158,100	(15,388)	10.8	(0.9)	143,000	(14,492)	9.8	(0.9)	345,200	(32,485)	23.6	(1.8)
Posthospital aftercare . .(V42–V46,V52,V53.3–V53.7,V54–V58)	151,300	(15,221)	10.4	(0.9)	136,700	(14,311)	9.4	(0.9)	294,500	(28,111)	20.2	(1.6)

. . . Category not applicable.

† Estimate does not meet standards of reliability or precision because the sample size is between 30 and 59, or the sample size is greater than 59 but has a relative standard error of 30% or more.

* Estimate does not meet standards of reliability or precision because the sample size is fewer than 30.

[1]Based on *International Classification of Diseases, 9th Revision, Clinical Modification.*

[2]Chiefly responsible for the patient's admission to or current use of home health care.

[3]Up to 16 diagnoses are recorded for each patient at interview.

NOTE: Numbers may not add to totals, and percent distributions may not add to 100%, because of rounding and because the denominators for percent distributions may include a category of unknowns not reported in the table.

DATA SOURCE: CDC/NCHS, National Home and Hospice Care Survey, 2007.

Table 4. Advance care planning of home health care patients at interview, by selected characteristics: United States, 2007

Characteristic	Number of advance care planning instruments (standard error)				Type of advance care planning instrument (standard error)				
	None	At least one	One	Two or more	Living will	Durable power of attorney	DNR[1]	Health care proxy	Other[2]
Total	71.5 (1.7)	28.6 (1.7)	16.2 (1.3)	12.1 (1.2)	16.8 (1.3)	13.7 (1.3)	6.8 (0.8)	5.2 (1.2)	1.6 (0.4)
Age[3]									
Under 65 years	82.6 (1.7)	17.4 (1.7)	9.8 (1.4)	7.6 (1.3)	10.0 (1.4)	9.2 (1.5)	2.7 (0.8)	†4.2 (1.2)	†0.9 (0.4)
Under 45 years	88.0 (2.4)	12.0 (2.4)	†6.1 (1.7)	†5.9 (1.8)	* *	†5.6 (1.7)	* *	* *	* *
45–64 years	78.9 (2.3)	21.2 (2.3)	12.3 (1.9)	8.8 (1.9)	13.5 (2.2)	11.6 (2.1)	†2.1 (0.6)	* *	* *
65 years and over	66.4 (2.1)	33.6 (2.2)	19.1 (1.6)	14.1 (1.5)	19.8 (1.6)	15.8 (1.5)	8.6 (1.0)	5.6 (1.4)	2.0 (0.5)
65–74 years	76.1 (2.6)	23.9 (2.6)	14.4 (2.1)	9.4 (2.1)	14.2 (2.0)	11.4 (1.9)	5.9 (1.6)	* *	* *
75–84 years	66.4 (2.8)	33.6 (2.8)	19.4 (2.2)	13.5 (2.0)	19.8 (2.2)	15.2 (2.1)	8.2 (1.5)	†5.4 (1.7)	†1.5 (0.6)
85 years and over	58.4 (2.9)	41.6 (3.0)	22.6 (2.4)	18.7 (2.2)	24.4 (2.5)	20.2 (2.2)	11.4 (1.6)	†6.4 (1.6)	†2.5 (0.8)
Sex									
Male	72.5 (2.3)	27.5 (2.3)	15.3 (1.6)	12.0 (1.7)	16.6 (1.8)	12.1 (1.7)	7.7 (1.2)	5.9 (1.6)	†0.8 (0.2)
Female	70.9 (2.0)	29.2 (2.0)	16.7 (1.6)	12.1 (1.3)	16.8 (1.5)	14.7 (1.5)	6.2 (0.8)	4.7 (1.1)	2.1 (0.6)
Hispanic or Latino origin									
Hispanic or Latino	87.7 (2.9)	†12.4 (2.9)	* *	* *	* *	* *	* *	* *	* *
Not Hispanic or Latino	69.5 (1.9)	30.5 (1.9)	17.3 (1.4)	12.9 (1.3)	17.8 (1.4)	14.9 (1.4)	7.4 (0.9)	5.4 (1.2)	1.7 (0.4)
Unknown	79.0 (3.6)	†21.0 (3.6)	* *	* *	* *	* *	* *	* *	* *
Race									
White	68.0 (1.8)	32.0 (1.8)	17.7 (1.5)	14.0 (1.3)	18.6 (1.4)	15.5 (1.4)	8.0 (0.9)	5.6 (1.3)	2.0 (0.5)
Black	87.5 (2.1)	12.5 (2.1)	†9.3 (1.7)	* *	* *	* *	* *	* *	* *
Other[4]	83.7 (5.1)	* *	* *	* *	* *	* *	* *	* *	* *
Living arrangements									
Living alone	71.4 (2.4)	28.6 (2.4)	15.5 (2.0)	12.5 (1.7)	15.5 (1.6)	13.0 (1.9)	7.7 (1.1)	6.0 (1.5)	* *
Living with others	71.2 (1.9)	28.8 (1.9)	16.7 (1.4)	12.0 (1.3)	17.4 (1.5)	14.2 (1.5)	6.3 (0.9)	4.9 (1.2)	1.3 (0.4)
Ownership									
Proprietary	75.3 (2.1)	24.7 (2.1)	15.0 (1.5)	9.2 (1.3)	14.2 (1.5)	10.8 (1.5)	5.9 (0.9)	†2.8 (0.9)	†1.7 (0.6)
Voluntary nonprofit	66.2 (2.9)	33.8 (2.9)	19.4 (2.4)	14.4 (2.2)	19.7 (2.3)	17.3 (2.4)	7.1 (1.3)	†6.7 (2.4)	†1.7 (0.5)
Government or other	69.2 (7.3)	30.8 (7.3)	7.4 (2.0)	†23.4 (7.2)	21.5 (5.5)	†17.1 (5.2)	†12.0 (4.4)	†15.8 (7.2)	* *
Chain affiliation									
Part of a chain.	76.1 (2.5)	23.9 (2.5)	16.0 (1.8)	7.8 (1.3)	11.8 (1.5)	12.4 (1.9)	5.4 (1.1)	* *	* *
Not part of a chain	69.6 (2.2)	30.4 (2.2)	16.3 (1.6)	13.8 (1.6)	18.7 (1.7)	14.2 (1.6)	7.3 (1.0)	6.7 (1.6)	1.8 (0.5)
Certification									
Medicare and Medicaid	71.8 (2.0)	28.2 (2.0)	15.9 (1.4)	12.1 (1.4)	17.3 (1.5)	13.6 (1.4)	6.4 (0.9)	5.0 (1.4)	1.5 (0.3)
Medicare	69.5 (4.3)	30.5 (4.3)	24.2 (3.3)	* *	†14.4 (2.9)	†12.6 (3.6)	* *	* *	* *
Medicaid	71.3 (4.4)	28.7 (4.3)	†10.7 (4.0)	†16.3 (3.6)	†12.3 (3.8)	†12.5 (4.2)	†12.1 (3.1)	* *	* *
Not certified[5]	63.4 (13.2)	* *	* *	* *	* *	* *	* *	* *	* *

See footnotes at end of table.

