Access and Satisfaction Within the Disabled Medicare Population

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Little is known about variations in the levels of access and satisfaction within the disabled Medicare population. Based on the Medicare Current Beneficiary Survey (MCBS), beneficiaries under 65 years of age were classified by original reason for disability (mental versus physical). Those with a mental disability were less likely to have a private physician as a usual source; were less satisfied with the overall quality of care, availability of after-hours care, followup care, and coordination of care; and were more likely to report unmet need, owing in large part to supply barriers. Implications for the current delivery system and for design of managed care programs are discussed.

INTRODUCTION

The Medicare population under 65 years of age includes individuals who have been receiving Social Security disability insurance benefits for 24 months (disabled workers), persons with end stage renal disease, adults disabled as children (before age 22), and disabled widows and widowers. To be eligible for Social Security disability benefits, the disabled worker must be unable to engage in any "substantial gainful activity" as a result of a physical or mental impairment that is expected to last continuously for a 12-month period or result in death. (Age, education, and work experience may be taken into account.) Disabled widows and widowers have to meet a much more stringent criterion: inability to engage in any gainful activity, regardless of age, education, and work experience (Lubitz and Pine, 1986).

Recent evidence has shown that disabled Medicare beneficiaries (under age 65) experience more barriers to medical care and consistently have lower levels of satisfaction than elderly Medicare beneficiaries (Rosenbach and Huber, 1993). For example, in 1991, 8 percent of the elderly—but 23 percent of the disabled—reported having a health problem in the past year and not receiving care. Financial barriers were more often reported as a factor among the disabled (68 percent) than the elderly (53 percent). The disabled had lower levels of satisfaction with the quality of medical care than the elderly (88 percent versus 95 percent), the availability of medical care after hours (88 percent versus 95 percent), the ease of getting to the doctor (83 percent versus 93 percent), and the cost of medical care (60 percent versus 71 percent).

However, little is known about variations in the levels of access and satisfaction within the disabled Medicare population. In particular, we are interested in variations among those with mental versus physical disabilities.

With the ongoing debate about expanding Medicare and Medicaid enrollments in managed care, information on access and satisfaction within the disabled population is important for three reasons. Disabled beneficiaries, with a vast array of complex health and social needs, are a potentially vulnerable population. Thus, baseline information on their levels of access and satisfaction can suggest areas where the current health care system may be inade-

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quate. Moreover, such information can suggest areas for special attention in designing managed care programs for those with disabilities. Finally, these data provide a benchmark for comparison in the future.

This study is based on the MCBS, a survey of Medicare beneficiaries sponsored by HCFA that gathers detailed information on utilization, access, and satisfaction within the Medicare population. In addition, the survey provides an unusually rich series of control variables on such characteristics as health status, race/ethnicity, living arrangements, income, and supplemental insurance.

ANALYTIC APPROACH

This study uses a traditional analytic framework to examine access and satisfaction within the disabled Medicare population (Andersen, 1968; Andersen and Newman, 1973; Andersen, Kravitz, and Anderson, 1975; Andersen and Aday, 1978). Access is measured along three dimensions. "Potential access" is described by factors that influence the demand for and supply of health care services. This study focuses on indicators of the presence of a usual source of care, the type of usual source, the mode of transportation to the usual source, and attitudes toward the usual source.

"Realized access" reflects the outcomes of an individual's entry into and journey through the health care system. The measures included in this study capture multiple dimensions of satisfaction as well as the extent of and reasons for barriers to care.

The third dimension is "equitability of access." Equitable access has been defined as the allocation of services on the basis of need, and inequitable access occurs when services are distributed according to such demographic characteristics as race, family income, or place of residence, as opposed to age, sex, or need (Andersen and Aday, 1978. Equitability of access is of particular concern for vulnerable populations in order to ascertain the extent to which factors other than need account for access and satisfaction outcomes.

Both descriptive and multivariate analyses are performed. The multivariate model builds on Andersen's (1968) behavioral model, which posits that there are three general factors that affect utilization: predisposing, enabling, and need characteristics. An individual's predisposition to using health services is reflected by demographic and social characteristics (such as age, sex, education, occupation, and race/ethnicity). Enabling characteristics reflect the individual's personal resources (e.g., income, supplemental insurance coverage), as well as the availability of health services in the community (as proxied by geographic location). Finally, need characteristics include both the individual's own perception of the state of his or her health, as well as the level of functional impairment (activities of daily living [ADLs] and instrumental activities of daily living [IADLs]).

