U.S. Department of Health and Human Services
Assistant Secretary for Planning and Evaluation
Office of Disability, Aging and Long-Term Care Policy

MEDICARE'S HOSPICE BENEFIT:

USE AND EXPENDITURES, 1996 COHORT

March 2000

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INTRODUCTION

This report presents information on Medicare's hospice benefit -- who is using it, how it is being used, what costs are associated with its use, what costs precede hospice enrollment and how these vary by type of enrollee. This information will be important for understanding the role of Medicare's hospice benefit in the context of the other benefits Medicare provides to one of the program's most expensive populations -- the terminally ill -- and understanding whether the current policies meet the needs of the population enrolling in hospice. Also included are snapshot contrasts of two groups of enrollees -- those who were enrolled in HMOs or on Medicaid at least once during the 12 months between July 1995 and July 1996.

This report is intended to provide background information on the overall Medicare hospice population. ASPE originally initiated this study to better understand the use of hospice by dually-covered hospice enrollees in nursing facilities and this report provides the contrast for the nursing facility-based enrollee discussed in the two next reports in this study. Questions have been raised about whether hospice patients who live in nursing facilities are on the benefit for a longer time, receive different services, or otherwise use it differently than those residing in the community. This report describes the benefit's use by all enrollees in 1996.

Hospice is not a widely-used benefit. Medicare insures over 38 million beneficiaries; almost 88 percent are 65 years or older. Only five percent of the aged beneficiaries died in 1996 and only about 18 percent of them were enrolled in hospice prior to death.

Hospice is also a different kind of benefit. The expected outcome is death rather than restoration of health. The "treatment" goal is to manage the patients' dying process and provide counseling and bereavement services to the patient and family members instead of curing the patient. Hospice providers apply different standards for managing pain and other symptoms than are typical in acute care. This, along with the greater emphasis on integrated care management, more extensive personal care services, and the spiritual counseling that is provided to enrollees prior to death and to family members prior to and for a year following death, distinguishes the hospice benefit from other Medicare benefits. Beneficiaries have to waive their right to other Medicare-covered treatments for their terminal illness to receive the palliative care offered by hospice.

This focus on palliative care also affects the definitions of appropriate use, access to care, and cost-effectiveness in hospice relative to other Medicare benefits. Physicians may be less likely to recommend this course of "treatment." Once on hospice, nurses and other providers must refocus their care from restoring patient health to making them more comfortable. Hence, unlike the overutilization concerns with the rest of the Medicare benefits, inappropriate use in hospice may refer to underutilization problems. Barriers to access are more likely because of the negative connotations associated with dying instead of curing. Physicians must discuss the patient's preferences to waive treatment and then certify that death is expected within six months of enrollment. And cost reduction is related to the difference in providing relatively passive, less expensive comfort care in place of intensive, sometimes desperate high cost treatments for terminally ill patients. While this report can not address the question of appropriate use, it can provide information on the types of beneficiaries who enroll in Medicare's hospice benefit, how they are using it, and how this may be related to other public policies.

DATA AND METHODS

This study uses 1996 and 1997 Medicare claims for beneficiaries who enrolled in Medicare's hospice benefit in 1996 (sample = 349, 229 enrollees). Beneficiary-level files were constructed from inpatient, outpatient, skilled nursing facility, home health agency and hospice claims for each beneficiary as of January 1, 1996 and continuing through December 31, 1997. Payment and use estimates from physician and Part B claims, including DME, were not included in this study.[1] Demographic and insurance variables for each hospice user were obtained from the July 1, 1996 Medicare Denominator file. Files were merged by beneficiary health insurance master claim numbers. The final analytic files provide near complete Medicare claims information for 1996 and 1997 for the population having at least one hospice claim in 1996.[2]

Sample

The sample was restricted to beneficiaries whose first hospice benefit period began on or after January 1, 1996. Cases were excluded if the "from" date on the first claim preceded January 1, 1996, the benefit period on the first claim was greater than 1, the total Medicare payments equaled "0", or the hospice provider was outside the 50 states or the District of Columbia. This resulted in a study sample of 317,198 beneficiaries. Claims were edited to exclude duplicate claims. Beneficiary-level files were constructed for this cohort (1996 hospice enrollment) to measure total per person utilization by each type of service for the 2-year study period (1996 and 1997).

Complete information on hospice payments and use and Medicare payments and use in the 6 months preceding hospice enrollment are presented for the 1996 hospice cohort. Medicare payments and use in the six months prior to each beneficiary's hospice enrollment is limited to beneficiaries whose first claim was on or after July 1, 1996 (n=146,572).

Hospice payment and use levels also are contrasted for two other subgroups of enrollees: those who had Medicaid buyin coverage at least once and those who were enrolled in an HMO at least once during the 12 month period preceding July 1, 1996. These variables were tested for statistically significant differences at the .01 level or less between both pairs of contrast groups. They are used as control measures in the multivariate analyses predicting total hospice payments and use.

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[1] Physician claims were excluded due to difficulties accessing data.

[2] Omitted were Part B payments for physician services not covered by the hospice, i.e., non-hospice physician services.

Variables

This study presents information on hospice enrollees' demographic and insurance characteristics and their utilization and program payment levels. Included are beneficiary age in July 1996, and categorical measures of gender (Female/male), race (white/not white), Medicaid buyin coverage (yes/no), HMO enrollment (yes/no), and primary diagnosis. Most of the measures are straightforward; but three variables warrant extra discussion.

Primary diagnosis is based on the primary diagnosis on the first hospice claim in the first benefit period in 1996. This was based on a preliminary analysis of the changes in diagnosis across each individual's hospice claims. About 98.4 percent of all claims per person had the same diagnosis across claims. Each of the ten most frequent primary diagnosis are included as dichotomous variables (yes/no to having that primary diagnosis).

The other two variables warrant discussion because they measure the occurrence of an event at least once during the year the beneficiary was enrolled in hospice but may not have occurred during the hospice enrollment. These measures are indicators of a type of beneficiary rather than specification of insurance at the time of hospice use. The two measures include "HMO enrollment" and "Medicaid enrollment." The HMO enrollment measure is an indicator variable that is used as a description of the beneficiary and to exclude these cases from the denominator when calculating non-hospice Medicare use and payments. While it is important to exclude these enrollees from the denominator in claims-based analysis, HMO enrollment does not affect hospice payments and use because these claims are submitted regardless of whether the beneficiary is in an HMO.

The Medicaid indicator is based on the beneficiary being covered by a state Medicaid buyin policy at least once during the year. Because this population is at the end of life (by definition), we assume that once they qualify for Medicaid coverage they remain income-eligible and covered the rest of the year.

ANALYSIS

The following sections describe the types of beneficiaries who use Medicare's hospice benefit, how they use it, the program payments associated with use, and changes in the types of beneficiaries who are using it.

Who Uses Medicare's Hospice Benefit?

Demographic Characteristics. Hospice users tend to be older than the general Medicare population -- only five percent of the users in 1996 were younger than 65 compared to 12.2 percent of all beneficiaries (Table 1). Almost 40 percent (38.6 percent) were between 75 and 84 years old. And 26.6 percent were at least 85 years compared to only 10.3 percent in the total Medicare population.

