Trends and patterns in place of death for Medicare enrollees

by Alma McMillan, Renee M. Mentnech, James Lubitz, A. Marshall McBean, and Delores Russell

Two changes in the Medicare program in 1983 may have affected where aged persons die—the change from retrospective hospital reimbursement to the prospective payment system and passage of the Medicare hospice benefit. Patterns and trends in where people die—hospitals, other institutions such as nursing homes, decedents' homes, and other places—for persons 65 years of age or over from 1980 through 1986 are examined. The proportion of deaths in hospitals declined somewhat after implementation of prospective payment. The hospice benefit may have caused the shift among cancer patients away from hospital deaths toward deaths at home.

Introduction

In the past several years, interest in medical care services rendered to the dying has increased (Lubitz and Prihoda, 1984; Scitovsky, 1984; McCall, 1984). Part of this interest has been focused on where people die: hospitals, nursing homes, at home, or other places. There has been concern about the "institutionalization" of death, that is, concern that care for the dying, in some cases, may be centered too much around cure-oriented services provided in hospitals. Some believe that, in many instances, patient well-being may be better served by a change in emphasis to supportive services rendered outside the hospital. Additionally, there is concern about the "warehousing" of older persons in nursing homes until they die. To some extent, the place of death gives an indication of our society's attitude toward old age and death.

There is also interest in place of death from a cost perspective. In studies of the costs of health care before death, it has been shown that the majority of these costs are for hospital care (Lubitz and Prihoda, 1984; Riley et al., 1987). This has led to a concern about what has been termed "the high cost of dying" (Ginzberg, 1980). Changes in the way that hospitals are used to care for the dying will affect costs. For example, Sager et al. (1989) state that anecdotal evidence collected by the Senate Special Committee on Aging implied that "some hospitals had attempted to control costs by reducing services and by transferring the terminally ill to alternative settings." In the Sager study, it was found that the prospective payment system (PPS) resulted in transfer of the terminally ill from hospitals to nursing homes.

The two changes in the Medicare program in 1983 that may have affected place of death for aged persons are the change in hospital reimbursement from a retrospective cost basis to a per-case payment under PPS and the passage of the Medicare hospice benefit. The PPS per-case payment provided an incentive for hospitals to reduce length of stay by earlier discharge of patients. Thus, PPS may have served to reduce the number of deaths occurring in hospitals. Additionally, the Medicare hospice benefit, a product of a societal belief that there should be alternatives in care for the dying, provided reimbursement for hospice care in a variety of settings, such as in the home, hospital, or nursing home. Use of this new benefit may also contribute to a reduction in the number of deaths occurring in hospitals.

Reprint requests: Alma McMillan, 2504 Oak Meadows Building, 6325 Security Boulevard, Baltimore, Maryland 21207.

Earlier data

Detailed national data on where people die were available from the national vital statistics system for the period 1949-58 and were not available again until 1979. Lerner (1970) found a steady increase in the proportion of deaths occurring in hospitals, from 39.5 percent in 1949 to 47.6 percent in 1958, as well as in the proportion occurring in nursing homes, from 1.6 percent to 6.0 percent over the same period.

The percent of deaths occurring in hospitals during the period 1965-79 can be estimated from data from the National Hospital Discharge Survey, conducted by the National Center for Health Statistics (NCHS), and from mortality statistics published by NCHS. For persons 65 years of age or over, the proportion of deaths occurring in hospitals is estimated to have fluctuated from about 43 to 48 percent from 1965 to 1977 and to have reached 50 percent in 1979. Thus, the available data indicate an increase in the proportion of people dying in hospitals beginning by at least the late 1940s.

The purpose of this article is to examine patterns and trends in place of death for persons 65 years of age or over from 1980 through 1986, the last year for which data are available. The focus of this report is on changes in the proportion of deaths in hospitals, other institutions such as nursing homes, and other places such as decedents' homes and doctors' offices. In particular, patterns and trends in place of death are examined by age, marital status, geographic location, and selected causes of death during the periods before implementation of PPS and after implementation.

