
Health Status of Dually Eligible Beneficiaries in Managed Care Plans

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We conducted a descriptive study examining the health status of dually eligible beneficiaries using a sample from the Medicare Health Outcomes Survey (HOS), a measure of health status administered to enrollees in Medicare managed care (MMC). Overall, we found that dually eligible beneficiaries were sicker, more depressed, and reporting more pain than Medicare-only beneficiaries. Our results suggest that quality improvement initiatives that center on pain and depression management in the dually eligible population present important opportunities for collaboration between Medicare and Medicaid.

INTRODUCTION

Only a few published studies have specifically investigated the health status of the dually eligible population, the population with both Medicare and Medicaid eligibility (Health Services Advisory Group, 2003). Dually eligible beneficiaries receive at least one of Medicare's two basic coverages: Part A which pays for hospital costs, and Part B which pays for physician services, laboratory and X-ray services, durable medical equipment, outpatient services, and other services. Approximately 85 percent of dually eligible beneficiaries receive full Medicaid coverage, while many of the remaining 15 percent only receive coverage for their premiums, copayments, and deductibles. Some receive only premium payments.

In FY 2000, according to the MSIS, there were approximately 7 million dually eligible individuals, accounting for approximately \$68.3 billion in Medicaid payments or \$10,295 per beneficiary. The dually eligible population, while representing only 15 percent of the total Medicaid enrollment, accounted for 41 percent of total Medicaid payments. Many dually eligible beneficiaries who are under 65 years of age qualify for Medicare because they are disabled. In FY 2000, there were approximately 2.3 million dually eligible beneficiaries under 65 years of age, or about 35 percent of the dually eligible population according to the MSIS. Because many of the dually eligible beneficiaries are under 65 years of age, it is expected that many of them will be receiving Medicare and Medicaid benefits for an extended number of years.

CMS needs to know more about the health status of the dually eligible population to formulate policy and make decisions about their specific health care needs. Anecdotal reports suggest that the dually eligible population might be less healthy, in general, than other Medicare enrollees as a group, because they are more likely to have disabilities and to be impoverished, factors associated with a high risk of health problems. The dually eligible population might often suffer from a lack of efficient coordination of care, because it faces a challenge of conflicting rules and incentives under existing Federal and State laws governing coverage (Ripley, 2001). Many of the dually eligible beneficiaries have difficulty navigating through the complex health care system

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because of limitations in education or as a result of other factors related to disability, poverty, and aging.

A better understanding of the health status of the dually eligible population can lead to quality improvement programs that could lower the costs of serving this group of beneficiaries. This research was undertaken as an exploratory study of health status variables that could help in profiling the dually eligible population, leading to quality improvement initiatives and possible savings in expenditures for both States and CMS.

To help chart and identify health status factors that may be adversely affecting the dually eligible population, it is necessary to identify data sources for health or functional status of the dually eligible population. One such source is the HOS, a self-administered, mailed survey with telephone follow-up. HOS is a measure of beneficiary functional status that can be applied generally to the Medicare population and can also be used with subgroups of that population. It is designed to measure change in physical and mental health status of Medicare beneficiaries over a 2-year period (Haffer et al., 2003). In 1997, the Committee on Performance Measurement of the National Committee for Quality Assurance endorsed HOS as a HEDIS[®] measure for Medicare plans. HOS consists of a 95-item core measure set comprised of four domains: (1) the Medical Outcomes Study Short Form 36-Item Health Survey (SF-36[®]); (2) ADLs; (3) clinical case-mix adjustment variables; and (4) demographic information. HOS has two major measures from the SF-36[®]—physical (PCS) and mental (MCS) component summaries.¹ The history, development, and psychometric properties of the SF-36[®] are documented by Ware et al. (1993).

¹ PCS and MCS are scored normatively from 0 to 100 with a mean value of 50 and a standard deviation (SD) of 10. Scores below 50 indicate below average self-reported health compared to the U.S. general population, whereas scores above 50 indicate better than average health.

In 1998, CMS required MMC health plans with contracts in effect before or as of January 1, 1997, to participate in HOS. In 1998, HOS was administered to a random sample of 1,000 members from each health plan with over 1,000 enrollees. All enrollees in plans with fewer than 1,000 members were surveyed. Plan members were eligible to be selected for the sample based on several criteria, the most important of which was continuous enrollment in the plan for at least 6 months. HOS is administered every year to samples of health plan enrollees, but a particular cohort is measured in a baseline year and followed up 2 years later (remeasurement). For example, Cohort I was measured in 1998 and again in 2000; Cohort II was measured in 1999 and remeasured in 2001.

There have been a number of studies investigating the health status of special and vulnerable populations using HOS or other measures of functional status. Arday et al. (2003) attempted to determine if smoking is associated with lower PCS and MCS scores among the elderly and disabled populations enrolled in MMC plans. They found that smokers report lower physical and mental health functional status than those who have never smoked, and those who have been long-term quitters have better functional status than those who never smoked. They recommended that more effort be directed toward helping elderly smokers to quit earlier.