Table 4. Advance care planning of home health care patients at interview, by selected characteristics: United States, 2007—Con.

Characteristic	Number of advance care planning instruments (standard error)				Type of advance care planning instrument (standard error)				
	None	At least one	One	Two or more	Living will	Durable power of attorney	DNR[1]	Health care proxy	Other[2]
Geographic region									
Northeast	69.2 (4.2)	30.8 (4.2)	19.2 (3.9)	11.6 (2.9)	16.1 (3.3)	9.5 (2.1)	†7.8 (2.0)	12.7 (3.5)	* *
Midwest	67.4 (3.7)	32.6 (3.7)	17.8 (2.3)	14.8 (2.8)	20.7 (2.7)	18.5 (3.1)	6.3 (1.4)	†3.6 (2.3)	†1.9 (0.8)
South	76.6 (2.2)	23.4 (2.3)	12.5 (1.4)	10.3 (1.8)	14.2 (1.9)	11.3 (1.8)	5.5 (1.0)	†4.1 (1.7)	†1.5 (0.7)
West	65.4 (5.0)	34.6 (5.0)	21.0 (4.1)	13.6 (2.7)	18.7 (3.1)	18.3 (3.6)	†10.0 (3.1)	* *	†2.5 (0.8)
Location of agency									
Metropolitan statistical area[6]	70.9 (2.0)	29.1 (2.0)	16.4 (1.5)	12.3 (1.5)	17.0 (1.5)	13.9 (1.5)	6.6 (0.9)	5.7 (1.4)	†1.7 (0.5)
Micropolitan statistical area[7]	73.1 (3.0)	27.0 (3.0)	15.5 (2.0)	11.5 (1.5)	15.5 (2.1)	13.9 (2.0)	7.9 (1.1)	†2.1 (0.5)	†1.6 (0.5)
Neither	75.1 (2.5)	24.9 (2.5)	14.7 (1.6)	10.1 (1.4)	15.4 (1.9)	10.8 (1.8)	7.3 (1.2)	†3.2 (0.9)	†1.4 (0.6)

† Estimate does not meet standards of reliability or precision because the sample size is between 30 and 59, or the sample size is greater than 59 but has a relative standard error of 30% or more.

* Estimate does not meet standards of reliability or precision because the sample size is fewer than 30.

[1]Do not rescucitate.

[2]Includes do not hospitalize/do not send to emergency department, feeding restrictions, medication restrictions, organ donation, and all other advance care planning requests not otherwise specified.

[3]Patient's age at interview.

[4]Includes Asian, Native Hawaiian or Other Pacific Islander, American Indian or Alaska Native, and multiple races. All race categories include persons of Hispanic and non-Hispanic origin. Persons of Hispanic origin may be of any race.

[5]Includes agencies pending certification.

[6]A county or group of contiguous counties that contains at least one urbanized area of 50,000 or more population. The area may also contain other counties that are economically and socially integrated with the central county, as measured by commuting.

[7]A nonmetropolitan county or group of contiguous nonmetropolitan counties that contains an urban cluster of 10,000–49,999 persons. The area may include surrounding counties if there are strong economic ties between the counties, based on commuting patterns.

NOTES: Numbers may not add to totals, and percent distributions may not add to 100%, because of rounding and because the denominators for percent distributions may include a category of unknowns not reported in the table. Respondents did not know about advance care planning for 1.8% of patients; these were assumed to have no advance care planning.

DATA SOURCE: CDC/NCHS, National Home and Hospice Care Survey, 2007.

Table 5. Selected characteristics of annual hospice care discharges: United States, 2007

Characteristic	Number	(Standard error)	Percent distribution	(Standard error)
Total.	1,045,100	(42,741)	100.0	. . .
Age[1]				
Under 65 years	177,000	(11,442)	16.9	(0.9)
Under 45 years	13,600	(2,775)	1.3	(0.3)
45–64 years	163,400	(11,114)	15.6	(0.8)
65 years and over	868,100	(36,613)	83.1	(0.9)
65–69 years	71,900	(9,020)	6.9	(0.8)
70–74 years	89,100	(8,308)	8.5	(0.7)
75–79 years	137,400	(9,341)	13.1	(0.8)
80–84 years	170,600	(12,143)	16.3	(0.9)
85–89 years	202,700	(13,791)	19.4	(1.0)
90–94 years	135,800	(11,464)	13.0	(0.9)
95 years and over	60,600	(6,426)	5.8	(0.6)
Sex				
Male	469,500	(24,781)	44.9	(1.4)
Female	575,500	(26,951)	55.1	(1.4)
Hispanic or Latino origin				
Hispanic or Latino	41,400	(7,556)	4.0	(0.7)
Not Hispanic or Latino.	960,700	(41,533)	91.9	(1.1)
Unknown	43,000	(8,925)	4.1	(0.9)
Race				
White	948,100	(39,266)	90.7	(1.0)
Black	78,100	(10,725)	7.5	(0.9)
Other[2]	18,800	(3,837)	1.8	(0.4)
Living arrangements[3]				
Living alone	73,100	(8,301)	11.2	(1.2)
Living with others	575,300	(29,186)	87.9	(1.2)
Discharge status				
Deceased	880,700	(37,817)	84.3	(1.1)
Not deceased	163,300	(13,571)	15.6	(1.1)
Ownership				
Proprietary	325,600	(39,526)	31.2	(3.4)
Voluntary nonprofit	696,900	(42,410)	66.7	(3.4)
Government or other	22,500	(6,213)	2.2	(0.6)
Chain affiliation				
Part of a chain	284,700	(37,584)	27.2	(3.3)
Not part of a chain	760,400	(42,747)	72.8	(3.3)
Certification				
Medicare and Medicaid	980,500	(43,168)	93.8	(1.5)
Medicare	50,400	(13,996)	4.8	(1.3)
Medicaid	*	*	*	*
Not certified[4]	†12,900	(7,163)	†1.2	(0.7)
Geographic region				
Northeast	192,800	(30,246)	18.4	(2.7)
Midwest	251,300	(31,860)	24.1	(2.9)
South	397,600	(38,484)	38.0	(3.4)
West	203,300	(27,164)	19.5	(2.5)
Location of agency				
Metropolitan statistical area[5]	913,500	(42,073)	87.4	(0.8)
Micropolitan statistical area[6]	93,800	(6,949)	9.0	(0.7)
Neither	37,800	(3,943)	3.6	(0.4)

. . . Category not applicable.

* Estimate does not meet standards of reliability or precision because the sample size is fewer than 30.

† Estimate does not meet standards of reliability or precision because the sample size is between 30 and 59, or the sample size is greater than 59 but has a relative standard error of 30% or more.