Hospice enrollees, even more than the general Medicare population, tend to be white (89.7 percent); a small proportion are black (7.3 percent). Males represent a disproportionately larger share of hospice enrollees than they do in the Medicare population at large (47.0 percent compared to 42.9 percent of all beneficiaries). This suggests they are more likely than women to enroll in hospice, relatively speaking, although less likely than in 1990, when they represented 53 percent of the hospice enrollees (Banaszak-Holl and Mor, 1995).

TABLE 1. Characteristics of Medicare Hospice Users

Characteristic	Percent of Users[1]	Percent of All Medicare[2]
Age		
<65	5.0%	12.2%
65-74	29.7	47.8
75-84	38.6	29.7
85 or older	26.6	10.3
Race		
White	89.7	85.4
Black	7.3	9.0
Other	3.0	5.6
Sex		
Female	53.0	57.1
Male	47.0	42.9
Medicaid Buyin	16.1	13.8[3]
Any HMO Coverage	14.9	11.0[4]

1. Analysis of Medicare Denominator file, July 1996
2. HCFR, 1998 Statistical Supplement
3. HCFA Data Compendium, 1998 for 1996
4. As of December 1996

Insurance Coverage. Over 16 percent (16.1 percent) of the users have Medicaid coverage in addition to Medicare coverage. This is similar to the Medicare population at large which suggests the dually-eligible have equal access to hospice coverage relative to other beneficiaries. Similarly, 14.9 percent of the hospice enrollees were enrolled in an HMO at some time during 1996 compared to 11.3 percent of the total population. These numbers indicate that beneficiaries in both HMOs and state Medicaid programs have equal access to hospice services. It is unclear whether these differences in enrollment are significant enough to suggest these programs are enrolling disproportionately large numbers in Medicare's hospice benefit to restrict their respective costs for terminally ill enrollees.

Common diagnoses. Cancer remains a dominant diagnosis in the hospice population. About 63 percent of all hospice enrollees have at least one type of cancer as their primary diagnosis; the total number having some type of cancer is even greater. Cancer accounts for 6 of the top 10 primary diagnoses in the hospice population (Table 2). Lung cancer is the most common and represents 16.5 percent of all hospice cases in 1996, down from 23 percent in 1990 (Banaszak-Holl and Mor, 1995). Congestive heart failure, chronic airway obstructions, acute cerebrovascular disease or stroke, and Alzheimer's Disease (AD) are the other most common diagnoses in this population. (These diagnoses also were among the top ten causes of death in the 65 and older population in 1995 (Rosenberg et al., 1996).)

TABLE 2. Top 10 Primary Diagnoses in Hospice

Primary Diagnosis	Percent of Users
Lung Cancer	16.5%
Congestive Heart Failure	5.7
Prostate Cancer	5.3
Breast Cancer	4.0
Chronic Airway Obstruction	4.0
Colon Cancer	3.4
Pancreas Cancer	3.2
Acute Cerebrovascular Disease (CVA)	2.9
Rectosigmoid Cancer	2.3
Alzheimer's Disease	2.3

SOURCE: Analysis of Medicare Standard Analytic file, 1996

Hospice Utilization Patterns

Election Periods. In 1996, Medicare beneficiaries were allowed to elect hospice four times. As mentioned in the literature review, this provision corrects for the difficulty in prognosticating death by allowing a beneficiary to disenroll from hospice if their health improves but re-enroll for palliative care at a later date. In 1996, the four periods were divided into two periods up to 90 days each, followed by a third period lasting up to 60 days, and a fourth period of unlimited duration. Use was restricted, however, to a total of four coverage periods and once a beneficiary disenrolled from one period they could no longer use the remaining days in that period. These benefit periods may have been used continuously or beneficiaries may have disenrolled and re-elected coverage at a later date. The BBA changed these coverage provisions to allow an unlimited number of benefit periods. However, beneficiaries must be recertified every 60 days following the first two 90 day periods. In effect, the benefit was expanded to provide two 90 day periods followed by an unlimited number of 60 day periods.

Most hospice enrollees (79.6 percent) only used one benefit period prior to death in 1996 (Table 3). Another 11.6 percent used a second benefit period. Only 8.8 percent had more than two benefit periods.

TABLE 3. Hospice Expenditures and Utilization by Number of Benefit Periods Utilized

	Number of Benefit Periods			
	1	**2**	**3**	**4**
No. of Days Allowed in 1996	90	90	60	Unlimited if continuous hospice enrollment
Share of Enrollees	79.6%	11.6%	2.4%	6.4%
Enrolled Days Per Period	37 days	60 days	27 days	148 days
Average Payments Per Period	$4,029	$6,062	$2,685	$14,522

SOURCE: Analysis of Medicare Standard Analytic files, 1996

Use Levels in Each Period. Service use varies by benefit period being used. Enrollees in their fourth benefit period used 4 times more covered days per period than those in the first benefit period. This may be have been due to this being the beneficiaries' last opportunity for hospice coverage. As a result, they may have remained on it longer than needed in order to ensure they were covered just before death. In contrast, beneficiaries in their third period used only 73 percent as many days as those in the first period.

The new BBA rules may lead to fewer days per election period in the fourth period if the long length of stay in the fourth period was due to beneficiaries not wanting to lose the benefit. On the other hand, while the BBA increased access for beneficiaries, it also provides an incentive for beneficiaries to disenroll for curative treatments and re-elect hospice coverage at a later date. This may result in greater total Medicare program costs for chronic populations whose death is difficult to predict, such as patients with a primary diagnosis of AD. Whether this occurs will remain to be seen in the post-BBA utilization patterns.

The average Medicare payment per day is greatest in the first benefit period and steadily declines to the fourth benefit period ($108/day compared to $98/day). This suggests that beneficiaries are using different levels of hospice services across the periods, with the most expensive services occurring in the first benefit period. While this reflects the higher costs of those who only use one benefit period prior to death, the lower daily payment in the fourth period suggests these longer surviving enrollees are using less intensive services. This may reflect differences in the type of patient who survive to use four benefit periods compared to those who only use one period.

Variation by Diagnosis. Use of the benefit varies by diagnosis (Table 4). The three groups that were least likely to have more than one benefit period were beneficiaries with a primary diagnosis of lung cancer, pancreatic cancer, or cerebrovascular disease (CVA/stroke). About 82-84 percent of these beneficiaries used only one benefit period. In contrast, beneficiaries with more chronic conditions, like Alzheimer's Disease (AD) were most likely to use multiple enrollment periods. Over 13 percent of the hospice enrollees with a primary diagnosis of AD used 4 enrollment periods while another 18.9 percent had more than one enrollment period. (As will be seen later in Table 7, AD patients also have less intensive service patterns than other cases.)