McCall et al. (2002) investigated the prevalence of major depression and dysthymia among aged FFS Medicare beneficiaries. Using an MCS score of 42 or lower, they found that the prevalence of major depression or dysthymia was an estimated 25 percent for respondents age 65 or over. They indicated that the high rate of major depression or dysthymia implies that there may be considerably unmet need among elderly FFS Medicare beneficiaries for diagnosing and treating mental disorders.

Baker, Haffer, and Denniston (2003) found that cancer survivors had statistically significantly lower scores than non-cancer patients on the PCS and MCS measures of HOS. They suggested that cancer has a negative effect on health-related quality of life that cannot be explained by the simple effects of age on health status declines and that HOS offers useful data for planning and improving cancer policy and programs.

These studies provide additional support that HOS can be effectively used to measure health status within at-risk populations, help to identify trends and prevalence rates for chronic mental and physical conditions, and compare populations in terms of health status. Unearthing more data about the health status of the dually eligible population, one of the most vulnerable groups of citizens, can help Federal, State, private, and volunteer efforts to improve health outcomes and ultimately the quality of life of these beneficiaries.

METHOD

The Cohort II (1999-2001) data file contains data on 301,184 enrollees in 283 managed care plans. The Medicaid status of these enrollees was obtained from the Medicare enrollment database. For the 1999 time period, Medicaid status (enrolled or not enrolled in Medicaid) was available on all 301,184 enrollees surveyed, 14,052 of whom were enrolled in Medicaid (the dually eligible beneficiary). However, for the 2001 time period, Medicaid status was available on only 88,468 enrollees, 4,061 of whom were dually eligible beneficiaries. In the time period between administration of the Cohort II baseline survey in 1999 and the remeasurement survey in 2001, a large number of managed care plans exited the Medicare market entirely. In many instances, returning to traditional

Medicare FFS was the only option available to the beneficiaries previously enrolled in these plans (Haffer et al., 2003). Beneficiaries who, through no choice of their own (involuntary disenrollees), were no longer enrolled in the same health plan that they were during the baseline survey in 1999 were subsequently lost to followup (remeasurement). Involuntary disenrollees accounted for approximately 33 percent of the decline in the number of beneficiaries available at remeasurement. In addition, approximately 18 percent of baseline respondents voluntarily disenrolled from their health plan between baseline and remeasurement, and 5 percent of baseline respondents died in the intervening 2 years (Rogers et al., 2003).

Because we were tracking changes between 1999 and 2001 in health status, we eliminated enrollees who did not appear in both time periods (1999 and 2001). This reduced the size of the file to 2,809 dually eligible individuals. We added an additional criterion to exclude cases in which the PCS and/or MCS data were missing at baseline and/or remeasurement. This reduced the file to 2,040 dually eligible beneficiaries.

The Medicare-only file was used as a tool for a basis for comparison in this study. This file went through a similar process of exclusion so that we were left with 69,354 enrollees who were Medicare-only for both time periods and had no missing data for PCS and MCS scores at baseline and remeasurement.

Using data from the CMS enrollment database, we compared the dually eligible beneficiaries and Medicare-only eligibles by compiling the percentage of respondents for both groups that fit into various demographic and medical condition categories. We compared the dually eligible beneficiaries and Medicare-only eligibles at baseline and remeasurement on the

basis of two questions from HOS that specifically ask respondents to rate their overall health: “In general, would you say your health is...” and “Compared to one year ago, how would you rate your health in general now?”²

We compared dually eligible beneficiaries and Medicare-only eligibles in overall health status by compiling means and standard deviations (SDs) of PCS and MCS scores of HOS for both the 1999 baseline and 2001 remeasurement time periods.³ We then tested to see if there were significant changes in mean scores over the 2-year period. We also compared differences in PCS and MCS mean scores for the age group under 65 and for the age group 65 or over for the dually eligible populations and Medicare-only eligibles. We compiled the percentage of dually eligible beneficiaries and Medicare-only eligibles who indicated that they are current smokers (not part of the overall MCS and PCS scores). Then we compiled means and SDs of PCS and MCS scores at baseline and remeasurement by smoking frequency: every day, some days, not at all, don’t know, and no response. The percentages of dually eligible beneficiaries and Medicare-only eligibles were then compared in terms of being advised to quit smoking by a physician or other health professional.

To investigate dually eligible beneficiary ratings of limitations on 10 items (part of the PCS scores) pertaining to common physical activities at both baseline and remeasurement, we computed means and SDs, differences or change scores between baseline and remeasurement, and Pearson correlations between baseline and remeasurement item scores. We also conducted a

paired samples *t*-test (two-tailed) to determine if there had been a significant change in item scores over the 2-year period. In a related analysis of activity problems of the dually eligible population, we compared the percentage of respondents at baseline and remeasurement time periods that indicated “yes” to questions about four problems experienced in the past 4 weeks that were imposed by poor physical health (a part of PCS scores). In an analysis of activity limitations resulting from emotional problems (a part of MCS scores), we compared the percentage of the dually eligible population at baseline and remeasurement time periods who indicated “yes” to questions asking them if emotional problems had caused them to “cut down on time spent on work or activities,” “accomplish less than you would like,” and not to do “work or other activities as careful as usual.”