[1]Patient's age at time of discharge.

[2]Includes Asian, Native Hawaiian or Other Pacific Islander, American Indian or Alaska Native, and multiple races. All race categories include persons of Hispanic and non-Hispanic origin. Persons of Hispanic origin may be of any race.

[3]Respondents were not asked about the living arrangements of discharged hospice care patients who received care in an inpatient setting. These patients were excluded from the numerator and denominator for this question.

[4]Includes agencies pending certification.

[5]A county or group of contiguous counties that contains at least one urbanized area of 50,000 or more population. The area may also contain other counties that are economically and socially integrated with the central county, as measured by commuting.

[6]A nonmetropolitan county or group of contiguous nonmetropolitan counties that contains an urban cluster of 10,000–49,999 persons. The area may include surrounding counties if there are strong economic ties between the counties, based on commuting patterns.

NOTE: Numbers may not add to totals, and percent distributions may not add to 100%, because of rounding and because the denominators for percent distributions may include a category of unknowns not reported in the table.

DATA SOURCE: CDC/NCHS, National Home and Hospice Care Survey, 2007.

Table 6. Length of service (in days) of annual hospice care discharges, by selected characteristics: United States, 2007

Characteristic	Number	Percent	Mean	(Standard error)	Median	(Standard error)
Total.	1,045,100	100.0	65	(3.5)	16	(1.0)
Age[1]						
Under 65 years.	177,000	16.9	42	(4.9)	15	(1.8)
65 years and over.	868,100	83.1	70	(3.9)	16	(1.3)
65–74 years.	161,000	15.4	48	(6.8)	12	(2.3)
75–84 years.	308,000	29.5	68	(5.9)	15	(2.0)
85 years and over.	399,100	38.2	80	(6.1)	20	(2.8)
Sex						
Male	469,500	44.9	53	(4.5)	15	(1.7)
Female.	575,500	55.1	75	(4.8)	18	(1.2)
Hispanic or Latino origin						
Hispanic or Latino	41,400	4.0	64	(15.0)	16	(4.5)
Not Hispanic or Latino.	960,700	91.9	65	(3.5)	16	(1.1)
Unknown.	43,000	4.1	69	(20.7)	†16	(6.2)
Race						
White.	948,100	90.7	65	(3.4)	16	(1.2)
Black.	78,100	7.5	75	(13.4)	21	(4.1)
Other[2]	18,800	1.8	46	(8.8)	21	(6.0)
Living arrangements[3]						
Living alone.	73,100	11.2	109	(11.8)	48	(8.5)
Living with others.	575,300	87.9	62	(3.6)	20	(1.5)
Discharge status						
Deceased	880,700	84.3	52	(3.2)	13	(1.1)
Not deceased.	163,300	15.6	138	(9.3)	79	(8.0)
Primary source of payment[4]						
Private[5].	104,200	10.0	40	(6.8)	12	(2.1)
Medicare.	828,900	79.3	70	(4.0)	17	(1.3)
Medicaid.	39,900	3.8	68	(14.0)	†21	(10.0)
All other sources[6]	28,900	2.8	36	(6.5)	17	(4.6)
Ownership						
Proprietary.	325,600	31.2	83	(7.0)	20	(3.1)
Voluntary nonprofit.	696,900	66.7	57	(3.9)	15	(1.2)
Government or other	22,500	2.2	60	(7.7)	20	(3.8)
Chain affiliation						
Part of a chain.	284,700	27.2	83	(7.8)	19	(3.3)
Not part of a chain.	760,400	72.8	59	(3.6)	15	(1.2)
Certification						
Medicare and Medicaid.	980,500	93.8	63	(3.5)	16	(1.1)
Medicare.	50,400	4.8	103	(20.3)	29	(5.0)
Medicaid.	*	*	*	*	*	*
Not certified[7]	†12,900	†1.2	75	(22.2)	†20	(18.3)
Geographic region						
Northeast	192,800	18.4	56	(7.7)	14	(2.2)
Midwest	251,300	24.1	58	(6.5)	14	(1.9)
South.	397,600	38.0	76	(6.3)	19	(1.9)
West	203,300	19.5	61	(6.4)	16	(2.1)
Location of agency						
Metropolitan statistical area[8].	913,500	87.4	64	(3.9)	16	(1.3)
Micropolitan statistical area[9].	93,800	9.0	74	(6.4)	18	(2.3)
Neither.	37,800	3.6	65	(6.2)	15	(2.3)

† Estimate does not meet standards of reliability or precision because the sample size is between 30 and 59, or the sample size is greater than 59 but has a relative standard error of 30% or more.

* Estimate does not meet standards of reliability or precision because the sample size is fewer than 30.

[1]Patient's age at time of discharge.

[2]Includes Asian, Native Hawaiian or Other Pacific Islander, American Indian or Alaska Native, and multiple races. All race categories include persons of Hispanic and non-Hispanic origin. Persons of Hispanic origin may be of any race.

[3]Respondents were not asked about the living arrangements of discharged hospice care patients who received care in an inpatient setting (37.4% of all discharges).

[4]At time of discharge.

[5]Includes private health insurance, long-term care insurance, and self-pay by patient or family.

[6]Includes Tricare, Department of Veteran Affairs, ChampVA, worker's compensation, other government, no charge for care, other source, and payment source not yet determined.

[7]Includes agencies pending certification.

[8]A county or group of contiguous counties that contains at least one urbanized area of 50,000 or more population. The area may also contain other counties that are economically and socially integrated with the central county, as measured by commuting.

[9]A nonmetropolitan county or group of contiguous nonmetropolitan counties that contains an urban cluster of 10,000–49,999 persons. The area may include surrounding counties if there are strong economic ties between the counties, based on commuting patterns.

NOTES: Numbers may not add to totals, and percent distributions may not add to 100%, because of rounding and because the denominators for percent distributions may include a category of unknowns not reported in the table. For length of service, six unknowns are excluded from the mean and median calculations.

DATA SOURCE: CDC/NCHS, National Home and Hospice Care Survey, 2007.