Sources of data

The mortality data used in this article come from NCHS. Data for 1980-86 are from the Vital Statistics of the United States Public Use Data Tape, Mortality Detail. Data for 1979 come from *Vital Statistics of the United States, 1979, Volume II, Mortality, Part A* (National Center for Health Statistics, 1984). Data for 1979 are shown only in Table 1 because the detailed data for 1980-86 shown in the other tables were not available from the 1979 published data. NCHS collects mortality data from the 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, and Guam through the National Vital Statistics System. Most States provide

Table 1

Number of deaths for persons 65 years of age or over and percent distribution and average annual percent change, by place of death: 39 reporting States, 1979-86

Year	Number of deaths	Place of death: All places	Hospital inpatient	Nursing homes[1]	Decedents' homes[2]	All other places[3]
			Percent distribution			
1979	901,992	100.0	54.5	18.8	15.4	11.3
1980	950,923	100.0	55.1	18.5	15.2	11.2
1981	950,672	100.0	55.6	18.3	15.3	10.8
1982	956,786	100.0	55.6	18.1	15.5	10.8
1983	995,866	100.0	54.7	18.8	15.8	10.8
1984	1,006,222	100.0	52.5	20.2	16.5	10.8
1985	1,037,281	100.0	51.5	20.9	17.0	10.7
1986	1,052,790	100.0	51.3	20.6	17.4	10.6
			Average annual percent change			
1980-83[4]	—	—	−0.2	0.6	1.3	−1.2
1983-86	—	—	−2.1	3.2	3.3	−0.6

[1] Includes deaths in long-term care and psychiatric centers, but primarily deaths in nursing homes.
[2] Includes deaths in doctors' offices, but primarily deaths in decedents' homes.
[3] Includes dead on arrival at hospital or medical center and place unknown.
[4] Computed from 1980, rather than 1979, to be consistent with other tables.

NOTE: Data are for the 39 States that have reported data on place of death since 1979.

SOURCES: 1979 data: (National Center for Health Statistics, 1984); 1980-86 data: National Center for Health Statistics: Vital Statistics of the United States Public Use Data Tape, Mortality Detail.

NCHS with computer tapes of data coded according to NCHS specifications.

Not all of the 50 States are included in the data presented here. For consistency in analyzing trends, only deaths in the 39 States that have reported place of death (item 7d on the death certificate or its equivalent) since 1979 are included in this analysis. In 1986, deaths in these 39 States accounted for about 71 percent of total deaths in the Nation for the population 65 years of age or over. Information from item 7d is used to identify whether the death occurred in the inpatient hospital, outpatient or emergency room, dead on arrival, or other institution.

Eleven States—Alabama, California, Connecticut, Delaware, Louisiana, Maryland, Massachusetts, Minnesota, Oklahoma, Texas, and Washington—and the District of Columbia were not included. In 1979, these 12 areas reported the name of the hospital or other institution in which death occurred but did not specify whether inpatient, outpatient, or emergency room. Although not included in this analysis, several of these States began reporting place of death (item 7d) after 1979. In 1980, the State of Washington provided this information; in 1982, Connecticut and Louisiana; and in 1985, Minnesota. Deaths are reported by the State where the death occurred; thus, some deaths of residents of other States or territories are included.

NCHS codes place of death as follows:

- Hospital, clinic, or medical center—inpatient (1).
- Hospital, clinic, or medical center—outpatient or admitted to emergency room (2).
- Hospital, clinic, or medical center—dead on arrival (3).
- Hospital, clinic, or medical center—patient status unknown (4).
- Hospital, clinic, or medical center—patient status not on certificate (5).
- Other institutions providing patient care (6).
- All other reported entries (7).
- Dead on arrival—hospital, clinic, or medical center name not given (8).
- Hospital and patient status not stated (9).

For the purpose of this analysis, these codes were grouped as hospital inpatient (code 1); nursing homes (code 6); decedents' homes (code 7); and all other places (codes 2-5, 8, and 9). The first three categories accounted for nearly 90 percent of total deaths for the aged population. The hospital inpatient group includes any patient who died in an inpatient hospital setting. The nursing homes group comprises predominantly nursing home patients but includes deaths of persons residing in psychiatric centers and long-term care centers such as retirement centers, old age homes, convalescent homes, and rest homes. The decedents' homes group predominately comprises deaths in the home but includes deaths in doctors' offices and prisons.