We calculated bodily pain ratings (a part of PCS scores) at baseline and remeasurement of the dually eligible population based on two questions from the HOS: “How much bodily pain have you had during the past 4 weeks?” and “During the past 4 weeks, how much did pain interfere with your normal work?” For the dually eligible population at both baseline and remeasurement, we analyzed results of nine items from the HOS (part of MCS scores) inquiring about how much time during the 4 weeks prior to the survey they felt “full of pep,” “so down in dumps nothing could cheer up,” “calm and peaceful,” “downhearted and blue,” “worn out,” “tired,” had been “a very nervous person,” had been a “happy person,” or had “a lot of energy.” We compiled item means, SDs, change score, Pearson correlation, and two-tailed paired comparison *t*-test results between baseline and remeasurement. In a related analysis, we examined the prevalence of self-reported depression at baseline and remeasure-

²These two questions are not part of the overall MCS and PCS scores.

³ PCS scores are a measure the extent to which respondents acknowledge physical problems or limitations while MCS scores measure limitations or problems stemming from emotional or psychological distress.

ment for the dually eligible population and compared their results with Medicare-only eligibles. The three items on depression were separate from the MCS.

RESULTS

Demographics and Medical Conditions

Table 1 lists demographic characteristics and medical conditions of the dually eligible versus Medicare-only eligibles for Cohort II, baseline (1999). The dually eligible population was on average, younger, more likely to be female, less likely to be white, more likely to have less than a high school education or equivalency, and more likely to be disabled than Medicare-only eligibles. Nearly three out of four of the dually eligible beneficiaries were female (73.6 percent), while fewer than 6 out of 10 (57.7 percent) of Medicare-only eligibles were female. The mean age of the dually eligible beneficiary was 68.8 years, while the mean age of Medicare-only eligibles was 73.1 years. Approximately 25 percent of the dually eligible population was entitled to benefits due to disability, while only about 5 percent of Medicare-only eligibles were disabled.⁴ Approximately 2 percent of the dually eligible population was either institutionalized or nursing home certifiable, and about 0.3 percent of Medicare-only eligibles were institutionalized or nursing home certifiable. A dually eligible beneficiary tended to have some high school, perhaps, less education, while a Medicare-only dually eligible beneficiary tended to have at least a high school education and may have had at least some college. It is noteworthy that the institutionalized population, and in particular, the elderly spend downs residing in nursing

⁴The proportion of enrollees who are disabled is actually somewhat higher, since individuals who are age 65 or over fall into the aged category as a reason for entitlement even if they are disabled.

homes, were virtually non-represented in the Medicare-only eligibles and very lightly represented among the dually eligible population. This was to be expected since all of these eligibles were enrolled in a managed care plan.

The dually eligible population was more likely to indicate that they had 1 of the 15 medical conditions listed on Table 1 except for non-skin cancers. For example, 61.6 percent of the dually eligible population indicated they had high blood pressure compared to 52.8 percent of Medicare-only eligibles. Also, while 15.8 percent of Medicare-only eligibles had diabetes, 25.4 percent of the dually eligible population stated that they had this condition.

PCS and MCS Scores

Both the dually eligible population and Medicare-only eligibles displayed statistically significant decreases in PCS and MCS scores between baseline and remeasurement (1999-2001) as shown in Table 2. The Medicare-only eligibles had higher scores than the dually eligible population on PCS and MCS at both baseline and remeasurement. Decreases in scores between baseline and remeasurement were similar for the two groups.

Table 3 compares the health status of the dually eligible population and Medicare-only eligibles at baseline and remeasurement. The age group 65 or over had higher PCS scores than the age group under 65 for both the dually eligible population and Medicare-only eligibles. The differential between the age groups in health status was considerably greater for the Medicare-only eligibles than the dually eligible population. This is likely to be a result of the high percentage of disabled in the dually eligible population (24.9 percent) compared to the Medicare-only eligibles (5.2 percent)

Table 1
Demographic Characteristics and Medical Conditions of the Dually Eligible Population Versus Medicare-Only Eligibles from the Medicare Health Outcomes Survey Cohort II: 1999