TABLE 4. Share of Cases by Number of Hospice Benefit Periods Utilized or Those Ending in Death, by Primary Diagnosis

Primary Diagnosis	Share of Cases by Number of Hospice Benefit Periods Used				Share of Cases Ending in Death
	1	2	3	4	
Lung Cancer	82.3%	11.2%	1.8%	4.7%	98.9%
Congestive Heart Failure	77.1	12.0	2.9	7.9	95.0
Prostate Cancer	75.4	14.5	2.9	7.2	98.0
Breast Cancer	75.2	13.1	2.6	9.0	96.8
Chronic Airway Obstruction	70.8	13.7	3.9	11.7	93.9
Colon Cancer	79.7	12.2	2.2	5.9	98.6
Pancreas Cancer	83.9	10.6	1.6	3.8	98.7
Acute Cerebrovascular Disease (CVA)	83.9	8.5	2.2	5.4	95.0
Rectosigmoid Cancer	79.6	12.4	2.4	5.5	98.5
Alzheimer's Disease	68.0	14.5	4.4	13.1	89.3

SOURCE: Analysis of Medicare Standard Analytic Files, 1996 and 1997

Death as Outcome. Almost all beneficiaries died at the end of their hospice enrollment (96.7 percent). This is particularly true for cancer patients--at least 98 percent of these patients' hospice care ended in death. This, coupled with the greater use of just one benefit period, suggests cancer cases are receiving hospice services at the very end of their terminal illness. This may be reflecting the physician's greater ability to predict end of life with this population. Beneficiaries with AD, on the other hand, were the least likely of those having one of the top 10 primary diagnosis, to die at the end of their hospice enrollment -- only 89.3 percent. Still, most of these patients' cases end with death at the end of enrollment. This suggests hospice is not being used to simply supplement home health care for this chronic population but that the benefit is being used at the end of life as intended. The relatively lower death rates for the non-cancer cases support the contention that death is more difficult to predict for these cases (Fox et al, 1999b).

Hospice Expenditures

Medicare's hospice expenditures have grown dramatically since the benefit's inception in 1983. In 1996, 2 billion dollars were spent on hospice, up from 8 million dollars in 1984. The average payment per user in 1996 was $6,433 (Table 5). However, like most Medicare expenditures, these figures are skewed by the small number of users with very high costs. The median payment per user was much lower -- half the hospice enrollees averaged Medicare hospice payments of $2,809 per user. Per diem payments also were skewed -- $135 per day while the median was only $99 per day.

TABLE 5. Medicare Hospice Expenditures and Utilization

	Mean	Median
Hospice Expenditures		
Per Case	$6,433	$2,809
Per Day	$135	$99
Number of Days Enrolled	65 days	24 days

SOURCE: Analysis of Medicare Standard Analytic files, 1996 and 1997

Variation by Use. These payment differences reflect variations in length of enrollment and type of hospice service used. On average, beneficiaries remained on hospice for 65 days. However, half of the enrollees only enrolled for 24 days. In other words, most beneficiaries elected hospice for less than one month. This use level has declined slightly since 1990 when the mean and median were 67 and 25 days, respectively (Banaszak-Holl and Mor, 1995). In 1996, only nine percent remained on hospice longer than the six months used to define eligibility.

Payments also vary by the type of service or level of coverage used (Table 6). Medicare reimburses the hospice on a per diem basis. Five levels of payment are used reflecting physician services and the four different levels of care -- routine home care, which is the default level if no higher level of care is used per day; general inpatient care, which provides inpatient per diem coverage in a hospital, skilled nursing facility, or free-standing hospice; respite inpatient care, which is available for up to 5 days per admission; and continuous home care, which provides crisis coverage at home for at least 8 hours a day. Per diem payments increase with the intensity of the services provided and they range from $97 a day for routine home care to a cap of $566 a day for continuous 24 hour coverage.

TABLE 6. Hospice Use Levels by Type of Hospice Service

Type of Hospice Service	Share of Enrollees with at Least 1 Use	Level of Use Per User	
		Mean	Median
Routine Home Care Days	92%	64	26
General Inpatient Days	20	8	5
Respite Inpatient Days	3	5	5
Continuous Home Care Hours	5	78	38
Attending Physician Visits*	13	5	2

SOURCE: Analysis of Medicare Standard Analytic files, 1996 and 1997
* Physician services billed by hospice. Excludes Part B bills.

Given these program rules, routine home care is the most widely used level of coverage. Most beneficiaries (92 percent) had at least one routine home care day. On average, enrollees used 64 days of routine home care although this number also reflects a small number of users' very high use levels. The median number of routine home care days used was 26 days per person. It is interesting to note that not all hospice enrollees had a home care day. This suggests some beneficiaries elected hospice directly from the inpatient setting or to receive continuous home care before dying.[3] This supports the concern that beneficiaries are not receiving the full potential of the benefit available to them and may be enrolling in hospice at the "last minute."

About 20 percent of the hospice enrollees had at least one day in a general inpatient setting. Average use levels included 8 days in an inpatient setting although the median use level for this type of care was 5 days. While hospices are not allowed to provide more than 20 percent of their patient days in an inpatient setting, this percentage applies to the provider on an annual basis, not an individual beneficiary. As with the home care days, mean utilization levels were skewed by a small number of users with very long use periods. This is true for all hospice counts except respite inpatient days. For the three percent of enrollees who used respite inpatient care, almost all used the five days allowed under the benefit. This may reflect scheduling patterns since respite services are scheduled for a set period rather than admissions that occur in response to changes in a patient's condition.

Beneficiaries are allowed to keep their attending physician or they may switch to a hospice physician once they enroll in the benefit. Only 13 percent of the hospice enrollees had a claim for a hospice physician's visit. While this number only reflects billed time for direct care and excludes the hospice physician's oversight, or administrative responsibilities for overseeing each enrollee's treatment, it suggests most beneficiaries keep their attending physician rather than switching to hospice physicians to manage their hospice care.

Variation by Diagnosis. Medicare payments and patterns of use also vary by the enrollee's medical condition (Table 7). The most expensive hospice enrollee is the beneficiary who has Alzheimer's disease. Their average payment per case is $9,824 or $128 per day. The relatively low payment per day suggests that the high costs are due to higher utilization levels not use of more expensive levels of care. In fact, the mean length of stay on hospice for a beneficiary with Alzheimer's disease is 104 days, of which 101 days, on average, are routine home care days. Even the median level of enrolled days (34 days) for this population is 42 percent greater than for the average hospice user. Use levels for AD cases are higher than average for each type of hospice service as well, except physician visits which are lower than average -- 4.3 visits versus 4.5 visits per user. Patients with AD use 57 percent more routine home care than the average user -- 100.7 days compared to only 64.0 days.

CVA or stroke cases, in contrast, average only $5,539 per case but have high average daily payments -- $177 per day. These cases have shorter lengths of stay -- 54 days on average or a median length of 10 days per case -- but a slightly higher use of more expensive inpatient days, both general and respite inpatient services. In addition, a greater proportion of stroke cases use inpatient care (26 percent of all cases compared to only 20 percent on average). This group also has the fewest number of patients using routine home care -- only 79 percent had at least one day of routine

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[3] Technically, these enrollees without routine home care days also could have been admitted directly to respite services, but this is highly improbable according to the Hospice Association of America.

home care. These cases appear to be enrolling in hospice just prior to death. This may be a reflection of the shorter length of time between onset of a stroke and death.