Table 7. Primary and all-listed diagnoses for annual hospice care discharges: United States, 2007

Diagnosis and ICD–9–CM code[1]	Primary diagnoses[2] At admission Number	(Standard error)	Percent distribution	(Standard error)	Primary diagnoses[2] At discharge Number	(Standard error)	Percent distribution	(Standard error)	All-listed diagnoses[3] At discharge Number	(Standard error)	Percent	(Standard error)
Total	1,045,100	. . .	100.0	. . .	1,045,100	. . .	100.0	. . .	. . .	. . .	. . .	. . .
Infectious and parasitic diseases . . . .(001–139)	†6,900	(2,323)	†0.6	(0.2)	†7,100	(2,418)	†0.7	(0.2)	37,400	(5,808)	3.6	(0.5)
Neoplasms. . . . .(140–239)	454,600	(24,919)	43.5	(1.5)	454,200	(24,976)	43.5	(1.5)	491,300	(25,888)	47.0	(1.5)
Malignant neoplasm. . . . .(140–208,230–234)	447,600	(24,894)	42.8	(1.5)	447,600	(24,894)	42.8	(1.5)	485,300	(25,955)	46.4	(1.5)
Malignant neoplasm of large intestine and rectum . . .(153–154,197.5)	47,000	(6,762)	4.5	(0.6)	46,600	(6,754)	4.5	(0.6)	52,400	(6,902)	5.0	(0.6)
Malignant neoplasm of trachea, bronchus and lung. .(162,197.0,197.3)	129,000	(10,380)	12.3	(0.8)	128,700	(10,387)	12.3	(0.8)	161,400	(12,426)	15.4	(1.0)
Malignant neoplasm of bone, connective tissue and skin. . .(170–173, 198.2,198.5)	15,900	(3,231)	1.5	(0.3)	15,900	(3,230)	1.5	(0.3)	38,200	(5,069)	3.7	(0.4)
Malignant neoplasm of breast . . . .(174–175,198.81)	28,700	(4,733)	2.7	(0.4)	28,500	(4,731)	2.7	(0.4)	40,700	(5,288)	3.9	(0.5)
Malignant neoplasm of female genital organs. . . . . .(179–184,198.6)	21,500	(3,867)	2.1	(0.4)	21,400	(3,866)	2.1	(0.4)	25,200	(4,170)	2.4	(0.4)
Malignant neoplasm of prostate . . . .(185)	17,100	(3,005)	1.6	(0.3)	16,800	(2,969)	1.6	(0.3)	37,300	(5,131)	3.6	(0.5)
Malignant neoplasm of urinary organs . . . . .(188–189,198.0–198.1)	30,600	(5,207)	2.9	(0.5)	30,600	(5,207)	2.9	(0.5)	35,900	(5,959)	3.4	(0.5)
Malignant neoplasm of hematopoietic tissue . . . .(200–208)	30,600	(4,335)	2.9	(0.4)	31,300	(4,459)	3.0	(0.4)	36,400	(4,781)	3.5	(0.5)
Malignant neoplasm of other and unspecified sites . . . .(150–52,155–161,163–165,176,186–187,190–196, 197.1–197.2,197.4,197.6–197.8,198.3–198.4, 198.7,198.82–199,230–234)	125,700	(11,805)	12.0	(1.0)	126,000	(11,819)	12.1	(1.0)	193,500	(15,962)	18.5	(1.2)
Endocrine, nutritional, and metabolic diseases and immunity disorders . . . .(240–279)	*	*	*	*	*	*	*	*	207,900	(15,859)	19.9	(1.3)
Diabetes mellitus. . . . .(250)	*	*	*	*	*	*	*	*	127,700	(10,298)	12.2	(0.9)
Diseases of the blood and blood-forming organs . . . .(280–289)	*	*	*	*	*	*	*	*	70,000	(8,358)	6.7	(0.7)
Anemias. . . . .(280–285)	*	*	*	*	*	*	*	*	64,300	(8,212)	6.2	(0.7)
Mental disorders . . . .(290–319)	69,100	(7,797)	6.6	(0.7)	70,800	(7,979)	6.8	(0.7)	234,300	(18,168)	22.4	(1.3)
Senile dementia or organic brain syndrome . . . .(290,310)	*	*	*	*	*	*	*	*	*14800	(4,096)	*1.4	(0.4)
Other mental disorders . . . .(291–309,311–316)	61,900	(7,238)	5.9	(0.6)	64,000	(7,689)	6.1	(0.7)	219,400	(17,406)	21.0	(1.3)
Diseases of the nervous system and sense organs. . . . .(320–389)	81,400	(8,350)	7.8	(0.7)	80,200	(8,353)	7.7	(0.7)	165,700	(12,906)	15.9	(1.0)
Alzheimer's disease. . . . .(331.0)	40,400	(5,448)	3.9	(0.5)	39,400	(5,332)	3.8	(0.5)	64,200	(6,654)	6.1	(0.6)
Parkinson's disease. . . . .(332)	†20,500	(4,420)	†1.9	(0.4)	†21,000	(4,441)	†2.0	(0.4)	44,900	(6,520)	4.3	(0.6)
All other diseases of the nervous system and sense organs. . . . .(320– 330,331.1–331.9,333–337,341,345–389)	†18,600	(3,923)	†1.8	(0.4)	†18,800	(3,979)	†1.8	(0.4)	65,100	(7,518)	6.2	(0.7)
Diseases of the circulatory system . . . .(390–459)	165,100	(12,450)	15.8	(1.1)	165,700	(12,258)	15.9	(1.0)	523,000	(27,842)	50.0	(1.8)
Essential hypertension . . . .(401)	*	*	*	*	*	*	*	*	245,500	(18,488)	23.5	(1.4)
Heart disease . . . .(391–392.0,393–398,402,404, 410–416,420–429)	115,600	(10,001)	11.1	(0.9)	117,400	(9,997)	11.2	(0.9)	336,300	(19,437)	32.2	(1.4)
Coronary atherosclerosis . . . .(414.0)	*	*	*	*	*	*	*	*	22,100	(5,282)	2.1	(0.5)
Other chronic ischemic heart disease . . . .(412,414.1–414.9)	*7,700	(2,157)	†0.74	(0.2)	†8,200	(2,179)	†0.8	(0.2)	98,500	(9,911)	9.4	(0.8)
Cardiac dysrhythmias . . . .(427)	*	*	*	*	*	*	*	*	66,000	(7,141)	6.3	(0.6)
Congestive heart failure. . . . .(428.0)	66,400	(6,935)	6.4	(0.6)	65,200	(6,914)	6.2	(0.6)	161,200	(12,401)	15.4	(1.0)
Other heart disease. . . . . . .(391–392.0,393–398,415–416,420–426, 428.1–429)	35,300	(5,538)	3.4	(0.5)	37,300	(5,613)	3.6	(0.5)	97,500	(9,288)	9.3	(0.8)
Cerebrovascular disease. . . . .(430–435,437–438)	46,800	(5,972)	4.5	(0.5)	45,100	(5,919)	4.3	(0.5)	114,000	(11,121)	10.9	(0.9)
Other diseases of the circulatory system . . . . .(390,392.9,403,405,417, 440–459)	*	*	*	*	*	*	*	*	67,400	(8,252)	6.4	(0.7)

See footnotes at end of table.

Table 7. Primary and all-listed diagnoses for annual hospice care discharges: United States, 2007—Con.