Demographic	Total Respondents	
	Dually Eligible Population (n=2,040)	Medicare Only Eligibles (n=69,354)
Age	Percent	
Under 55 Years	15.0	1.9
55-64 Years	9.9	3.2
65-74 Years	41.9	57.7
75 Years or Over	33.2	37.2
Sex		
Male	26.5	42.1
Female	73.5	57.9
Race		
White	64.0	89.3
Black	22.6	5.9
Other	12.8	4.5
Missing	0.4	0.4
Education		
8th Grade or Less	30.2	11.2
Some High School	23.1	17.3
High School Graduate or GED	24.0	35.4
Some College or 2 Year Degree	14.0	20.4
4 Year College Graduate	2.3	6.5
More than a 4-Year College Degree	1.9	7.1
Missing	4.5	2.2
Institutional Status		
Not in Institution	98.0	99.8
In Institution	1.6	0.1
Nursing Home Certifiable	0.4	0.2
Reason for Entitlement		
Aged Without ESRD	75.1	94.8
Disabled Without ESRD	24.9	5.2
Medical Condition		
Acid Indigestion or Heartburn	46.1	33.8
Difficulty Controlling Urination	36.7	26.8
Hypertension or High Blood Pressure	61.6	52.8
Angina Pectoris or Coronary Artery Disease	18.1	15.1
Congestive Heart Failure	11.6	5.9
Myocardial Infarction or Heart Attack	11.4	10.0
Problems with Heart Valves or Heart Rhythm	24.7	20.4
Stroke	13.7	7.0
Emphysema, Asthma, or COPD	20.8	11.8
Crohn's Disease, Ulcerative Colitis, or IBD	9.5	5.1
Arthritis of Hip or Knee	52.0	37.9
Arthritis of Hand or Wrist	46.3	33.7
Sciatica	32.4	22.7
Diabetes, High Blood Sugar, or Sugar in Urine	25.4	15.8
Any Cancer (Other than Skin Cancer)	10.4	12.5

NOTE: COPD is chronic obstructive pulmonary disease. IBD is inflammatory bowel disease.

SOURCE: Centers for Medicare & Medicaid Services: Medicare Health Outcomes survey and the Medicare Enrollment Database, 1999.

Table 2
Physical and Mental Component Scores of the Dually Eligible Population and the Medicare-Only Eligibles on the Medicare Health Outcomes Survey Cohort II: 1999-2001

Component Score		1999	2001
Dually-Eligible Population (n=2,040)			
Physical	Mean	35.77	34.51
	SD	10.96	10.89
Mental	Mean	45.08	44.42
	SD	12.83	12.80
Medicare Only Eligibles (n=69,354)			
Physical	Mean	43.09	41.29
	SD	11.33	11.63
Mental	Mean	52.12	51.30
	SD	10.21	10.71

NOTE: All differences between 1999 and 2001 mean component scores were statistically significant ($p < 0.05$).

SOURCE: Centers for Medicare & Medicaid Services: Medicare Health Outcomes Survey, 1999-2001.

Table 3
Physical and Mental Component Scores of the Dually Eligible Population and the Medicare-Only Eligibles from the Medicare Health Outcomes Survey Cohort II, by Age Group: 1999-2001

Component Score		Baseline		Significance	Remeasurement		Significance
		<65	≥65		<65	≥65	
Dually Eligible Population							
Physical	Mean	34.97	36.02	<0.05	34.34	34.56	NS
	SD	11.39	10.81	—	11.62	10.65	—
Mental	Mean	41.17	46.33	<0.05	40.95	45.53	<0.05
	SD	14.33	12.05	—	14.06	12.17	—
	n	495	1,545	—	495	1,545	—
Medicare-Only Eligibles							
Physical	Mean	32.01	43.64	<0.05	31.92	41.75	<0.05
	SD	10.38	11.09	—	10.45	11.49	—
Mental	Mean	41.76	52.64	<0.05	41.91	51.78	<0.05
	SD	13.56	9.73	—	13.57	10.32	—
	n	3,281	66,073	—	3,281	66,073	—

NOTE: NS is not significant.

SOURCE: Centers for Medicare & Medicaid Services: Medicare Health Outcomes Survey, 1999-2001.

Dually Eligible Population Versus Medicare-Only Eligibles

Table 4 shows the distribution of the general health and health transition ratings for the dually eligible population versus Medicare-only eligibles at baseline and remeasurement (1999-2001). The dually eligible population tended to rate both their current health and their health compared to 1 year ago as worse than Medicare-only eligibles. For example, while at baseline only about 8.5 percent of

the dually eligible population rated their current general health as “very good,” nearly 25 percent of Medicare-only eligibles did so. By the same token, about 14 percent of the dually eligible population rated their current health as “poor” at baseline compared with 4 percent of Medicare-only eligibles. Nearly one-third of the dually eligible population rated their health compared to 1 year ago as “somewhat worse” or “much worse,” while only about one-sixth of Medicare-only eligibles did so.

Table 4

General Health and Health Transition Ratings of the Dually Eligible Population and the Medicare-Only Eligibles from the Medicare Health Outcomes Survey Cohort II at Baseline and Remeasurement: 1999-2001

Rating	Dually Eligible Population				Medicare-Only Eligibles			
	Baseline		Remeasurement		Baseline		Remeasurement	
General Health Question	Number	%	Number	%	Number	%	Number	%
Current Health								
Excellent	47	2.30	32	1.57	3,860	5.57	3,153	4.55
Very Good	173	8.48	175	8.58	17,048	24.58	15,365	22.15
Good	611	29.95	545	26.72	29,802	42.97	28,712	41.40
Fair	905	44.36	912	44.71	15,355	22.14	17,358	25.03
Poor	285	13.97	354	17.35	2,764	3.99	4,207	6.07
Missing	19	0.93	22	1.08	525	0.76	559	0.81
Total	2,040	—	2,040	—	69,354	—	69,354	—
Health Transition Question								
Compared to 1 Year Ago								
Much Better	92	4.51	76	3.73	2,957	4.26	2,312	3.33
Somewhat Better	223	10.93	167	8.19	6,908	9.96	6,389	9.21
About the Same	1,048	51.37	967	47.40	47,290	68.19	44,232	63.78
Somewhat Worse	525	25.74	645	31.62	10,477	15.11	13,688	19.74
Much Worse	136	6.67	161	7.89	1,236	1.78	2,247	3.24
Missing	16	0.78	24	1.18	486	0.70	486	0.70
Total	2,040	—	2,040	—	69,354	—	69,354	—

SOURCE: Centers for Medicare & Medicaid Services: Medicare Health Outcomes Survey, 1999-2001.