Cancer cases, on the other hand, have a much more predictable course of illness, although treatment patterns and costs vary among the different types of cancer. The late stage cancer patient is more easily identified and is using a greater mix of hospice services. Patients with breast cancer are among the most costly of the most frequently occurring cancer cases. The average payment per case is $7,695, much of which can be explained by a long coverage period -- an average of 77 days per case. These users have high average use levels for all four hospice levels of care except continuous home care. They average 9.6 days per case in the general inpatient setting and use the 5 days inpatient respite care. Patients with lung cancer, on the other hand, enroll in the hospice benefit for much shorter periods -- 56 days on average or 25 days for the median -- and also have relatively inexpensive hospice treatments -- $125 per day or 28 percent lower than the average hospice patient.

Variation by State. As with other Medicare benefits, hospice payments and use also vary by geographic area (Table 8). The five states with the largest number of hospice enrollees also have large numbers of elderly (Florida, California, Texas, Ohio, and New York). After adjusting for differences in the number of beneficiaries in each state, the four states with the largest proportional enrollments in hospice also are among the states with the highest proportion of beneficiaries enrolled in HMOs (Arizona, Colorado, and Florida) or as in the case of Oregon are known for encouraging alternative end of life options.[4] The average number of hospice enrollees in these high use states ranges from 11 per 1000 beneficiaries up to 15 per 1000 in Arizona. States with the lowest proportion of hospice enrollees include Alaska, Maine, and Utah, which have fewer than 4 enrollees per 1000 beneficiaries.

The average payment per day in the three states with high hospice enrollment is relatively high, ranging from $187 per day in Arizona to $149 per day in Colorado. Arizona is only exceeded by Connecticut, which has the highest payment per day ($228 per day), but very low use rates -- 44 days in hospice compared to 65, on average. Connecticut's high daily costs are related to its extraordinarily high use of general inpatient hospice services -- 12 days compared to the overall average of 7.7 days. These high inpatient days are exceeded only by enrollees in Mississippi who use an average of 20.7 days in general inpatient care. These high inpatient days are offset by a higher than average number of home care days, keeping the average payment per day relatively low in Mississippi ($109 per day) but resulting in the third highest payments per case in the nation.

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[4] See Gage, Moon, and Chi, 1999 for a discussion of state variations in the Medicare population.

TABLE 7. Mean (and Median) Hospice Expenditures and Utilization by Primary Diagnosis

	Hospice Payment/ Case	Hospice Payment/ Day	Enrolled Days	Covered Days	Physician Visits	Routine Home Care Days	Respite Inpatient Days	General Inpatient Days	Continuous Home Care Hours
All	$6,433	$135	65	61	4.5	64.0	5.0	7.0	78.0
	(2,809)	(99)	(24)	(24)	(2)	(26)	(5)	(5)	(38)
Lung Cancer	5,619	125	56	54	4.6	54.0	4.5	7.4	72.0
	(2,639)	(98)	(25)	(25)	(2)	(25)	(5)	(5)	(36)
Congestive Heart Failure	7,018	136	73	68	4.3	73.0	5.3	7.2	67.0
	(2,639)	(98)	(22)	(22)	(2)	(26)	(5)	(4)	(36)
Prostate Cancer	7,125	124	73	68	4.9	69.0	4.9	8.2	72.0
	(3,648)	(98)	(33)	(33)	(2)	(34)	(5)	(5)	(37)
Breast Cancer	7,695	128	77	73	5.6	74.0	5.0	9.6	71.4
	(3,524)	(99)	(31)	(31)	(2)	(32)	(5)	(5)	(41)
Chronic Airway Obstruction	8,858	135	92	86	4.8	90.9	5.4	7.8	79.1
	(3,592)	(99)	(31)	(30)	(2)	(36)	(5)	(5)	(34)
Colon Cancer	6,407	130	63	60	4.9	61.0	4.8	8.0	71.5
	(3,261)	(99)	(29)	(29)	(2)	(30)	(5)	(5)	(39)
Pancreas Cancer	5,355	129	52	50	4.4	50.4	4.3	7.6	72.0
	(2,771)	(99)	(25)	(24)	(2)	(25)	(5)	(5)	(35)
Acute Cerebrovascular Disease (CVA)	5,539	177	54	50	4.4	60.3	5.8	7.3	66.4
	(1,763)	(102)	(10)	(10)	(2)	(14)	(5)	(5)	(43)
Rectosigmoid Cancer	6,274	233	63	60	4.7	60.0	5.2	9.1	73.5
	(3,368)	(98)	(31)	(30)	(2)	(31)	(5)	(6)	(41)
Alzheimer's Disease	9,824	128	104	96	4.3	100.7	6.6	8.2	83.3
	(3,965)	(99)	(34)	(33)	(2)	(41)	(5)	(5)	(43)

SOURCE: Analysis of Medicare Standard Analytic files, 1996 and 1997

TABLE 8. Geographic Variation in Hospice Expenditures and Utilization

	Hospice Enrollees		Hospice Payment/ Case	Hospice Payment/ Day	Enrolled Days	Physicians Visits	Routine Home Care Days	Respite Inpatient Days	General Inpatient Days	Continuous Home Care Hours
	Total	Per 1000								
United States	317,198	8.50	$6,433	$134	65	4.5	64	4.9	7.7	78
Alabama	5,409	8.28	7,012	106	76	5.1	72	4.8	11.5	92
Alaska	123	3.46	7,289	128	62	2.5	62	4.3	6.3	17.3
Arizona	9,304	15.09	7,476	187	68	6.1	71	5.1	9.1	58
Arkansas	3,256	7.63	8,023	106	90	2.1	87	4.6	6.5	83
California	32,479	8.72	6,770	137	62	2.7	60	5	7.3	190
Colorado	5,310	12.20	5,310	149	52	4.5	51	4.5	5.7	41
Connecticut	3,162	6.24	6,109	228	44	11.3	51	4.2	12	53
Delaware	1,044	9.84	6,173	100	68	2.7	63	4	8.3	51
Washington, D.C.	463	5.95	5,691	173	52	4.9	56	5.5	6.2	47
Florida	34,505	12.81	6,844	171	65	5.3	69	4.8	7.4	96
Georgia	6,956	8.09	5,952	111	66	5.7	64	5.2	7.4	164
Hawaii	901	5.84	5,331	128	51	4.9	49	6.1	6.9	8
Idaho	1,252	8.10	6,146	100	69	2.5	65	4.7	5.7	73
Illinois	15,287	9.40	6,403	140	62	3.7	62	4.6	6.4	39
Indiana	4,693	5.70	6,293	117	68	3.6	67	5.3	6.8	32
Iowa	3,974	8.38	6,164	123	68	4.9	65	4.5	7.3	51
Kansas	3,253	8.45	6,130	99	68	4.4	63	4.5	6.7	32
Kentucky	5,520	9.24	7,146	113	80	6.6	76	4.6	6.9	59
Louisiana	3,212	5.48	5,614	100	61	2.7	58	3.9	5.7	141
Maine	720	3.50	6,679	99	75	4.9	74	5.2	6.8	47
Maryland	4,737	7.70	5,641	116	58	4.1	55	4.9	7.3	104
Massachusetts	6,751	7.14	5,239	120	54	3.8	51	5.1	10.2	40
Michigan	14,551	10.71	6,183	144	61	3.8	61	5.2	7.5	47
Minnesota	5,152	8.10	5,684	125	64	3.7	60	4.4	5.8	68
Mississippi	2,240	5.55	7,846	109	82	3.7	77	5.1	20.7	199
Missouri	7,301	8.72	6,518	95	74	3.6	70	4.8	5.8	25
Montana	782	5.95	6,205	99	71	3.8	67	5.2	4.8	35
Nebraska	1,705	6.8	5,439	94	65	3.9	61.9	4.8	6.3	32
Nevada	1,673	7.99	6,737	170	59	4.4	59.4	5.2	7.1	38
New Hampshire	1,002	6.33	5,220	102	59	2.7	55	3.9	6	50
New Jersey	8,553	7.24	5,531	113	58	4.9	54	4.7	8.1	69
New Mexico	2,044	9.43	6,173	136	65	4.5	65	4.9	7.5	42
New York	17,127	6.49	6,465	153	58	4.4	57	4.7	9.8	72
North Carolina	8,341	7.95	6,817	107	78	6.1	71	4.6	8.4	44
North Dakota	648	6.36	5,797	128	63	5	62	4.5	5.8	64
Ohio	17,467	10.38	6,336	146	62	4.5	62	5.3	7.3	43
Oklahoma	4,876	9.92	8,198	108	90	3.1	85.8	4.2	6.5	30
Oregon	5,314	11.05	5,372	100	59	1.9	55	5	4.7	72
Pennsylvania	15,252	7.33	5,973	130	60	4.3	58	5.4	7.4	63
Rhode Island	1,437	8.54	6,149	151	61	5.8	67	6	7.6	33
South Carolina	3,498	6.69	6,091	100	69	4.8	65	5	8.2	34