Diagnosis and ICD–9–CM code[1]	Primary diagnoses[2]								All-listed diagnoses[3]			
	At admission				At discharge				At discharge			
	Number	(Standard error)	Percent distribution	(Standard error)	Number	(Standard error)	Percent distribution	(Standard error)	Number	(Standard error)	Percent	(Standard error)
Diseases of the respiratory system . . . .(460–519)	77,900	(6,828)	7.5	(0.6)	79,900	(6,854)	7.6	(0.6)	225,500	(15,040)	21.6	(1.1)
Pneumonia, all forms . . . .(480–486)	*	*	*	*	*	*	*	*	38,200	(6,594)	3.7	(0.6)
Chronic obstructive pulmonary disease and allied conditions. .(490–491)	49,600	(5,629)	4.7	(0.5)	51,200	(5,724)	4.9	(0.5)	154,800	(11,856)	14.8	(1.0)
Other diseases of the respiratory system . . . . .(460–478,487,500–519)	25,800	(4,215)	2.5	(0.4)	25,300	(4,086)	2.4	(0.4)	52,500	(6,224)	5.0	(0.5)
Diseases of the digestive system . . . .(520–579)	18,100	(3,477)	1.7	(0.3)	17,600	(3,459)	1.7	(0.3)	120,300	(11,379)	11.5	(1.0)
Diseases of the genitourinary system . . . .(580–629)	31,700	(4,613)	3.0	(0.4)	32,100	(4,636)	3.1	(0.4)	151,300	(11,564)	14.5	(1.0)
Urinary tract infection . . . .(580–583,590,595,597,599.0)	*	*	*	*	*	*	*	*	30,000	(4,944)	2.9	(0.5)
Diseases of the musculoskeletal system and connective tissue. .(710–739)	*	*	*	*	*	*	*	*	94,300	(10,144)	9.0	(0.9)
Other arthropathies and related disorders . . . .(710–713,716–719)	*	*	*	*	*	*	*	*	26,900	(4,756)	2.6	(0.4)
Osteoporosis 733.0	*	*	*	*	*	*	*	*	25,200	(4,782)	2.4	(0.4)
Other diseases of the musculoskeletal system . . .(720–732,733.2–739)	*	*	*	*	*	*	*	*	19,500	(3,508)	1.9	(0.3)
Symptoms, signs, and ill-defined conditions . . . .(780–799)	127,400	(10,482)	12.2	(0.9)	121,700	(10,419)	11.6	(0.9)	216,100	(14,334)	20.7	(1.2)
Injuries and poisonings . . . .(800–999)	*	*	*	*	*	*	*	*	†10,500	(2,792)	†1.0	(0.3)
Supplementary classification . . . .(V01–V82)	*	*	*	*	*	*	*	*	41,300	(6,997)	4.0	(0.6)
Posthospital aftercare . . . .(V42–V46,V52,V53.3–V53.7,V54–V58)	*	*	*	*	*	*	*	*	22,000	(3,621)	2.1	(0.3)

. . . Category not applicable.

† Estimate does not meet standards of reliability or precision because the sample size is between 30 and 59, or the sample size is greater than 59 but has a relative standard error of 30% or more.

* Estimate does not meet standards of reliability or precision because the sample size is fewer than 30.

[1]Based on *International Classification of Diseases, 9th Revision, Clinical Modification.*

[2]Chiefly responsible for the patient's admission to hospice care.

[3]Up to 16 diagnoses are recorded for each patient at discharge.

NOTE: Numbers may not add to totals, and percent distributions may not add to 100%, because of rounding and because the denominators for percent distributions may include a category of unknowns not reported in the table.

DATA SOURCE: CDC/NCHS, National Home and Hospice Care Survey, 2007.

Table 8. Advance care planning of annual hospice care discharges, by selected characteristics: United States, 2007