The multivariate model tested for this article builds on the Andersen model by including measures of predisposing, enabling, and need characteristics captured in the MCBS. The most significant modification to the model is the inclusion of a measure of type of disability, differentiating between mental and physical impairments. This is the key analytic variable of interest, because it indicates the independent effect of type of disability, controlling for other factors known to influence access and satisfaction (e.g., age, income, supplemental insurance coverage, health status).

DATA AND METHODS

Data Source

The MCBS is conducted by Westat under contract with HCFA (Adler, 1994). The MCBS contains two components: community interviews for the non-institutionalized population and facility interviews for those in long-term care facilities. The questionnaires vary according to the setting of the interview. Face-to-face interviews are conducted using computer-assisted personal interviewing.

The first round of interviews was conducted between September and December of 1991. Additional interviews were conducted approximately every 4 months. During Round 1 of the survey, baseline demographic, insurance, health status, and access measures were gathered. Subsequent rounds obtained detailed data on the use of services since the last interview and the associated expenditures. In addition to gathering core data during each interview, supplements have been administered on access and satisfaction (Rounds 1, 4, and 7), information sources (Round 2), income and assets (Rounds 3 and 6), and qualified Medicare beneficiaries (Round 5).

The MCBS sample was drawn from the Medicare enrollment file, using a stratified, multistage, area probability design. The sample was stratified by seven age groups: under 45 years, 45-64, 65-69, 70-74, 75-79, 80-84, and 85 years or over. Two groups were oversampled: the oldest old (85 years of age or over) and the disabled (under 65 years of age). The sample was chosen to be geographically representative. In the first stage, 107 primary sampling units were chosen; in the second stage, 1,163 geographic clusters were randomly selected within those primary sampling units.

Sample

This analysis is based on the Round 1 MCBS sample, corresponding to access and satisfaction during calendar year 1991. The original Round 1 sample contained 14,530 cases, of which 12,677 were completed, for a response rate of 87 percent. The Round 1 sample was comprised of 11,735 community interviews and 942 facility interviews.

This analysis is limited to the community interviews with those under 65 years of age as of July 1, 1991, given our interest in access among the non-institutionalized disabled population. Several adjustments were made to the sample. Only those who were alive for the entire reference year (1991) were included. Those who were eligible for Medicare because of end stage renal disease were also excluded because of their highly specialized, high-cost pattern of use (Lubitz and Pine, 1986). The final sample size for this analysis is 1,884. To obtain representative estimates for the Medicare disabled population, the sample includes both those enrolled in managed care (n = 46), as well as those in the traditional fee-for-service Medicare program.

This analysis includes both self-reported and proxy responses. Overall, about 21 percent of the Round 1 sample used a proxy; this ranged from roughly 17 percent with a specified disability to about 30 percent with a mental disability.

File Construction

The Round 1 MCBS Access to Care File served as the core for the analytic file. This file contains self-reported information on whether the respondent has a usual source of care and if so, what type; the respondent's satisfaction with care;

and attitudes toward the usual source of care. In addition, indicators of access barriers are captured, including whether the respondent has ever had a problem and not seen a doctor. Demographic characteristics, supplemental insurance status, health status, and other variables were merged to the core analytic file, using a common personal identifier.

Classification of Cause of Disability

For the purpose of this analysis, the disabled Medicare beneficiary population was classified according to the self-reported cause of eligibility. The MCBS asked for original cause of eligibility in three steps. First, the interviewer read a list of 20 medical conditions and, for each, asked whether a doctor had ever told the respondent that he or she had the condition. Next, the interviewer asked whether any of the specified conditions were the original cause of becoming eligible for Medicare. If none of the specific conditions applied, the interviewer asked for a verbatim response of the original cause of Medicare eligibility. The specified conditions included the following: hardening of the arteries, high blood pressure, myocardial infarction, angina pectoris, other heart condition, stroke, skin cancer, other cancer or tumor, diabetes, rheumatoid arthritis, other arthritis, mental retardation, Alzheimer's disease, mental or psychiatric disorder, osteoporosis, broken hip, Parkinson's disease, emphysema or chronic obstructive pulmonary disease, partial paralysis, or loss of limb.

The classification scheme was designed to differentiate those who were eligible because of a mental or psychiatric disorder versus all other disorders. In addition, among those eligible as a result of other disorders, those who had ever been told they had a mental or psychiatric disorder were separately identified. Among the remaining beneficiaries, those who were eligible as a result of one of the specified conditions (listed in the previous paragraph) were differentiated from those who were eligible because of another (unspecified) condition. The four categories and their raw sample sizes are shown in Table 1.