Smoking Frequency and Advice to Quit

Table 5 displays smoking frequency by health status. At baseline (1999), 31.3 percent of dually eligible beneficiaries who reported their smoking frequency were smokers.⁵ The relationship between smoking frequency and health status seems paradoxical for the dually eligible population. “Every day” smokers at baseline had a higher mean PCS, than eligibles who only smoked some days or not at all (36.49, 35.96, and 34.69, respectively). To examine this finding further and to determine if the differences among the groups were statistically significant, we performed a one-way analysis of variance (ANOVA) on the three groups reporting smoking frequency. The groups differed significantly ($F=3.43$; $d.f.=2$, $1,240$; $p<0.05$). We conducted a post hoc multiple comparison test, assuming unequal variances, using Dunnett’s T3 and found that only the difference between every day smokers compared with “not at all” smok-

ers was statistically significant (difference= -1.79 points; $p<0.05$). The higher baseline PCS score of the dually eligible beneficiary who smoked every day could be a reflection of the overall poor health of the dually eligible population. We found different results when examining mean MCS score for these three groups in that non-smokers had higher scores overall. The one-way ANOVA test showed that the groups differed significantly on their mean baseline MCS score ($F=11.08$; $d.f.=2$; $p<0.001$). In the post hoc test we found that non-smokers had a significantly higher baseline mean MCS score than every day smokers (difference= -3.59 points; $p<0.001$) and some days smokers (difference= -4.03 ; $p<0.01$).

It is important to note that every day and some day smokers showed a greater decline in physical health status than those who did not smoke at all. This is clearly consistent with most research findings regarding the effects of smoking on health. The pattern of change from baseline to remeasurement in mental health status was similar among the three smoking frequency groups.

⁵ The dually eligible population was more likely to be current smokers than Medicare-only eligibles (18.5 percent of the Medicare-only group reported they were current smokers).

Table 5

Physical and Mental Component Scores and Smoking Frequency of the Dually-Eligible Population at Baseline and Remeasurement from the Medicare Health Outcomes Survey: 1999-2001

Smoking Frequency	Physical Component Score	Mental Component Score
Baseline (1999)		
Every Day (n=301)		
Mean	36.49	41.59
SD	10.73	13.85
Some Days (n=89)		
Mean	35.96	41.15
SD	10.19	11.75
Not At All (n=853)		
Mean	34.69	45.18
SD	10.59	12.60
Don't Know (n=12)		
Mean	38.64	46.48
SD	9.81	12.67
No Response (n=785)		
Mean	36.59	46.74
SD	11.44	12.46
Total (n=2,040)		
Mean	35.77	45.08
SD	10.96	12.83
Remeasurement (2001)		
Every Day (n=289)		
Mean	34.84	41.34
SD	11.32	13.49
Some Days (n=86)		
Mean	33.84	41.69
SD	9.09	12.06
Not At All (n=868)		
Mean	33.85	44.39
SD	10.57	12.28
Don't Know (n=11)		
Mean	36.24	38.69
SD	8.30	12.72
No Response (n=786)		
Mean	35.17	45.96
SD	11.27	12.94
Total (n=2,040)		
Mean	34.51	44.42
SD	10.89	12.80

SOURCE: Centers for Medicare & Medicaid Services: Medicare Health Outcomes Survey, 1999-2001.

Given the prevalence of smoking among the dually eligible population, we might ask what is the likelihood of smokers being advised to quit smoking by a doctor or other health care provider. At baseline, 65.8 percent of the dually eligible beneficiaries who were smokers reported receiving advice to quit smoking within the last 6 months on at

least one visit to a doctor or other health care provider. This figure increased to 67.1 percent at remeasurement. We compared these results with those for Medicare-only eligibles to see if there were differences in the likelihood of receiving advice to quit smoking between the two groups. For Medicare-only eligibles, the baseline and

Table 6
Dually Eligible Population Activities Scores from the Medicare Health Outcomes Survey Cohort II: 1999-2001

Activity	Baseline			Remeasurement		
	Number	Mean	SD	Mean	SD	Difference
Vigorous	1,968	1.46	0.69	1.40	0.66	-0.06
Moderate	1,969	1.82	0.77	1.73	0.76	-0.09
Lifting or Carrying Groceries	1,987	1.93	0.75	1.83	0.76	-0.10
Climbing Several Flights of Stairs	1,956	1.64	0.75	1.57	0.74	-0.07
Climbing 1 Flight of Stairs	1,931	1.98	0.78	1.88	0.79	-0.10
Bending, Kneeling, or Stooping	1,976	1.76	0.75	1.69	0.74	-0.07
Walking More than 1 Mile	1,947	1.64	0.79	1.54	0.75	-0.10
Walking Several Blocks	1,947	1.83	0.82	1.71	0.81	-0.12
Walking 1 Block	1,934	2.15	0.80	2.02	0.82	-0.12
Bathing or Dressing Yourself	2,006	2.44	0.73	2.37	0.75	-0.07