TABLE 8 (*continuous*)

	Hospice Enrollees		Hospice Payment/ Case	Hospice Payment/ Day	Enrolled Days	Physicians Visits	Routine Home Care Days	Respite Inpatient Days	General Inpatient Days	Continuous Home Care Hours
	Total	Per 1000								
South Dakota	557	4.78	5,524	118	62	6	61	4.6	6.3	23.4
Tennessee	4,042	5.16	6,453	104	69	4	64	4.4	6.8	64
Texas	21,224	10.01	6,983	141	71	4	75	5.2	6.8	49
Utah	770	3.98	4,750	103	53	3.2	51	3.2	9.9	14.1
Vermont	560	6.61	5,000	100	58	1	54	4	5.1	64
Virginia	4,565	5.43	6,881	126	71	5	68	4.7	6.8	36
Washington	6,139	8.74	5,575	117	58	3.6	55	4.4	6.4	47
West Virginia	2,308	6.95	6,392	102	70	3.6	65	5.2	5.9	40
Wisconsin	5,502	7.21	5,612	105	64	3.6	60	4.6	5.8	34
Wyoming	257	4.22	6,243	102	69	5.4	66	4.6	5.5	6

SOURCE: Analysis of Medicare Standard Analytic files, 1996 and 1997

The states exceeding Mississippi in per case spending are Oklahoma ($8,198) and Arkansas ($8,023). These higher costs, like Mississippi's, can be explained by the higher number of days on the benefit (90 days each and 82 days, respectively). The lower payments per day ($108 and $106 per day, respectively) suggests a high use of less intensive routine home care services.

States vary in the total days used, ranging from 90 days in Arkansas to 51 days in Hawaii. Average enrollment on the benefit is a little over two months (65 days). These numbers support the contention that beneficiaries are enrolling in hospice very late in their terminal illness. This may be because of the difficulty in predicting death for certain cases, or physicians may be reluctant to broach the subject of death, beneficiaries may not be ready to waive their right to other treatments until later, or alternatively, it may be this point where the patient's discomfort reaches a level that requires hospice-oriented pain and symptom management with its stronger focus on palliative care outweighing any continuing interest in other treatments to restore health. Other states with longer lengths of enrollment include Kentucky (80 days), Maine (75 days), Mississippi (82 days), and North Carolina (78 days).

The types of hospice services used also vary by geographic location. Some states, such as Maine, have a very high use of routine home care days, (74 days per case, on average) but relatively lower use of inpatient services (6.8 days compared to 7.7 days nationally.) Differences in the propensity to treat someone at home for intensive continuous home care rather than admit to an inpatient setting for that level of care also are noticeable across states. Louisiana, for example, has an average of 141 hours of continuous home care per patient, about 81 percent greater than the national average; but they have lower than average use of general inpatient care (5.7 days compared to 7.7 days). This may be related to differences in general practice patterns. Louisiana, for example, ranks number one in per capita Medicare home health spending while it has relatively low institutional or skilled nursing facility use levels (Gage, Moon, and Chi, 1999). This suggests that practice patterns, in general, in Louisiana are more oriented towards home-based care than institutional care. Similarly, New York's slightly higher than average hospice costs are due to higher inpatient use that offsets the lower use per person rates of only 58 days enrolled in hospice. Again, this may reflect New York's high hospital use, in general. In contrast are South Dakota and Kansas, both of which have relatively lower spending and utilization than other states.

Medicare Expenditures and Service Use Prior to Hospice Enrollment

Hospice benefits only begin once a beneficiary has decided to waive other treatments for their terminal illness. Prior to this stage, beneficiaries are receiving care for their illness with the intention of restoring health. This next section looks at the variation in the costs and types of Medicare benefits used (except physician and supplier services) in the six months prior to hospice election. These patterns are discussed for the total hospice population and for beneficiaries with some of the more frequently occurring hospice diagnoses.

TABLE 9. Select Medicare Expenditures in 6 Months Prior to First Hospice Enrollment by Primary Diagnosis										
	Any Use*		**Inpatient**		**SNF**		**HHA**		**OPD**	
	%	**$**	**%**	**$**	**%**	**$**	**%**	**$**	**%**	**$**
All	82.8	13,488	61.2	12,857	16.2	7,332	37.6	3,147	71.1	1,300
Lung Cancer	82.7	11,485	59.5	11,560	10.4	6,336	33.8	2,359	73.8	1,563
Congestive Heart Failure	84.5	15,356	69.7	12,659	24.1	7,479	49.8	3,776	68.1	681
Prostate Cancer	82.2	10,108	54.4	9,987	12.6	6,879	37.4	2,865	73.8	1,272
Breast Cancer	83.6	11,211	57.4	10,379	15.1	7,093	39.6	3,079	74.5	1,499
Chronic Airway Obstruction	81	15,131	64.1	12,769	23.4	8,112	47.8	3,800	63.1	578
Colon Cancer	80.2	13,324	58.1	13,776	14	6,616	36.4	2,658	69.6	1,117
Pancreas Cancer	83.5	12,785	64.1	13,206	9.8	5,807	32.4	2,194	73.4	1,263
Acute Cerebrovascular Disease (CVA)	81.6	14,731	65.1	11,911	27.3	8,435	33.3	4,312	62.7	834
Rectosigmoid Cancer	85.7	12,830	61.5	13,552	13.5	6,071	38.9	2,695	74.2	1,063
Alzheimer's Disease	75.9	9,126	43.5	9,250	17.2	7,638	25.8	4,586	61	672

SOURCE: Analysis of Medicare Standard Analytic files, 1996 and 1997

* Any Use of Hospital Inpatient or Outpatient, SNF, or HHA services (excludes physician and supplies)

Almost all hospice enrollees used some Medicare Part A or outpatient service in the 6 months immediately preceding hospice enrollment (Table 9). Total Medicare program costs for this period were, on average, $13,488. For beneficiaries whose primary hospice diagnosis was among the ten most common, pre-hospice program costs range from a low of $9,126 per Alzheimer's case to $15,356 per case for patients with a primary diagnosis of congestive heart failure.