Marital status is coded as married, widowed, divorced, and never married. The latter three categories were combined into an unmarried group. Deaths for the three leading causes—diseases of the heart, cancer, and cerebrovascular disease—analyzed separately in this article, are classified by NCHS in accordance with the *Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death, Based on the Recommendations of the Ninth Revision Conference,* or ICD-9 (World Health Organization, 1977).

Findings

Trends in place of death

A total of 950,923 persons 65 years of age or over died in the 39 study States during 1980; the number of deaths had increased to 1,052,790 by 1986 (Table 1). In recent years, more than one-half of the deaths among persons 65 years of age or over have occurred in the

Table 2

Number of deaths for persons 65 years of age or over, percent distribution by place of death, and average annual percent change in the proportion of deaths occurring in hospital inpatient setting, by region: 39 reporting States, 1986

Region	Number of deaths	Place of death					Average annual percent change in hospital inpatient deaths	
		All places	Hospital inpatient	Nursing homes[1]	Decedents' homes[2]	All other places[3]	1980-83	1983-86
		Percent distribution						
Total	1,052,790	100.0	51.3	20.6	17.4	10.6	−0.2	−2.1
Northeast	290,363	100.0	54.4	17.4	18.4	9.8	−0.3	−0.8
North Central	363,575	100.0	49.0	26.0	14.2	10.8	−0.2	−2.7
South	314,767	100.0	53.0	16.2	19.0	11.8	−0.2	−2.2
West	84,085	100.0	44.2	25.4	21.9	8.5	−0.9	−4.0

[1] Includes deaths in long-term care and psychiatric centers, but primarily deaths in nursing homes.
[2] Includes deaths in doctors' offices, but primarily deaths in decedents' homes.
[3] Includes dead on arrival at hospital or medical center and place unknown.

NOTE: Data are for the 39 States that have reported place of death since 1979.

SOURCE: National Center for Health Statistics: Vital Statistics of the United States Public Use Data Tape, Mortality Detail.

hospital inpatient setting, about one-fifth in nursing homes, and about one-sixth in decedents' homes. In the years just preceding implementation of PPS (1980-83), the proportion of deaths occurring in the hospital inpatient setting was relatively constant, ranging from 55.1 percent in 1980 to 55.6 percent in 1982 and dropping slightly to 54.7 percent in 1983, or an average annual percent decrease of 0.2 percent. The proportion of deaths in nursing homes declined slightly each year from 1980 to 1982, dropping from 18.5 to 18.1 percent. This decline was offset by a rise to 18.8 percent in 1983. The proportion of deaths occurring in decedents' homes rose slightly during this period, an average annual increase of 1.3 percent.

After implementation of PPS in October 1983, the proportion of deaths occurring in the hospital inpatient setting began to decline, falling from 55.1 percent in 1980 to 51.3 percent by 1986. Most of the shift in place of death from hospitals was to nursing homes, for which the proportion rose from 18.8 percent in 1983 to 20.6 percent in 1986, or an average annual increase of 3.2 percent. Deaths in decedents' homes also increased in the post-PPS period, rising from 15.8 percent of total deaths in 1983 to 17.4 percent in 1986, or an average annual increase of 3.3 percent.

In Table 2, place of death in 1986 is shown by region for the 39 States reporting place of death in 1979. Nationally, deaths occurring in the hospital inpatient setting, which declined 0.2 percent per year from 1980 to 1983, declined more steeply during the period 1983-86, by 2.1 percent per year. Of the 39 reporting States, only New York and New Jersey were not subject to PPS during the entire post-PPS period, 1983-86.