Characteristic	Number of advance care planning instruments (standard error)					Type of advance care planning instrument (standard error)					
	None	At least one	One	Two	Three or more	Living will	Durable power of attorney	DNR[1]	Health care proxy	Comfort measures	Other[2]
Total............................	11.6 (1.3)	88.4 (1.3)	36.1 (1.8)	25.4 (1.5)	26.9 (1.9)	25.3 (1.7)	36.4 (2.1)	80.2 (1.7)	15.9 (1.7)	11.5 (1.5)	11.6 (1.5)
Age[3]											
Under 65 years..................	18.7 (2.7)	81.3 (2.7)	39.9 (3.1)	21.0 (2.5)	20.4 (2.7)	19.0 (2.4)	30.5 (3.1)	71.9 (3.1)	12.9 (2.2)	7.0 (1.5)	10.5 (2.2)
65 years and over...............	10.2 (1.3)	89.8 (1.3)	35.3 (1.8)	26.3 (1.7)	28.3 (2.0)	26.6 (1.9)	37.6 (2.2)	81.8 (1.8)	16.5 (1.9)	12.5 (1.7)	11.8 (1.5)
65–74 years..................	16.1 (4.2)	83.9 (4.2)	40.4 (3.7)	21.7 (3.0)	21.9 (3.1)	21.5 (3.1)	27.0 (3.3)	74.8 (4.4)	16.0 (3.1)	10.3 (2.5)	11.4 (2.6)
75–84 years..................	11.4 (1.7)	88.6 (1.7)	34.5 (2.5)	25.4 (2.2)	28.7 (2.4)	25.1 (2.3)	36.3 (2.5)	82.5 (2.0)	16.4 (2.2)	11.3 (1.7)	11.6 (1.6)
85 years and over.............	6.9 (1.1)	93.1 (1.1)	33.8 (2.4)	28.8 (2.3)	30.5 (2.7)	29.8 (2.5)	42.9 (3.0)	84.2 (2.2)	16.9 (2.2)	14.2 (2.4)	12.2 (1.8)
Sex											
Male...........................	12.3 (1.5)	87.7 (1.5)	38.1 (2.2)	24.4 (1.9)	25.2 (2.2)	24.0 (2.1)	32.7 (2.5)	80.0 (2.0)	16.1 (2.2)	10.9 (1.5)	10.3 (1.5)
Female.........................	11.1 (1.5)	88.9 (1.5)	34.4 (2.1)	26.2 (1.9)	28.4 (2.1)	26.4 (2.0)	39.4 (2.4)	80.3 (2.0)	15.8 (1.8)	12.1 (1.8)	12.7 (1.7)
Hispanic or Latino origin											
Hispanic or Latino.............	*	*	81.9 (6.0)	47.8 (7.2)	*	*	†17.8 (5.0)	77.5 (5.9)	*	*	*
Not Hispanic or Latino.........	10.9 (1.2)	89.1 (1.2)	35.5 (1.8)	25.8 (1.6)	27.9 (2.0)	25.9 (1.8)	37.2 (2.2)	80.9 (1.6)	16.3 (1.8)	12.0 (1.6)	12.1 (1.5)
Unknown........................	*	*	77.9 (6.8)	†37.7 (7.9)	*	*	†36.2 (6.9)	65.4 (9.4)	*	*	*
Race											
White..........................	10.6 (1.3)	89.4 (1.3)	34.4 (1.8)	26.6 (1.6)	28.4 (2.0)	26.6 (1.8)	38.0 (2.2)	81.2 (1.7)	16.9 (1.8)	12.0 (1.6)	12.4 (1.5)
Black..........................	20.5 (4.6)	79.5 (4.6)	54.5 (4.7)	†13.3 (3.5)	†11.6 (2.7)	†10.6 (2.6)	†22.1 (4.6)	71.0 (5.1)	*	*	*
Other[4].......................	*	*	75.5 (7.3)	†42.8 (8.2)	*	*	*	†66.6 (7.4)	*	*	*
Living arrangements[5]											
Living alone...................	†10.7 (3.0)	89.2 (3.0)	44.6 (5.3)	23.1 (3.8)	21.4 (3.8)	23.5 (4.8)	38.7 (5.4)	74.8 (5.1)	†9.12 (2.6)	†9.5 (2.6)	†13.5 (3.7)
Living with others.............	12.1 (1.5)	87.9 (1.5)	36.4 (2.1)	23.7 (1.8)	27.7 (2.2)	26.8 (2.0)	35.9 (2.6)	78.8 (1.9)	16.2 (2.0)	11.8 (1.7)	10.6 (1.6)
Discharge status											
Deceased.......................	9.4 (1.2)	90.6 (1.2)	36.2 (2.0)	26.3 (1.6)	28.0 (2.0)	26.2 (1.9)	37.6 (2.2)	82.7 (1.7)	16.5 (1.9)	12.4 (1.6)	11.6 (1.5)
Not deceased...................	23.0 (3.9)	77.0 (3.9)	35.3 (3.2)	20.5 (2.8)	21.2 (2.5)	20.5 (2.5)	29.9 (3.3)	67.2 (4.2)	13.0 (2.0)	6.7 (1.6)	11.5 (2.2)
Ownership											
Proprietary....................	15.8 (2.9)	84.2 (2.9)	37.3 (3.4)	24.6 (3.4)	22.4 (2.9)	19.0 (2.5)	36.6 (3.7)	77.0 (3.3)	11.4 (2.2)	9.9 (2.3)	13.1 (2.5)
Voluntary nonprofit............	9.6 (1.3)	90.4 (1.3)	35.9 (2.1)	26.0 (1.6)	28.5 (2.4)	27.8 (2.2)	36.6 (2.7)	81.6 (2.0)	17.6 (2.3)	12.1 (2.0)	10.5 (1.8)
Government or other............	†14.9 (4.3)	85.0 (4.3)	21.8 (4.3)	17.9 (3.5)	45.4 (8.2)	40.7 (5.4)	†25.5 (7.8)	80.3 (4.1)	28.4 (5.8)	†17.6 (8.2)	†23.3 (10.0)
Chain affiliation											
Part of a chain................	17.8 (3.4)	82.2 (3.4)	34.6 (3.6)	27.4 (3.9)	20.2 (3.1)	16.8 (2.4)	37.9 (4.0)	75.1 (4.0)	10.0 (2.4)	8.9 (2.3)	12.1 (2.5)
Not part of a chain............	9.3 (1.1)	90.7 (1.1)	36.6 (2.0)	24.6 (1.5)	29.4 (2.3)	28.5 (2.1)	35.8 (2.5)	82.0 (1.7)	18.2 (2.1)	12.5 (1.9)	11.4 (1.8)
Certification											
Medicare and Medicaid..........	11.3 (1.3)	88.7 (1.3)	36.7 (1.8)	25.3 (1.6)	26.7 (2.0)	24.8 (1.8)	35.9 (2.2)	80.3 (1.7)	15.6 (1.8)	11.3 (1.5)	11.6 (1.5)
Medicare.......................	†11.6 (4.4)	88.3 (4.4)	29.4 (5.0)	30.4 (6.5)	†28.4 (7.9)	35.9 (7.2)	48.1 (8.6)	82.7 (6.6)	†20.1 (8.7)	*	*
Medicaid.......................	*	*	*	*	*	*	*	*	*	*	*
Not certified[6]...............	†32.3 (17.1)	67.7 (17.1)	*	*	†38.1 (12.0)	†21.5 (6.0)	*	61.7 (15.5)	*	*	*

See footnotes at end of table.

Table 8. Advance care planning of annual hospice care discharges, by selected characteristics: United States, 2007—Con.

Characteristic	Number of advance care planning instruments (standard error)					Type of advance care planning instrument (standard error)					
	None	At least one	One	Two	Three or more	Living will	Durable power of attorney	DNR[1]	Health care proxy	Comfort measures	Other[2]
Geographic region											
Northeast	†11.5 (4.0)	88.5 (4.0)	38.4 (4.5)	24.3 (3.4)	25.8 (5.4)	28.4 (4.9)	23.0 (6.4)	83.0 (4.3)	23.9 (4.6)	†11.7 (4.3)	10.8 (2.9)
Midwest	7.4 (2.1)	92.6 (2.1)	30.9 (3.9)	31.3 (3.4)	30.4 (3.9)	27.0 (3.4)	49.0 (4.2)	88.1 (2.3)	10.9 (2.6)	13.5 (3.2)	9.5 (2.7)
South	15.3 (2.0)	84.7 (2.0)	39.1 (2.6)	19.7 (1.9)	25.8 (3.1)	27.8 (2.8)	29.3 (2.8)	74.2 (2.5)	18.7 (3.2)	7.5 (2.2)	9.3 (2.7)
West	9.8 (2.4)	90.2 (2.4)	34.2 (3.8)	30.2 (4.0)	25.9 (3.4)	15.4 (2.7)	47.4 (4.5)	79.4 (4.6)	9.0 (2.2)	16.8 (3.3)	19.5 (3.0)
Location of agency											
Metropolitan statistical area[7]	11.7 (1.4)	88.3 (1.4)	36.6 (2.0)	25.4 (1.7)	26.3 (2.1)	24.5 (2.0)	35.9 (2.4)	80.5 (1.9)	16.2 (2.0)	11.1 (1.7)	11.0 (1.6)
Micropolitan statistical area[8]	11.2 (1.6)	88.8 (1.6)	32.2 (2.6)	25.7 (1.9)	30.9 (3.1)	31.2 (2.4)	39.3 (2.6)	76.6 (3.5)	12.8 (1.8)	14.3 (2.0)	14.9 (2.8)
Neither	11.2 (1.5)	88.7 (1.5)	32.3 (3.0)	23.9 (2.3)	32.6 (3.6)	31.5 (3.0)	40.4 (3.3)	80.3 (2.6)	17.6 (2.8)	14.2 (2.4)	18.0 (4.2)

* Estimate does not meet standards of reliability or precision because the sample size is fewer than 30.

†Estimate does not meet standards of reliability or precision because the sample size is between 30 and 59, or the sample size is greater than 59 but has a relative standard error of 30% or more.

[1]Do not rescucitate.

[2]Includes do not hospitalize/do not send to emergency department, feeding restrictions, medication restrictions, organ donation, and all other advance care planning requests not otherwise specified.

[3]Patient's age at time of discharge.