The variation in payments largely reflect the types of services used prior to hospice election. Inpatient hospital expenditures typically account for the largest share of Medicare spending, although the proportion using inpatient hospital services varies by condition. On average, 61.2 percent of all cases had an inpatient stay in the 6 months prior to hospice enrollment. This is down from the 68.6 percent who were previously hospitalized in 1990 (Banaszak-Holl and Mor, 1995). At least half of all cases in 1996, except those with a primary diagnosis of AD, had an inpatient stay. Non-cancer cases, such as CHF, COPD, and stroke had a higher proportion of hospitalizations than the cancer cases although the majority of those cases were hospitalized also. Hospital spending levels ranged from over $13,500 for colon and rectosigmoid cancer cases to $9,250 for AD cases.[5]

Hospital outpatient services were the most common service prior to hospice enrollment; about 71.1 percent of all hospice enrollees used these services. Again, this varied by condition. Cancer cases had the highest proportions of outpatient users and the highest payments per service. This may be due to the availability of chemotherapy, laboratory work, x-rays and other related services being provided in these settings.

Another 16.2 percent used skilled nursing facility services prior to hospice enrollment. This was particularly true among the CHF, COPD, and stroke cases where approximately one-fourth of all cases were admitted to a SNF prior to electing hospice.

In general, beneficiaries who enroll in hospice have relatively high Medicare expenditures in the 6 months prior to enrollment in the palliative program. Average program payments for these enrollees are about twice as great as total hospice payments once they enroll. This is true for both the cancer and non-cancer cases. The one exception is with patients who have a primary hospice diagnosis of AD. These cases tend to have lower pre-hospice expenditures. This can be explained by looking at the types of services these cases use -- both prior to and following enrollment. The hospice enrollee with AD is using less of the expensive, inpatient institutional services. Their high hospice costs are due to the high number of days in the benefit unlike the patient with breast cancer who is using a high number of expensive inpatient days while on hospice.

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[5] AD patient’s average payment for any service is slightly lower than the average payment for inpatient services because the inpatient average is based only on those who had an inpatient admission whereas the denominator in the “any use” average is weighted by AD patients who were not hospitalized prior to hospice admission.

These findings do not address whether hospice is a cost-effective alternative for end of life care. Instead they describe the high costs of care in the last few months of life even under the more palliative-oriented hospice benefit.

HMO Enrollees and Dual-Eligible Populations

Two other groups of beneficiaries are of interest -- those who were previously enrolled in an HMO or dually-covered by Medicare and Medicaid (Table 10). The HMO population is of interest because questions have been raised concerning HMO discharge practices to hospice. When an HMO enrollee elects hospice, the hospice becomes responsible for all costs associated with the terminal illness. The HMO only remains responsible for costs not associated with the terminal illness. Hence, they have a financial incentive to encourage their terminally ill beneficiaries to enroll in hospice. They also have an incentive from a quality of care standpoint. As argued by the HMO managers cited in the Fox study (1999a), terminally ill patients would receive more appropriate terminal care from a hospice than from their HMO providers.

TABLE 10. Medicare Hospice Expenditures and Utilization by Select Characteristics

Characteristic	Percent of Users	Medicare Expenditures	Hospice Days Utilized
HMO Enrollee	14.9%	$6,879*	60.4
Not Enrollee	85.2	$6,356	61.2
Medicaid Buyin	16.1	$7,921*	76.0*
Not Buyin	83.9	$6,147	58.0

SOURCE: Analysis of Medicare Standard Analytic files, and Part B Supplier, 1996 and 1997
* Statistically significant at .000 or less

The results show that the differences in hospice payments between HMO enrollees and nonenrollees are significantly different ($6,879 compared to $6,356 per case). However, this is not due to a significantly different number of days being used by the HMO enrollees. This suggests that HMO enrollees who enter hospice are receiving more expensive levels of hospice care -- either inpatient level or continuous home care.

Another subgroup of interest is hospice enrollees who have been dually-covered by Medicaid at least once during the year before July 1, 1996. These dually-covered enrollees have significantly different payment and use patterns compared to those who were not dually-covered. Medicaid-covered enrollees have hospice payments that are 29 percent greater than enrollees who are not dually-covered. Similarly, their use levels are about 25 percent greater than the contrast group. This suggests the dually-eligible enrollees are using hospice for substantially longer periods than other enrollees. This may be due to differences in the population that is dually-covered and enrolling in hospice.

Multivariate Results Predicting Hospice Payments and Utilization Levels

This next section measures the effects of beneficiary characteristics in predicting average hospice payments and use. Two OLS regression models are presented (Table 11). The dependent variables are (1) logged total hospice payments and (2) logged total covered days. (A residual analysis suggested the dependent variable was not normally distributed. Transforming it by taking its log corrected this problem. The antilog of each coefficient is discussed in the text.) The independent variables include enrollee's age, and a set of dichotomous variables including gender, race defined as white or not, having Medicaid buyin coverage, being enrolled in an HMO during the 12 months prior to July 1, 1996, or having one of the 10 most frequently occurring primary diagnoses. These include malignant neo bronchial/lung (ICD-9 162), congestive heart failure (ICD-9 428), malignant neoplasm prostate (ICD-9 185), malignant neoplasm breast (female) (ICD-9 174), chronic airway obstruction (ICD-9 496), malignant neo colon (ICD-9 153), malignant neo pancreas (ICD-9 157), acute cerebrovascular disease or CVA (ICD-9 436), malignant neo rectosigmoid jct (ICD-9 154), and Alzheimer's Disease (ICD-9 331.0). The payment and use models explain 1.6 percent and 1.4 percent, respectively of the variation in the dependent variables. While much of the unexplained variation in payment is related to utilization levels, payments and use are highly correlated. Therefore, both models are estimated independently and the explained variation in both is relatively small.