There was some variation in the pattern of inpatient hospital deaths among the regions, although each region had a slight decline in the pre-PPS period and a greater decline in the post-PPS period. The greatest change was in the West, where the proportion of hospital inpatient deaths declined 0.9 percent per year in the pre-PPS period, 1980-83, and 4.0 percent annually in the post-PPS period, 1983-86. The Northeast, which had the largest proportion (54.4 percent) of hospital inpatient deaths in 1986, had the least decline (0.8 percent annually) in the post-PPS period. In the South, 53.0 percent of deaths in 1986 were hospital inpatient deaths, and the proportion declined 2.2 percent annually during the post-PPS period.

Age and marital status

Place of death for persons 65 years of age or over in 1986 is shown by age and marital status in Table 3. The proportion of deaths occurring in the hospital inpatient setting, decedents' homes, and all other places decreased as age increased. This pattern held true for both married and unmarried persons.

As may be expected, the proportion of persons who died in nursing homes increased as age increased for both the married and unmarried. The increase in nursing home deaths with advancing age reflects the increase with age in the percent of the population living in nursing homes. This, in turn, is related to the increased percent of widows in older age groups, who make up a large percent of nursing home residents (Hing, 1987). A detailed examination of the relationships among place of death, demographic variables, and living arrangements would require multivariate analyses of data from a file containing all of these variables on a person basis.

Married persons had a greater proportion of inpatient hospital deaths than unmarried persons had. In 1986, 56.2 percent of total deaths of married persons occurred in the hospital inpatient setting, compared with 47.9 percent of deaths of unmarried persons (Table 3). In contrast, married persons had a smaller proportion of deaths in nursing homes (11.3 percent) than unmarried persons had (27.2 percent). As mentioned, patterns by place of death reflect patterns in the proportion of the aged population residing in nursing homes by marital status and age.

There was a small decline for most age groups in the percent dying in the inpatient hospital setting from 1980 to 1983. By age, the changes ranged from an annual decline of 0.4 percent for persons 85 years of age or over to a 0.1-percent annual increase for persons 65-74 years

Table 3

Number of deaths for persons 65 years of age or over, percent distribution by place of death, and average annual percent change in the proportion of deaths occurring in hospital inpatient setting, by marital status and age: 39 reporting States, 1986

Marital status and age	Number of deaths	Place of death					Average annual percent change in hospital inpatient deaths	
		All places	Hospital inpatient	Nursing homes[1]	Decedents' homes[2]	All other places[3]	1980-83	1983-86
		Percent distribution						
Total	1,052,790	100.0	51.3	20.6	17.4	10.6	−0.2	−2.1
65-74 years	344,188	100.0	57.0	8.5	20.2	14.3	0.1	−1.6
75-84 years	407,770	100.0	52.9	19.0	17.6	10.5	−0.2	−2.0
85 years or over	300,832	100.0	42.6	36.7	14.0	6.6	−0.4	−2.5
Married	431,277	100.0	56.2	11.3	19.1	13.4	−0.2	−2.1
65-74 years	204,062	100.0	58.5	5.9	19.7	15.9	−0.1	−1.8
75-84 years	172,602	100.0	55.6	13.5	18.9	12.0	−0.3	−2.2
85 years or over	54,613	100.0	49.8	24.4	17.6	8.2	−0.4	−2.7
Unmarried[4]	618,530	100.0	47.9	27.2	16.2	8.7	−0.4	−2.0
65-74 years	138,921	100.0	54.8	12.4	20.8	12.0	0	−1.5
75-84 years	234,044	100.0	51.0	23.1	16.7	9.3	−0.1	−1.9
85 years or over	245,565	100.0	41.0	39.5	13.2	6.3	−0.5	−2.4

[1] Includes deaths in long-term care and psychiatric centers, but primarily deaths in nursing homes.
[2] Includes deaths in doctors' offices, but primarily deaths in decedents' homes.
[3] Includes dead on arrival at hospital or medical center and place unknown.
[4] Includes never married, divorced, and widowed.

NOTE: Data are for the 39 States that have reported place of death since 1979.

SOURCE: National Center for Health Statistics: Vital Statistics of the United States Public Use Data Tape, Mortality Detail.