Table 2 identifies the types of conditions reported across each of the disability categories. Respondents were asked to self-report whether they had ever been told they had selected mental and physical conditions. By definition, all of those classified in the first two categories and none of those in the latter categories had ever been told they had a mental disorder. Those eligible because of a specific physical disability tended to report chronic heart problems and stroke. Moreover, there is a significant amount of comorbidity within this population.

Access and Satisfaction Variables

The presence and type of usual source of care is an indicator of potential access. The type of usual source was constructed by identifying (1) whether or not the individual had a usual source; (2) if so, whether the usual source was a physician's office or other place; and (3) if another place, whether or not the respondent had a usual physician. The four resulting categories were: physician's office, other place with a usual physician, other place without a usual physician, and no usual source.

The extent of reported barriers to care is a subjective measure of realized access. Respondents were asked whether they had a health problem in the past year and had not received care. The indicator of barriers excludes those who said the reason they did not receive care was that the problem was not serious.

Satisfaction with care is measured along eight dimensions: (1) overall quality of

Table 1

Number and Percent of Disabled Medicare Beneficiaries, by Category of Disability

Category	Number	Percent
Total	1,884	100.0
Eligible for Medicare as a result of mental or psychiatric disorder	286	15.2
Eligible for Medicare as a result of another condition, but ever told they had a mental or psychiatric disorder	295	15.7
Eligible for Medicare because of a specified condition	584	31.0
Eligible for Medicare because of another (unspecified) condition	719	38.2

SOURCE: Health Care Financing Administration, Office of the Actuary; Data from Round 1 of the Medicare Current Beneficiary Survey; data analysis by the Center for Health Economics Research, Waltham, MA.

care received in the past year, (2) availability of medical care at night and on weekends, (3) ease and convenience of getting to a doctor from home, (4) the out-of-pocket costs of medical care, (5) information given about what was wrong, (6) followup care received after an initial treatment or operation, (7) concern of doctors for overall health rather than just for an isolated symptom or disease, and (8) getting all medical care needs taken care of at the same location. Finally, attitudes toward the usual source of care are quantified.

Independent Variables

Predisposing factors include age, sex, race/ethnicity, living arrangement, and educational attainment. Age is disaggregated into three categories for the descriptive analysis, under 45 years, 45-54, and 55-64. The multivariate analysis includes age in 1991 (measured as a continuous variable) and a quadratic age term to capture hypothesized nonlinearities in utilization. Race/ethnicity is classified in four categories: white (not Hispanic), black (not Hispanic), Hispanic, and other. Educational status is measured as less than 12 years, 12 years (high school graduate), and more than 12 years. The living arrangement (with spouse, with others, and alone) is a proxy for the type of social support.

Enabling factors include income and supplemental insurance as well as geographic location. Income is measured as total household income and is represented as a categorical (rather than continuous) variable. The out-of-pocket price of care is reflected by a series of dummy variables for the presence of supplemental insurance coverage, including Medicare and Medicaid (dual enrollees), Medicare and private supplemental coverage, Medicare and other coverage (including other public programs or combinations of public and private supplemental benefits). The reference category is Medicare coverage with no supplemental insurance coverage. Census division and urban or rural location are included as proxies for variations in community resources and practice patterns.

Three measures of need are used. The first is perceived health status, self-reported by the respondent on a five-point scale (excellent, very good, good, fair, poor). The second is the level of dependency, based on IADLs and ADLs. The level of dependency was constructed based on indicators of whether the individual had difficulty with five IADL activities (preparing meals, shopping, managing money, using the telephone, and/or doing light housework) and six ADL activities (bathing, dressing, using the toilet, transferring, eating, and walking). A five-point scale indicates whether the individual is dependent in IADLs only, in 1-2 ADLs, 3-4 ADLs, 5-6 ADLs, or has no dependency at all. The third measure indicates how often the beneficiary's health affects his or her social life (none, some, or all of the time).