TABLE 11. OLS Regression Results Predicting Medicare Hospice Expenditures and Days Utilized

	Logged Hospice Expenditures Per Case		Logged Hospice Days Utilized Per Case	
	Coefficient	(S.E.)	Coefficient	(S.E.)
Intercep	7.958*	0.021	3.177*	0.022
Age	-0.003*	0.000	-0.003*	0.000
Female	0.183*	0.005	0.184*	0.006
White	-0.046*	0.008	-0.005	0.009
Any Medicaid	0.187*	0.007	0.213*	0.007
Any HMO	0.118*	0.007	-0.003	0.007
Lung Cancer	0.027*	0.007	0.086*	0.007
Congestive Heart Failure	0.013	0.011	0.021	0.011
Prostate Cancer	0.355*	0.012	0.417*	0.012
Breast Cancer	0.167*	0.013	0.205*	0.014
Chronic Airway Obstruction	0.225*	0.013	0.244*	0.013
Colon Cancer	0.173*	0.014	0.205*	0.015
Pancreas Cancer	0.017	0.014	0.053*	0.015
Acute Cerebrovascular Disease (CVA)	-0.292*	0.015	-0.463*	0.016
Rectosigmoid Cancer	0.184*	0.017	0.252*	0.017
Alzheimer's Disease	0.278*	0.017	0.317*	0.017

SOURCE: Analysis of Medicare Standard Analytic files, 1996 and 1997
R2=0.014 and 0.016
* Statistically significant at .0001
** Statistically significant at .001

Diagnoses are the best predictor of hospice payments among the variables included in these two models. The patients with the highest Medicare payments are those having prostate cancer (36 percent higher payments), Alzheimer's Disease (AD) (27 percent greater) and COPD (22.5 percent greater), all else equal. Stroke patients, on the other hand, have payments that are 29 percent lower than other patients, all else equal.

Demographics also are related to differences in total payments. Medicare payments for females are 18 percent greater than payments for male patients, after controlling for the top 10 primary diagnosis and some insurance coverage. Racial differences are noted also. Beneficiaries who are caucasian (White) have hospice payments that are 4.6 percent lower than for other beneficiaries.

Types of insurance coverage also appear to be related to per case payment levels. Program payments for dually-covered beneficiaries (Any Medicaid) are 18.7 percent higher than for their higher income counterparts. Beneficiaries who were enrolled in an HMO at some time during the year also have costs that are 11.8 percent greater than nonenrollee's hospice program payments, all else equal.

Similar differences are seen in the model predicting number of hospice days covered or used although there are slight differences between the two models. Diagnosis are still the best predictor of program use. Almost 42 percent of the estimated use can be explained by having prostate cancer. Patients with stroke have significantly fewer covered days -- 46 percent -- compared to others not in the model, all else equal. Similarly, patients with AD have 31.2 percent more days per case than other types of hospice enrollees.

Two differences between the models are in the significance of HMO enrollment and being white. These two groups do not have significantly different lengths of stay from their respective contrast groups. This suggests these two groups are not using more services than their counterparts although they may be using different types of services.

Medicaid buy-in coverage also is associated with longer lengths of stay. These dually-covered beneficiaries have 21.3 percent more days on hospice than those who were not dually-covered during the year, all else equal.

Differences in use by primary diagnosis remain similar to those found in the payment models. Beneficiaries with a primary diagnosis of CVA have 46 percent fewer hospice days than other beneficiaries. And those with AD use 31.7 percent more days than other patients. These findings reflect the differences shown in the bivariate analysis even after controlling for age and insurance coverage. As noted by Fox et al, patients with stroke tend to use fewer days of hospice care than other terminally ill patients. These findings are also consistent with those noted throughout the report -- that beneficiaries with a primary diagnosis of AD use hospice services much differently than others -- staying on the benefit for a longer time, using more home care days, fewer continuous home care days, and more respite services, all else equal.

CONCLUSION

These findings are useful for understanding the types of Medicare beneficiaries who are enrolling in hospice and how they are using it. The patient population is changing from the type who originally enrolled in the benefit when it was first established. Cancer patients still represent the majority of hospice enrollees but there is also a greater proportion of patients with chronic health care conditions.

As suggested by the findings, the patients with chronic heart and respiratory disease often use the benefit for shorter periods. This may be because there is such a short period between the onset of an exacerbated state of these illnesses and death. Alternatively, because it is so difficult to predict survival rates for these groups, physicians may be reluctant to suggest hospice enrollment particularly if they fear being charged with fraud if their patient survives over 6 months as was suggested in the earlier discussions in the first report in this series.

Questions were raised about the appropriateness of the Medicare eligibility guidelines during the discussions in the first part of this study. Specifically, the question was raised whether the requirement that the beneficiary have a life expectancy of 6 months or less was impeding access to hospice. While it is difficult to predict death, the average number of days used represent only one-third of the total days allowed (2 months compared to 6 months). Another factor, which may have just as great an effect, may be a reluctance on the part of physicians and patients to discuss death. As a result, beneficiaries may be considering hospice only when their needs are so great that they require the services that generally distinguish hospice from other Medicare benefits -- integrated care management of pain and other symptoms and more generous personal care coverage. Hospice enrollment may be delayed until the patient's discomfort is sufficient to require the higher doses of pain medication, or as in the case of the beneficiary with Alzheimer's Disease, the need for greater social support or in-home care arises.

This study also showed there is substantial interstate variation in the hospice payment and utilization levels. Certain states, such as California, Florida, Texas, and New York have very large numbers of hospice enrollees suggesting it is a more common alternative for terminally ill beneficiaries. Hospice spending and utilization patterns were consistent with other state-level Medicare spending patterns in each state. For example, enrollees in Louisiana were less likely to use inpatient care and in New York they were more likely to be admitted to an inpatient stay. In Mississippi, the number of enrollees was relatively small (2,240 enrollees), but they used substantially higher than average numbers of hospice days prior to death. This reflected the higher use of both inpatient and home care services and resulted in the third highest payments per case in the nation.

Also of interest was the relative difference in Medicare expenditures prior to and following hospice enrollment. This is particularly true for the beneficiary with a primary diagnosis of Alzheimer's Disease since they had high levels of spending both prior to and subsequent to hospice enrollment. This population seems to be using hospice differently than others enrolled for end of life care. This may be due to a greater need for personal assistance rather than pain and symptom management in this population.

The multivariate models were also interesting as they showed the relative effect on payments and use levels after controlling for primary diagnosis. While they had low explanatory power (less than two percent of the variation in payments or use) they revealed differences in payments that largely reflected variations in use. These differences illustrate the heterogeneity of the hospice population.

Limitations and Data Constraints

This analysis was limited in several ways. First, this report was intended to provide descriptive information on how Medicare's hospice benefit is being used. The sample is limited to hospice beneficiaries, and therefore, did not allow comparisons of differences in costs or use between terminally ill patients who did and did not enroll in hospice. Since this study was initiated to understand the role of hospice in nursing facilities limiting this part of the study sample to hospice beneficiaries was appropriate.

Second, there is little extant information on NF residents. The authors of this report initially attempted to develop national estimates of the proportion of hospice enrollees residing in nursing facilities using claims data. However, limitations with the method and differences in comparative definitions made it difficult to verify these estimates. To be conservative, these estimates have been omitted. The best estimates at this point, are presented in the two following reports which provide nursing facility population-based data for five states (Maine, Kansas, New York, South Dakota, and Mississippi). While these states are not representative as noted earlier, they provide an interesting and important case study on hospice in nursing facilities.