Table 4

Number of deaths from cancer, diseases of the heart, and cerebrovascular disease for persons 65 years of age or over and percent distribution by place of death, by age: 39 reporting States, 1986

Disease category[1] and age	Number of deaths	Place of death				
		All places	Hospital inpatient	Nursing homes[2]	Decedents' homes[3]	All other places[4]
Cancer				Percent distribution		
Total	215,860	100.0	55.5	17.5	22.4	4.6
65-74 years	102,866	100.0	61.1	10.6	23.2	5.1
75-84 years	81,766	100.0	53.0	19.8	22.7	4.5
85 years or over	31,228	100.0	43.3	33.8	19.2	3.7
Diseases of the heart						
Total	445,670	100.0	43.4	19.7	20.1	16.8
65-74 years	130,249	100.0	46.4	5.5	22.7	25.4
75-84 years	172,568	100.0	46.6	16.1	20.7	16.6
85 years or over	142,853	100.0	36.9	36.9	17.0	9.2
Cerebrovascular disease						
Total	89,869	100.0	54.3	32.0	8.9	4.7
65-74 years	20,044	100.0	71.3	15.2	7.4	6.0
75-84 years	36,346	100.0	57.3	29.2	8.7	4.8
85 years or over	33,479	100.0	40.9	45.1	10.1	3.8

[1] *The International Classification of Diseases, 9th Revision,* codes for the disease categories are as follows: cancer, 140-208; diseases of the heart, 390-398, 402, and 404-429; cerebrovascular disease, 430-438.
[2] Includes deaths in long-term care and psychiatric centers, but primarily deaths in nursing homes.
[3] Includes deaths in doctors' offices, but primarily deaths in decedents' homes.
[4] Includes dead on arrival at hospital or medical center and place unknown.

NOTE: Data are for the 39 States that have reported place of death since 1979.

SOURCE: National Center for Health Statistics: Vital Statistics of the United States Public Use Data Tape, Mortality Detail.

of age. In the post-PPS period (1983-86), declines occurred within all age groups. For persons 85 years of age or over, the percent dying in the hospital declined 2.5 percent per year; for persons 65-74 years of age, there was a 1.6-percent annual decline.

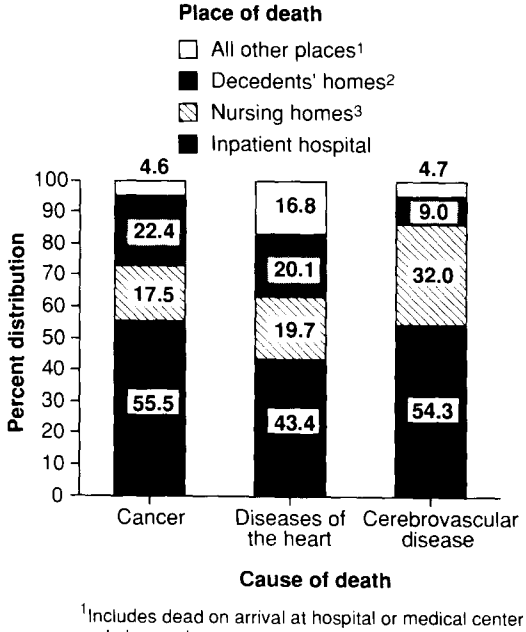
Cause of death

Data on the place of death for the three most common causes of death—cancer, diseases of the heart, and cerebrovascular disease—are shown in Table 4 by age group for 1986. These three causes accounted for 71 percent of all deaths of persons 65 years of age or over in 1986. In 1986, more than one-half of the deaths from cancer (55.5 percent) and cerebrovascular disease (54.3 percent) were in hospital inpatient settings. A much smaller proportion (43.4 percent) of deaths from diseases of the heart were in that setting (Figure 1).

The distribution of deaths across settings by cause of death reflects specific disease characteristics. The smaller proportion of inpatient hospital deaths for diseases of the heart than for cancer and cerebrovascular disease is possibly related to the frequently sudden nature of deaths from diseases of the heart. Deaths from diseases of the heart are more likely than deaths from cancer and cerebrovascular disease to occur before reaching the hospital or in emergency rooms. The data for 1986 illustrate this. The proportion of deaths in "all other places"—a category that includes dead on arrival and emergency room deaths—was much higher for diseases of the heart (16.8 percent) than for cancer (4.6 percent) and cerebrovascular disease (4.7 percent).