[4]Includes Asian, Native Hawaiian or Other Pacific Islander, American Indian or Alaska Native, and multiple races. All race categories include persons of Hispanic and non-Hispanic origin. Persons of Hispanic origin may be of any race.

[5]Respondents were not asked about the living arrangements of discharged hospice care patients who received care in an inpatient setting (37.4% of all discharges).

[6]Includes agencies pending certification.

[7]A county or group of contiguous counties that contains at least one urbanized area of 50,000 or more population. The area may also contain other counties that are economically and socially integrated with the central county, as measured by commuting.

[8]A nonmetropolitan county or group of contiguous nonmetropolitan counties that contains an urban cluster of 10,000–49,999 persons. The area may include surrounding counties if there are strong economic ties between the counties, based on commuting patterns.

NOTES: Numbers may not add to totals, and percent distributions may not add to 100%, because of rounding and because the denominators for percent distributions may include a category of unknowns not reported in the table. Respondents did not know about advance care planning for 47 discharged patients; these were assumed to have no advance care planning.

DATA SOURCE: CDC/NCHS, National Home and Hospice Care Survey, 2007.

Technical Notes

Findings presented in this report were based on data from the home health care patient and discharged hospice care patient components of the 2000 and 2007 National Home and Hospice Care Survey (NHHCS). NHHCS is a continuing series of cross-sectional, nationally representative sample surveys of home health and hospice care agencies in the United States. The survey includes agencies that are certified by Medicare or Medicaid, or licensed by a state. Data from NHHCS have been used to track changes in home health and hospice care provided to individuals and their family members since 1992.

Sample design

The sampling design for NHHCS was a stratified, two-stage probability design. The first stage consisted of the selection of a stratified sample of agencies. The primary sampling strata of agencies were defined by agency type, metropolitan statistical area (MSA) status, and census region in the 2000 survey. In contrast, agency type and MSA status were used to define the primary sampling strata in 2007. The second stage of sample selection was done using a sample selection table (in 2000) or a computer algorithm (in 2007) to obtain systematic probability samples of patients. In 2007, up to 10 current home health care patients were randomly selected per home health care agency, up to 10 discharged hospice care patients were randomly selected per hospice agency, and a combination of up to 10 current home health care patients and discharged hospice care patients were randomly selected per mixed agency. Current home health care patients were defined as patients who were on the rolls of the agency as of midnight of the day immediately before the agency interview. Discharged hospice care patients were defined as patients who were discharged from the hospice agency during the 3-month period beginning 4 months before the agency interview. Discharges that occurred because of the death of a sampled hospice patient were included.

Data collection

Data for NHHCS were collected through personal interviews with agency directors and staff who used administrative records to answer questions about the agencies, staffs, services, and programs, and medical records to answer questions about patients. The agency component of NHHCS interviews was completed for 1,425 agencies in 2000 and 1,036 in 2007. The first-stage agency unweighted response rate was 96% in 2000 and 71% in 2007. Starting with the 2007 NHHCS, the weighted response rate was calculated. The first-stage agency response rate weighted by the inverse of the probability of selection was 59%. The second-stage patient unweighted response rate was 95%, and the weighted response rate was 96% (8).

A detailed description of the sampling design, data collection, and procedures, including data collection forms for each survey year, is provided in other reports (8,15) and is available from: http://www.cdc.gov/nchs/nhhcs/nhhcs_questionnaires.htm.

Estimation

Because of the complex multistage design of NHHCS, the National Center for Health Statistics computed a weight that took all sampling stages into account. This weight was used to inflate the sample numbers to national estimates and included three basic components: inflation by reciprocals of selection probabilities, adjustment for nonresponse, and population ratio adjustment. Further information on NHHCS estimation procedures is available from: http://www.cdc.gov/nchs/data/nhhcsd/NHHCS_NHHAS_web_documentation.pdf.

Standard errors

Because the statistics presented in this report are based on a sample, they differ somewhat from statistics that would have been obtained if a complete census had been taken using the same schedules, instructions, and procedures. The standard errors (SEs) of statistics presented in this report are included in each table. The SEs used in this report were approximated using SUDAAN software, which computes SEs by using a first-order Taylor approximation of the deviation of estimates from their expected values. A description of the software has been published (11). Estimates are considered reliable if they are based on 60 or more sample cases and the relative standard error (RSE) is less than 30%. Estimates based on 30–59 cases, or based on more than 59 cases but with an RSE exceeding 30%, are displayed with a dagger (†) and cannot be assumed to be reliable. Estimates based on fewer than 30 cases [indicated with an asterisk (*)] are not reported because they do not meet standards of reliability or precision. SEs can be calculated for patient estimates using any statistical software package, including SUDAAN, as long as clustering within agencies and other aspects of the complex sample design are taken into account. Software products such as SAS, STATA, and SPSS all have these capabilities.

Definitions of terms

Terms relating to home health care patients and discharged hospice care patients

Home health care patient—A patient on the home health care agency's roster as of midnight the night before the interview. Weighted data represent the total number of home health care patients served each day in 2007.

Discharged hospice care patient—A patient who is formally discharged from care by the agency during the 3-month period prior to the month of interview. Both live and dead discharged hospice care patients are included. Persons receiving hospice care can be counted more than once if the patient was discharged more than once in the prior 12 months; therefore, discharged patients represent episodes of care rather than persons receiving hospice care. Weighted data represent the total

number of discharged hospice care patients in all of 2007.

Terms relating to agencies

Chain—Defined as having two or more agencies operating under one corporate authority or corporate ownership.

Certification—Refers to agency certification by either or both Medicare and Medicaid. Both programs can certify home health care agencies and hospices as meeting agency criteria for participation. If a certification status was pending, the agency was coded as not certified for the analyses in this report.

Geographic region—Refers to a region created by grouping the conterminous states into geographic areas corresponding to groups used by the U.S. Census Bureau:

Region	States included
Northeast	Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania
Midwest	Michigan, Ohio, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Kansas, and Nebraska
South	Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Texas, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, and Oklahoma
West	Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, California, Alaska, and Hawaii

Home health care—Refers to a range of medical and therapeutic services as well as other services delivered at a patient's home or in a residential setting for the purpose of promoting, maintaining, or restoring health, or maximizing the level of independence, while minimizing the effects of disability and illness, including terminal illness.

Hospice care—Focuses on relieving pain and uncomfortable symptoms of individuals with terminal illness and providing emotional and spiritual support to both the terminally ill and their family members.

Location—The locale of the agency providing services.

- *Metropolitan statistical area*—A county or group of contiguous counties that contain at least one urbanized area of 50,000 or more population. An MSA may contain other counties that are economically and socially integrated with the central county, as measured by commuting.
- *Micropolitan statistical area*—A nonmetropolitan county or group of contiguous nonmetropolitan counties that contains an urban cluster of 10,000–49,999 persons. Surrounding counties with strong economic ties, measured by commuting patterns, may also be included.
- *Neither location*—A location that falls outside of the two types of areas described previously.