Better information is needed on hospice use by nursing facility residents -- how frequently nursing home residents use hospice, whether hospice use is more common in certain facilities, whether NF and community-based beneficiaries use different types of hospice services or different levels of resources, and what impact hospice has on the quality of care for terminally ill residents in nursing facilities.

The MDS data will be useful for developing national estimates of the frequency of hospice use in nursing homes and for providing some insights into the quality of hospice care provided to nursing home residents. While all states now must submit MDS data, they still may not provide a complete count of hospice use in nursing facilities for two reasons.

First, hospice enrollment does not automatically trigger a MDS assessment. The regulations require that a nursing facility must complete an assessment when a significant change in the resident's status occurs. According to the regulations a significant change is defined as, "a significant change in the resident's physical or mental condition.... [which] means a major decline or improvement in the resident's status that will not normally resolve itself without further intervention by staff or by implementing standard disease-related clinical interventions, that has an impact on more than one area of the resident's health status, and requires interdisciplinary review or revision of the care plan, or both" (42 CFR ch. IV, part 483, subpart b, section 483.20(b)(2)(ii)). However, hospice enrollment is one of the few situations where the care plan may be changed significantly without the patient undergoing multiple (or any) changes in condition. If hospice enrollment automatically triggered a MDS assessment, it could highlight for both the nursing facility and hospice staff, the new treatment focus and reduce the ambiguity between the two types of providers that was noted in the provider discussions.

A second reason the MDS may not completely identify nursing facility residents is that even if a facility understands the regulation as requiring an assessment, facilities must complete the assessment within 14 days. However, given that almost 25 percent of nursing home residents who begin using hospice subsequent to nursing home admission use 8 or fewer days of hospice services (Report 4), beneficiaries may die before an assessment is complete. For this population, to identify beneficiaries' changing needs, and develop and implement needed plans of care, assessments need to be completed within a shorter time frame.

Another important data limitation is the dearth of information on whether beneficiaries residing in nursing facilities receive the same types and levels of hospice care (e.g., routine home care, respite, in-patient, or continuous home care) as those in the community. While this information can be gained by using the MDS data to identify NF residents and then contrasting their claims with nonNF residents as done in the 4th report in this study, utilization differences could be examined more efficiently by modifying the hospice claim to identify service location (nursing facility, other group home, individual residence). This would allow analysis of differences in use between the two populations without requiring the use of multiple datasets.

Understanding whether provider costs vary as a result of treating institutionalized enrollees is another important area requiring better data. Modifying the new cost reports to include a measure of the share of patients seen in nursing facilities would provide gross estimates of whether provider costs vary by differences in the proportion of institutionalized patients treated. While this still would not address differences in the levels and types of resources used by nursing facility and community-based residents, it may document whether hospices have lower costs for institutional patients. If they do, a more in-depth study may be needed to determine whether hospice per diem payments should be adjusted for treating institutional cases as suggested earlier by the OIG.

To fully understand whether these hospice patients receive different levels of care, and are treated by different types of professionals with varying lengths of visits would require a primary data collection effort. While this may be resource intensive to gather, it would allow disaggregation of the cost factors at the individual level to understand why cost varies as the beneficiary's place of residence changes. Such a study could also document the frequency of volunteer participation and post-burial family counseling which are two important covered hospices services that are largely undocumented.

More comprehensive information is needed on this group of terminally ill patients. Medicare payments are often complimented by state Medicaid or private insurance. Ensuring adequate benefits coordination and care coordination is an important issue in these austere times. National datasets on nursing facility residents are just becoming available as nursing homes are now required to submit electronic patient level data on all residents. This information will be crucial in understanding hospice as it is provided to beneficiaries residing in nursing homes at the end of their lifespan.

SUMMARY

In summary, this information is intended to describe the current Medicare hospice program, who is using it, and how it is being used. The findings show that most beneficiaries are only using the benefit for approximately two months prior to death although this varies somewhat by diagnosis.

Hospice is a growing and important benefit, particularly for those who require specialized pain and symptom management. It is intended to provide managed palliative or comfort care at the end of life. This is particularly important under the current Medicare fee-for-service program which lacks coverage for this type of critical care needed by at least the five percent of beneficiaries who die each year. Understanding who uses the benefit and how it is used is important for understanding its role in serving the Medicare population.

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SYNTHESIS AND ANALYSIS OF MEDICARE HOSPICE BENEFITS

Reports Available

The goal of ASPE's Medicare Hospice Benefit study was to provide general information on the role of the Medicare hospice benefit and more specific information about how end of life care is provided to institutionalized beneficiaries. Six reports wereproduced from this study:

Synthesis and Analysis of Medicare's Hospice Benefit: Executive Summary and Recommendations (report 1) briefly summarizes the methods used for each report and the findings and recommendations that emerged from each of the following reports under this study.

HTML	http://aspe.hhs.gov/daltcp/reports/2000/samhbes.htm
PDF	http://aspe.hhs.gov/daltcp/reports/2000/samhbes.pdf

Important Questions for Hospice in the Next Century (report 2) synthesizes the literature related to the Medicare hospice benefit and summarizes discussions with key informants on the use of hospice in nursing homes.

Executive Summary	http://aspe.hhs.gov/daltcp/reports/impquees.htm
HTML	http://aspe.hhs.gov/daltcp/reports/impques.htm
PDF	http://aspe.hhs.gov/daltcp/reports/impques.pdf

Medicare's Hospice Benefit: Use and Expenditures, 1996 Cohort (report 3) analyzes Medicare utilization and payments for hospice users in 1996.

HTML	http://aspe.hhs.gov/daltcp/reports/2000/96useexp.htm
PDF	http://aspe.hhs.gov/daltcp/reports/2000/96useexp.pdf

Use of Medicare's Hospice Benefit by Nursing Facility Residents (report 4) examines differences in hospice utilization and expenditures as a function of when nursing facility residents started using hospice services (i.e., before or during a nursing home stay).

HTML	http://aspe.hhs.gov/daltcp/reports/nufares.htm
PDF	http://aspe.hhs.gov/daltcp/reports/nufares.pdf

Outcomes and Utilization for Hospice and Non-Hospice Nursing Facility Decedents (report 5) compares pain management and types of services provided to dying nursing home residents receiving hospice compared to other dying residents who did not receive hospice.

HTML	http://aspe.hhs.gov/daltcp/reports/2000/oututil.htm
PDF	http://aspe.hhs.gov/daltcp/reports/2000/oututil.pdf

Hospice Benefits and Utilization in the Large Employer Market (report 6) reports on how hospice services are provided by 52 large employers and used by their employees, and identifies alternative approaches to designing and administering hospice benefits.

Executive Summary	http://aspe.hhs.gov/daltcp/reports/empmktes.htm
HTML	http://aspe.hhs.gov/daltcp/reports/empmkt.htm
PDF	http://aspe.hhs.gov/daltcp/reports/empmkt.pdf