Figure 1

Percent distribution of deaths from cancer, diseases of the heart, and cerebrovascular disease for persons 65 years of age or over, by place of death: 39 reporting States, 1986



[1]Includes dead on arrival at hospital or medical center and place unknown.
[2]Includes deaths in doctors' offices, but primarily deaths in decedents' homes.
[3]Includes deaths in long-term care and psychiatric centers, but primarily deaths in nursing homes.

NOTE: Data are for the 39 States that have reported place of death since 1979.

SOURCE: National Center for Health Statistics: Vital Statistics of the United States Public Use Data Tape, Mortality Detail.

Less than one-fifth of deaths from cancer (17.5 percent) and diseases of the heart (19.7 percent) were in nursing homes, compared with about one-third (32.0 percent) of deaths from cerebrovascular disease. As expected, the proportion of deaths that occurred in nursing homes increased as age increased for each of these disease categories. A relatively small proportion of deaths from cerebrovascular disease (8.9 percent) occurred in decedents' homes, compared with the proportions for cancer (22.4 percent) and diseases of the heart (20.1 percent). Cerebrovascular disease may result in severe cognitive impairment, debilitation, and an inability to perform activities of daily living. Because of this dependent state, institutionalization is probably more likely with this disease than the other two diseases.

For all three causes, the differences among the age groups in the percent dying at home were not as great as the differences among the age groups in the percent dying in the hospital and nursing homes. Moreover, the pattern by age was not the same for all three diseases. The proportion of deaths at home declined as age increased for cancer and diseases of the heart but rose with advancing age for cerebrovascular disease.

From 1980 to 1983, the proportion of deaths that occurred in the hospital inpatient setting declined 1.4 percent per year for cancer; remained unchanged for diseases of the heart; and declined slightly (0.2 percent) for cerebrovascular disease, as shown in Table 5. For each of the three disease categories, the proportion of deaths that occurred in nursing homes increased slightly from 1980 to 1983. Deaths from cancer in decedents' homes had a notable increase of 7.1 percent per year from 1980 to 1983; the proportion of deaths in decedents' homes from diseases of the heart declined slightly (0.2 percent per year) during that period. The proportion of deaths in decedents' homes from cerebrovascular disease had an average annual increase of 0.9 percent.

In the post-PPS period (1983-86), the average annual percent change in the proportion of hospital inpatient deaths declined for each of the disease categories and for all age groups. For cancer patients, the 4.6-percent annual decline in the proportion of hospital inpatient deaths was accompanied by a 10.8-percent annual increase in the proportion of deaths in decedents' homes and a 5.0-percent increase in nursing home deaths. For diseases of the heart, the 1.8-percent annual decline in the proportion of hospital inpatient deaths was accompanied by a 2.8-percent annual increase in deaths in nursing homes and a 1.2-percent increase per year in deaths in decedents' homes. For cerebrovascular disease, the 1.5-percent annual decline in hospital inpatient deaths was accompanied by a 2.7-percent annual increase in deaths in nursing homes and a 1.1-percent increase per year in deaths in decedents' homes. Figure 2 is a graphic presentation of the distribution of deaths by place of death for both the pre- and post-PPS periods.

Table 5

Average annual percent change in deaths from cancer, diseases of the heart, and stroke for persons 65 years of age or over, by place of death and age: 39 reporting States, 1980-83 and 1983-86