NOTES: All differences between baseline (1999) and remeasurement (2001) scores for the specified activity were statistically significant ($p < 0.05$). Low mean scores (close to 1) on these items indicate respondents are quite limited in the activity. Mid-level mean scores (around 2) indicate respondents tend to be a little limited in performing the activity. High mean scores (close to 3) indicate that most respondents are not limited at all in performing the activity.

SOURCE: Centers for Medicare & Medicaid Services: Medicare Health Outcomes Survey, 1999-2001.

remeasurement figures were 73.2 and 77.0 percent, respectively. Therefore, roughly two-thirds of the dually eligible population who were smokers received advice to quit smoking, while roughly three-fourths of Medicare-only eligibles received this advice. These data indicate that while the dually eligible population are more likely to smoke, Medicare-only eligibles are more likely to receive advice to quit smoking.

Limitations in Activities

Table 6 contains the dually eligible population score summary on the 10 activity items for the baseline and remeasurement periods. The number of respondents, mean item scores, SDs, and difference between baseline and remeasurement (remeasurement mean-baseline mean) are shown in Table 6.

The activities that dually eligible beneficiaries were most likely to be “limited a lot” in were: vigorous activities, climbing several flights of stairs, and walking more than 1

mile. The activities that the dually eligible population was least limited in were: bathing or dressing themselves, walking one block, and climbing one flight of stairs. There were statistically significant decreases in the ability to perform these activities between baseline and remeasurement for each activity. The dually eligible population experienced the greatest declines between baseline and remeasurement in walking several blocks and in walking one block.

The HOS also asks respondents if, during the past 4 weeks, as a result of physical health problems, “had they cut down on or limited activities,” “experienced difficulty performing work or other activities,” or “accomplished less than they would have liked.” Table 7 shows the percent of the dually eligible population who answered “yes” to each of these questions. The dually eligible population experienced a considerable increase between baseline and remeasurement in the percentage of respondents indicating that their physical health led them in the previous 4 weeks to

Table 7

Dually Eligible Population Activity Problems as a Result of Physical and Emotional Problems from the Medicare Health Outcomes Survey Cohort II: 1999-2001

Problem in Past 4 Weeks	Baseline		Remeasurement	
	Number	% Yes	Number	% Yes
As a Result of Physical Health				
Cut Down on Time Spent on Work or Activities	1,990	58.49	1982	63.87
Accomplished Less than You Would Like	1,973	69.64	1972	73.33
Limited in Kind of Work or Other Activities	1,939	68.95	1945	72.34
Difficulty Performing Work or Other Activities	1,985	66.95	1973	71.06
As a Result of Emotional Problems				
Cut Down on Time Spent on Work or Activities	1,984	45.06	1,988	48.89
Accomplished Less than You Would Like	1,979	52.91	1,971	55.91
Didn't Do Work or Other Activities as Careful as Usual	1,962	43.12	1,968	46.95

NOTE: $p < 0.05$.

SOURCE: Centers for Medicare & Medicaid Services: Medicare Health Outcomes Survey, 1999-2001.

experience these problems. The range of the increase varied between approximately 4 and 5 percentage points.

Three questions on the HOS ask respondents if work or daily activities were adversely affected by emotional problems. A summary of the results for both groups of eligibles is shown in Table 7. At baseline, 45 percent of the dually eligible population responded that emotional problems forced them to cut down on time spent on work or activities in the 4-week period prior to the survey. At remeasurement, this figure increased to nearly 49 percent.

Body Pain

Most of the dually eligible population reported experiencing pain during the 4 weeks prior to the survey (Table 8). At baseline, approximately 89 percent of the dually eligible population reported at least some pain that was experienced in the preceding 4 weeks, and approximately 28 percent reported severe or very severe pain. At baseline, nearly 38 percent of the dually eligible population reported that pain interfered with their normal work “quite a bit” or “extremely” during the preceding 4 weeks.

At 2-year remeasurement, pain was even more prevalent, although the shift in the distribution of reported pain was not dramatic.