Ownership—The type of organization that controls and operates the home health care or hospice care agency.

- *Proprietary or for-profit*—An agency operated under private commercial ownership, including individual or private ownership, partnerships, or corporations.
- *Voluntary nonprofit*—An agency operated under voluntary or nonprofit auspices, including a church or other nonprofit organization.
- *Government and other means*—An agency operated under federal, state, or local government and other auspices not specified.

Terms relating to characteristics

Age—The patient's age at the time of interview (for home health care patients) or at the time of discharge (for discharged hospice care patients). Age is calculated as the difference in years between the date of birth and the date of interview or discharge.

Deceased—Indicates whether the hospice care patient was deceased at time of discharge.

Hispanic or Latino origin—A person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race, as reported by agency staff.

Living arrangements—Indicates whether home health care and discharged hospice care patients lived alone or lived with others (spouse or significant other, parent, child, other family member, or nonfamily member) during the interview or at time of discharge. This question was not asked for discharged patients receiving hospice care in an inpatient facility (37.4% of all discharged patients).

Race—The patient's racial background as reported by agency staff. Categories include American Indian or Alaska Native; Asian; black or African American; Native Hawaiian or Other Pacific Islander; and white. Consistent with the U.S. Office of Management and Budget's 1997 *Standards for the Classification of Federal Data on Race and Ethnicity* (16), respondents could report more than one race category. The race categories listed in this report include white, black, and other. Other race includes Asian, Native Hawaiian or Other Pacific Islander, American Indian or Alaska Native, and multiple races. Only a small number of records had multiple races indicated.

Terms relating to health and functional status

Activities of daily living (ADLs) and staff help with ADLs—Refers to five limitations in activities (bathing, dressing, transferring, using the toilet room, and eating) that reflect the home health care patient's capacity for self-care. Staff help with ADLs is measured by the receipt of help from agency staff among those with one or more of the five limitations at the time of the survey.

Advance care planning—Verbal or written declarations by patients—made in advance of a situation in which they may be incompetent to decide about their own care—that state their treatment preferences or authorizing a third party to make decisions for them.

● *Advance directives*—Legal documents that include instructions given by persons specifying what actions should be taken for their health in the event that they are no longer able to make decisions due to illness or incapacity, and that appoint a person to make such decisions on their behalf.

  o *Living will*—A written document that allows a person to state in advance his or her wishes regarding the use or removal of life-sustaining or death-delaying procedures in the event of illness or injury.

  o *Durable power of attorney*—A written legal document by which an individual designates another person to act on his or her behalf. The power is durable in the sense that the authority endures in the event the individual becomes disabled or incapacitated.

  o *Health care proxy*—A legal document in which an individual designates another person to make health care decisions if he or she is rendered incapable of making his or her wishes known. The health care proxy has, in essence, the same rights to request or refuse treatment that the individual would have if capable of making and communicating decisions.

● *Do not resuscitate*—A written order from a doctor that resuscitation should not be attempted if a person suffers cardiac or respiratory arrest. Such an order may be instituted on the basis of an advance directive from the person or from someone entitled to make decisions on his or her behalf, such as a health care proxy.

● *Comfort measures*—Refers only to pain medications, nursing care, and treatments for the purpose of providing comfort and relieving pain only, not for curative purposes.

● *Other types of advance care planning instruments*—Include do not hospitalize or do not send to emergency department; feeding restrictions; medication restrictions; organ donation; and all other advance care planning requests not otherwise specified.

Chronic diseases—Usually long-term illnesses that are rarely curable. Chronic diseases tend to be costly health conditions that may affect a person's ability to function and remain in the community, and often can lead to death and disability (17). Chronic conditions were common among home health care patients in 2007, both for the primary admission diagnosis and for all diagnoses at time of interview.

Dementia—Coded using the following conditions (ICD–9 codes): Senile and presenile organic psychotic conditions (290), other organic psychotic conditions–chronic (294), and Alzheimer's disease (331.0).

Diagnoses—One or more diseases or injuries in the home health care or discharged hospice care patient's medical record. Diagnoses were recorded as:

● *Home health care patients*—Primary diagnosis at admission, primary diagnosis at time of interview, and up to 15 secondary diagnoses at time of interview.

● *Discharged hospice care patients*—Primary diagnosis at admission, primary diagnosis at time of discharge, and up to 15 secondary diagnoses at time of discharge.

Diagnoses were assigned five-digit codes, according to the *International Classification of Diseases, 9th Revision, Clinical Modification* (18):

  o *Primary admission diagnosis*—The primary medical condition at admission, as determined by the agency respondent who reported the information from the patient's and discharged patient's medical record.

  o *Primary diagnosis at interview and discharge*—A primary diagnosis at the interview for home health care patients and at discharge for hospice care patients. This diagnosis was listed in the medical record of each home health care patient or discharged hospice care patient.

  o *All listed diagnoses at interview and discharge*—Primary and secondary diagnoses (up to a maximum of 16) listed in the medical record of each home health care patient at interview and hospice care patient at discharge.

  o *Average number of all listed diagnoses at interview and discharge*—All primary and secondary diagnoses at the interview for home health care patients and at discharge for hospice care patients (up to a maximum of 16) were averaged.

Emergent care use—Refers to any urgent, unplanned medical care. This includes services at a hospital emergency room (including 23-hour holding); an outpatient department or clinic, including urgent care center sites; and a doctor's office emergency visit or house call. Emergent care use in the 60 days prior to the interview for home health care patients and discharge for hospice care patients was measured.

Length of service—The period of time from the date of the most recent admission to the date of interview (for home health care patients) or from the date of the most recent admission to the date of discharge (for hospice care patients).

Overnight hospital stay—Refers to whether a home health care patient had had an overnight hospital stay since admission to the home health care agency.

Primary source of payment—The single payment source that paid the greatest amount of the patient's charges at the time of the interview for home health care patients and at discharge for the hospice care patients. Four categories were constructed:

- *Private*—Includes private health insurance, long-term care insurance, and self-pay by self or family.
- *Medicare*—Payment received under the Medicare program.
- *Medicaid*—Payment received under the Medicaid program.
- *All other sources*—Tricare, Department of Veteran Affairs, ChampVA, worker's compensation, other government, no charge for care, other source, and payment source not yet determined.

Service use—Measured using three broad service types:

- *Core services* (19)—Included skilled nursing, bereavement, medical or social, pastoral or spiritual, physician, dietary, and volunteer services.
- *Noncore services*—Included personal care, homemaker, continuous home care, respite, and therapeutic (physical, occupational, and speech or auditory) services.

(Bereavement, pastoral or spiritual, dietary, personal care, and respite services included services received not only by the discharged hospice care patient but also his or her family members or friends.)

- *Any formal care services*—This included intravenous therapy, transfusions, tube feeding (including nasogastric and other enteral feedings), hyperdermclysis, total parenteral nutrition or TPN, respiratory therapy, radiation therapy, chemotherapy, and palliative sedation.

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