Disease category[1] and age	1980-83				1983-86			
	Hospital inpatient	Nursing homes[2]	Decedents' homes[3]	All other places[4]	Hospital inpatient	Nursing homes[2]	Decedents' home[3]	All other places[4]
	Average annual percent change							
Cancer								
Total	−1.4	0.5	7.1	−3.0	−4.6	5.0	10.8	0.3
65-74 years	−1.1	−1.1	7.2	−2.8	−4.2	6.4	11.5	0.4
75-84 years	−1.6	0.3	7.5	−2.7	−4.9	4.7	10.9	0.4
85 years or over	−1.9	1.3	5.8	−3.6	−5.0	3.4	7.8	0.3
Diseases of the heart								
Total	0.0	0.6	−0.2	−0.4	−1.8	2.8	1.2	0.2
65-74 years	0.4	0.0	−0.9	0.0	−0.6	1.1	0.6	0.4
75-84 years	0.2	−1.2	0.6	0.0	−1.5	1.8	1.4	1.2
85 years or over	−0.5	0.5	0.1	0.2	−3.0	2.0	2.5	0.9
Cerebrovascular disease								
Total	−0.2	0.2	0.9	−0.6	−1.5	2.7	1.1	−1.3
65-74 years	0.6	−2.2	−1.3	0.9	−0.1	1.6	−1.1	−1.5
75-84 years	0.2	−0.4	1.4	−2.5	−1.3	2.3	1.0	0.3
85 years or over	−0.8	0.5	1.3	1.3	−2.7	2.5	1.9	−2.7

[1] *The International Classification of Diseases, 9th Revision*, codes for the disease categories are as follows: cancer, 140-208; diseases of the heart, 390-398, 402, and 404-429; cerebrovascular disease, 430-438.
[2] Includes deaths in long-term care and psychiatric centers, but primarily deaths in nursing homes.
[3] Includes deaths in doctors' offices, but primarily deaths in decedents' homes.
[4] Includes dead on arrival at hospital or medical center and place unknown.

NOTE: Data are for the 39 States that have reported place of death since 1979.

SOURCE: National Center for Health Statistics: Vital Statistics of the United States Public Use Data Tape, Mortality Detail.

Discussion

The data presented in this article indicate that there was a modest decline in the proportion of deaths among the aged that occurred in the hospital inpatient setting after the implementation of PPS. This was accompanied by greater proportions of deaths in nursing homes and at home. The pattern may reflect changes in providers' decisions about what constitutes an appropriate place of death for the very old.

Proportionately more married than unmarried aged persons died in hospitals, whereas the proportion dying in nursing homes was greater among the unmarried. Married individuals have the support of a spouse and are therefore less likely to be residing in a nursing home (Hing, 1987). This difference between married and unmarried persons 65 years of age or over became more marked as age increased.

During the post-PPS period, there was a decline in the proportion of hospital inpatient deaths for each of the three major causes of death and an increase in deaths in nursing homes and at home. The greatest percent change was the increase in deaths at home among cancer patients.