Self-Reported Feelings and Depression

Nine items on the HOS ask respondents to report “how you feel and how things have been with you during the past 4 weeks” (Table 8). The items appear to relate to four dimensions of feelings: general happiness, general energy level, depression, and anxiety. Even though five of the nine items displayed statistically significant changes over the 2-year period (all negative changes), the magnitude of the changes was minor with the possible exception of the item that asked how much of the time the respondent had been a happy person over the previous 4 weeks. On that item there was a fairly substantial shift toward being happy less of the time at the 2-year remeasurement period. On average, respondents tended to indicate that they had a lot of energy or pep some of the time, were down in the dumps or blue some of the time, were very nervous some of the time, but were happy a good bit of the time or at least some of the time, the

Table 8**Body Pain Ratings of the Dually Eligible Population at Baseline and Remeasurement from the Medicare Health Outcomes Survey Cohort II: 1999-2001**

Rating	Baseline		Remeasurement	
	Number	%	Number	%
How much body pain during past 4 weeks?				
None	229	11.30	216	10.75
Very Mild	221	10.90	228	11.34
Mild	328	16.18	302	15.02
Moderate	682	33.65	671	33.38
Severe	425	20.97	458	22.79
Very Severe	142	7.01	135	6.72
Respondents	2,027		2,010	
How much did pain interfere with normal work during past 4 weeks?				
Not at All	383	19.02	379	18.76
A Little Bit	401	19.91	348	17.23
Moderately	472	23.44	449	22.23
Quite a Bit	559	27.76	618	30.59
Extremely	199	9.88	226	11.19
Respondents	2,014		2,020	

SOURCE: Centers for Medicare & Medicaid Services: Medicare Health Outcomes Survey, 1999-2001.

latter more prevalent at remeasurement than at baseline. Correlations between baseline and remeasurement scores were moderate for most items (range 0.36-0.53) indicating a fair amount of stability of ratings for the same individuals between baseline and remeasurement periods.

Despite many of the dually eligible population reporting being happy a good bit or at least some of the time, the dually eligible population have a high prevalence of depression (Table 9). This becomes especially evident when compared to Medicare-only eligibles. Approximately 43 percent of the dually eligible population reported at baseline and remeasurement that they “felt sad, blue, or depressed” for 2 weeks or more in the past year. About 34 percent reported at baseline and remeasurement that they “felt depressed or sad” much of the time in the past year. Moreover, about 35 percent reported that they had ever had 2 years or more in their lives when they “felt depressed or sad most days.” By comparison, Medicare-only eligibles were decidedly less likely to report depression or feelings of sadness. Approximately 20 percent at baseline and remeasurement

reported that they “felt sad, blue, or depressed” for 2 weeks or more in the past year. Between 12 and 13 percent reported at baseline and remeasurement that they “felt depressed or sad” much of the time in the past year. Slightly under 13 percent reported that they ever had 2 years or more in their lives when they “felt depressed or sad most days.”

SUMMARY AND DISCUSSION

This study was an attempt to profile the health status of the dually eligible population enrolled in MMC plans and to suggest some areas for consideration in future research involving this population. An identification of specific conditions contributing to low health status of the dually eligible population is the first step in informing policy and decisionmaking that can provide a foundation for improving or maintaining functionality of this vulnerable group and developing quality improvement initiatives.

There are approximately 300,000 dually eligible beneficiaries enrolled in managed care and another 6.7 million of the dually

Table 9
Dually Eligible Population Reporting of Feelings from the Medicare Health Outcomes Survey
Cohort II: 1999-2001

Feeling	Baseline			Remeasurement		Difference	Significance
	Number	Mean	SD	Mean	SD		
How much time during past 4 weeks							
Full of Pep	1,959	4.22	1.31	4.32	1.37	-0.10	<0.05
Been a Very Nervous Person	1,990	4.33	1.52	4.31	1.50	0.02	NS
So Down in Dumps Nothing Could Cheer Up	1,976	4.74	1.45	4.71	1.42	0.03	NS
Felt Calm and Peaceful	1,955	3.41	1.42	3.50	1.44	-0.09	<0.05
Have a Lot of Energy	1,967	4.25	1.41	4.40	1.38	-0.15	<0.05
Felt Downhearted and Blue	1,989	4.53	1.39	4.47	1.41	0.06	NS
Felt Worn Out	1,947	3.73	1.50	3.67	1.51	0.06	NS
Been a Happy Person	1,966	3.03	1.39	3.48	1.44	-0.45	<0.05
Felt Tired	2,005	3.38	1.41	3.28	1.44	0.10	<0.05

NOTES: NS is not significant. Score Interpretation: 1=All of the time, 2=Most of the time, 3=good bit of the time, 4=Some of the time, 5=A little of the time, 6=None of the time.

SOURCE: Centers for Medicare & Medicaid Services: Medicare Health Outcomes Survey, 1999-2001.

eligible population enrolled in FFS. This study was limited to survey data of 2,040 of the dually eligible population enrolled in managed care and approximately 69,000 enrolled in MMC. Only a few beneficiaries in this study were institutionalized or in a nursing home, and therefore, our results do not apply to these populations. Our results also have to be viewed in light of the relatively small percentage of the total dually eligible population that completed this survey. From the data we had available for this study, we were not able to separate the dually eligible population age 65 or over who were disabled from those who were aged only, since once disabled individuals became age 65, they were coded in the aged group. Despite these limitations, our results are consistent with both anecdotal and empirical evidence on health care utilization indicating that the dually eligible population has a high prevalence of disabilities, illness, and low functional status. If anything, our data are probably more favorable in estimating the health status of this population than some studies

since the population in our study was enrolled in MMC, had completed surveys in both 1999 and 2001, and consisted of virtually no institutionalized individuals.