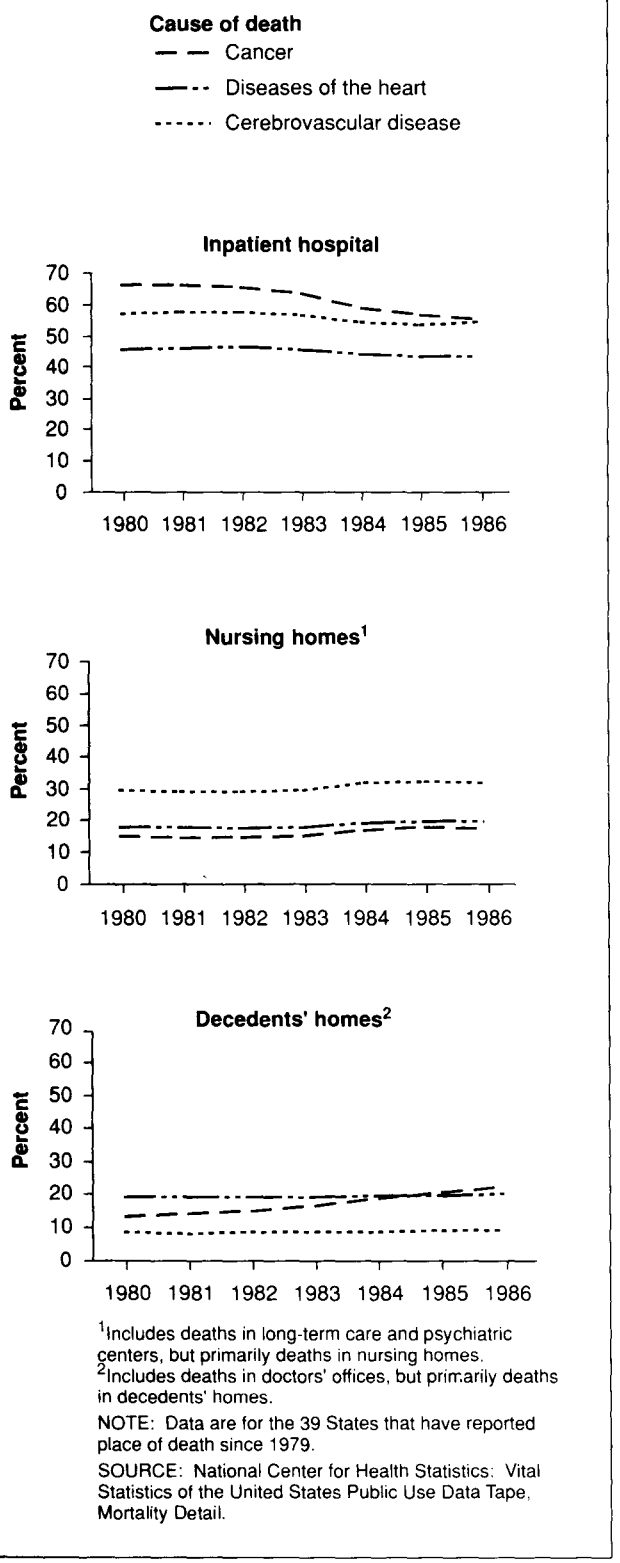
Sager et al. (1989) concluded that the use of hospices did not contribute to a shift in place of death. Our analyses, in which we looked at shifts in places of death by cause of death, suggest otherwise. In assessing the possible impact of hospice use on shifts in place of death, one should focus on cancer deaths only, because about 94 percent of all hospice patients have cancer (Davis, 1988). A large increase is evident in the percent of cancer deaths occurring at home in both the pre- and post-PPS periods, but only small changes occurred in the percent of at-home deaths for heart disease and stroke. We also noted larger post-PPS declines in the percent of hospital inpatient deaths for cancer than for the two other major causes. This is consistent with a possible hospice effect, as the hospice movement was gaining strength in this period. The number of hospices grew from 235 in 1980 to about 1,700 in 1985 (Kidder, Merrell, and Dohan, 1989). The Medicare hospice benefit did not start until 1983. However, before the benefit began, Medicare beneficiaries could have used noncertified hospices and been reimbursed for Medicare covered services under the home health agency or skilled nursing facility benefits, just as presently they may use noncertified hospices and be reimbursed for some services.

It may be expected that the percent of total cancer deaths occurring in nursing homes and at home will become even greater as the hospice benefit becomes more generally available and used. The increase in the number of Medicare-certified hospices may help to promote use of the hospice benefit. To illustrate, at the end of the first year of the hospice benefit, there were 119 Medicare-certified programs; by 1985, there were 246 certified hospices; and by 1987, the number had increased to 433 (Kidder, Merrell, and Dohan, 1989; Davis, 1988).

In summary, the primary objective of this investigation was to gain insight into the use of various health facilities

Figure 2

Percent of deaths from cancer, diseases of the heart, and cerebrovascular disease for persons 65 years of age or over, by place of death: 39 reporting States, 1980-86



[1]Includes deaths in long-term care and psychiatric centers, but primarily deaths in nursing homes.
[2]Includes deaths in doctors' offices, but primarily deaths in decedents' homes.

NOTE: Data are for the 39 States that have reported place of death since 1979.

SOURCE: National Center for Health Statistics: Vital Statistics of the United States Public Use Data Tape, Mortality Detail.

before and after the institution of PPS as measured by place of death. The distribution of deaths across settings is important because it has significant implications for the overall cost of delivering health care and because it reflects, to some extent, our society's view of the role of hospital care for dying patients. Trends reported here should be followed to see if they are a one-time response or a reflection of changing economic incentives and societal beliefs about the hospital as a place of death.

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