We found that, in general, the dually eligible population enrolled in the M+C program is lower in health status than Medicare-only eligibles and far below the general population. Both physical and mental health component scores of the dually eligible population on the HOS tended to be well below those of the population of Medicare-only enrollees and well below those of the general population which has an average score of 50.

The dually eligible beneficiaries are, on average, considerably sicker, more depressed, and report more inadequately controlled pain than Medicare-only eligibles. They are more likely to be disabled, to smoke, less likely to be advised not to smoke, and are generally less educated than their Medicare counterparts. The relatively high smoking prevalence in the dually eligible population may, in part, be contributing to their low physical health

status. The dually eligible beneficiaries are also disproportionately limited in daily activities because of health problems and have a higher prevalence of depression than Medicare-only eligibles (relative risk > 2). It is not clear how many of the dually eligible beneficiaries suffering from depression are being treated for this disorder.

Most dually eligible beneficiaries reported that they were at least a little limited in performing routine activities such as climbing one flight of stairs, bending, kneeling, or stooping, and lifting or carrying groceries. Emotional problems also limited work and activities of this population with nearly 50 percent reporting that emotional problems forced them to cut down on time spent on work or activities in the 4-week period prior to the remeasurement survey. Whether controllable factors such as smoking, lack of appropriate exercise, and poor dietary choices contributed to these limitations is unknown, but worthy of investigation in future research. What is clear is that there was a considerable increase in reported limitations in work and normal activities between the baseline and remeasurement period 2 years later.

Besides depression, pain is a chronic condition in many of dually eligible beneficiaries. Nearly 9 out of 10 dually eligible beneficiaries reported experiencing pain during the 4 weeks prior to the survey, and approximately 3 out of 10 reported severe or very severe pain. Nearly 4 out of 10 reported that pain interfered with their work. There is evidence that disabled Medicaid beneficiaries with mental illness or other functional limitations experience greater difficulty in accessing care (Long, Coughlin, and Kendall, 2002). Moreover, Walsh and Clark (2002) found that dually eligible beneficiaries often lack an understanding of their benefits, that health plans

serving the dually eligible population frequently lack timely information about enrollment and eligibility status, that Federal and State policies and practices do not consistently assist Medicare cost sharing for the dually eligible population, and that all of these problems detract from a health plan's ability to manage the care of these beneficiaries. Therefore, because of coordination and administrative difficulties, the dually eligible beneficiary may be especially vulnerable to inadequate pain control, depression, and other serious physical and mental complications

Additional research needs to be performed in order to gain a better understanding about how to prevent health problems in the dually eligible population and how to get the dually eligible beneficiary to be more actively involved in their own health maintenance. While our research suggests that smoking may be contributing to health problems in the dually eligible population, we know very little about other behavioral and environmental factors that could be altered to improve their health status. For example, while it seems likely that poor nutrition is contributing to lowered health status in this population, we are aware of no hard data to support this conjecture. Obesity, which may be even more of a health risk than previously thought (Sturm, 2002), is associated with poor nutrition. We are not aware of any published studies of poor nutrition and obesity in the dually eligible population even though these factors could be contributing to high rates of diabetes, high blood pressure, heart disease, arthritis, and other conditions that have been documented.

In a subanalysis of the data, we found additional support for our contention that the dually eligible population is distinct from Medicare-only eligibles, and approaches to their care should be mindful of these

differences. The dually eligible population consists of many disabled individuals, while Medicare-only eligibles consist primarily of the aged and only secondarily of the disabled who are not enrolled in Medicaid and, in most cases, would not be eligible for Medicaid due to their income status. While there was relatively little difference in health status between the dually eligible population and Medicare-only eligibles for the age group 65 or under (because both groups consist heavily of disabled individuals), we found that the health status of Medicare-only eligibles was considerably better than that of the dually eligible age group 65 or over.

In considering possible options to improve their health status, it may be worthwhile to consider the dually eligible population as being comprised of at least four groups: (1) nursing home residents; (2) other institutionalized individuals who qualify for Medicaid because of their disability such as the developmentally disabled; (3) disabled individuals in the community, many of whom are under age 65 and qualify for Medicaid because of their disability; and (4) individuals age 65 or over who qualify for Medicaid because of their low income status. The health status and needs of these four groups differ.⁶ Our study consisted almost entirely of beneficiaries who were not institutionalized or in nursing homes.

Global quality improvement initiatives that center on pain and depression management, smoking cessation, and nutrition in the dually eligible population present important opportunities for collaboration between Medicare and Medicaid. The relationship between depression, pain, nutritional status, and smoking behavior is

worth investigating in future research, because they both impact health status and are impacted by health status. That is, these factors can contribute to poor health, and poor health can lead to depression and pain, and can affect both eating habits and smoking behavior. Although we did not have data on nutritional status, our results strongly suggest that the dually eligible population is especially vulnerable to depression, inadequately controlled pain, and health risks related to smoking. Future quality improvement efforts to improve the health status of this population need to consider these areas of particular vulnerability.

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⁶In our managed care sample, the first two groups are practically non-existent, so, in effect, only the last two groups apply to our study.

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