Table 2

Percent of Disabled Medicare Beneficiaries, by Type of Disability and Self-Reported Condition

Condition	All Disabled Beneficiaries	Persons With Mental Disability	Other Disability		
			Persons Ever Told They Had a Mental Disorder	Persons With Specified Condition	Persons With Unspecified Condition
			Percent		
Hardening of Arteries	8.9	5.3	5.5	18.6	3.8
Hypertension	37.6	49.8	23.8	52.8	26.0
Myocardial Infarction	14.5	9.2	9.8	28.4	7.2
Angina Pectoris or Chronic Heart Disease	13.0	7.4	8.5	27.9	5.0
Other Heart Conditions	23.1	20.4	18.4	39.5	12.8
Stroke or Brain Hemorrhage	11.4	8.4	9.9	20.8	5.6
Skin Cancer	4.7	7.0	3.4	5.1	3.9
Other Cancer or Tumor	12.0	10.5	8.2	8.4	9.1
Diabetes	14.7	18.0	7.8	22.8	9.6
Other Arthritis	13.2	9.9	8.3	21.0	10.1
Arthritis	34.5	31.9	23.3	48.3	28.8
Mental Retardation	18.5	32.5	21.6	16.1	13.5
Alzheimer's Disease	1.0	3.9	1.4	0.3	0.3
Mental Disorder	31.0	100.0	100.0	0.0	0.0
Osteoporosis	5.7	4.6	5.8	9.8	2.7
Broken Hip	3.5	3.2	1.7	6.2	2.1
Parkinson's Disease	1.0	1.4	1.7	1.4	0.3
Emphysema, Asthma, Chronic Obstructive Pulmonary Disease	18.0	22.8	13.0	27.5	10.3
Partial Paralysis	21.3	14.8	16.7	31.2	17.7
Loss of Arm or Leg	1.8	0.7	0.7	3.6	1.1

NOTE: Conditions reflect those included in the Medicare Current Beneficiary Survey.

SOURCE: Health Care Financing Administration, Office of the Actuary: Data from Round 1 of the Medicare Current Beneficiary Survey; data analysis by the Center for Health Economics Research, Waltham, MA.

Statistical Methods

Because of the complex sample design (clustering, stratification, and unequal probabilities of selection), it is inappropriate to use statistical procedures that assume simple random sampling. Weighting and standard error adjustments have been made using SUDAAN software, developed by Shah et al. (1992). SUDAAN runs under SAS, utilizing SAS files. Weighted means and proportions and their associated standard errors were generated with PROC DESCRIPT. All means and proportions were age-adjusted using the direct method of standardization. *T*-tests were performed in Excel, using the weighted means and adjusted standard errors.

Cross-tabulations were performed with PROC CROSSTAB. Chi-square tests were generated by the procedure.

Logistic regression analysis was performed with PROC LOGISTIC. Weighted least-squares regression was performed with PROC REGRESS. Beta coefficients, adjusted standard errors, and adjusted *p*-values were produced.

RESULTS

Characteristics of Disabled Medicare Beneficiaries

Table 3 presents the characteristics of disabled Medicare beneficiaries according to their disability status. Those who were eligible as a result of a mental disability or who had a mental disorder were significantly younger than other disabled beneficiaries. One-half were under 45 years of age, compared with 18 percent of those with one of the specified conditions and 36 percent of the residual category. There were no significant sex differences across the four groups. Those with a mental disability were slightly more likely to be of a minority race (especially black).

Although they were younger, those with a mental disability had a higher level of educational attainment than other disabled beneficiaries. Nearly 60 percent had at least a high school education, compared with 50 percent of those with another type of condition. Those with a mental disability were more likely to be living alone or with others. They were much less likely to be married, possibly because they were younger, but probably also as a function of their condition.

By definition, those who are Medicare-eligible because of a disability have low incomes, because they cannot work as a result of their impairments. Nevertheless, there were variations within the disabled population, in terms of income level and supplemental insurance coverage. Those with a mental disability were more apt to have low incomes (likely correlated with the lower likelihood of being married). Two-thirds had incomes of $10,000 or less versus one-half of the other beneficiaries. Not surprisingly then, those with a mental disability were more likely to have dual eligibility for Medicaid. Conversely, those with another type of disability were more likely to have private supplemental coverage. Roughly one-third of each group had no supplemental coverage.

Although the entire sample is disabled, there is still considerable variability in general health status, level of dependency, and the impact of health on social activities. Those with one of the specified disabilities were most likely to report they were in fair or poor health status or to have three or more ADL limitations. For example, 76 percent of those with a specified disability were in fair or poor health, compared with 69 percent of those who were eligible because of a mental disability status.

Thirty-one percent of those with a specified disability, but only 18 percent of those with a mental disability, had three or more ADLs. In general, those with a mental disability were more likely to report IADL limitations; fully one-half reported limitations in paying bills (Table 4). This may be a function of the establishment of "protective payee" arrangements for the mentally disabled to oversee disbursement of funds for shelter, food, clothing, and other basic needs. On the other hand, those with a mental disability were significantly less likely to experience ADL limitations, for example, in bathing, dressing, walking, transferring, and toileting, than those with other conditions.

Those with a mental disorder were most likely to report that their health limits social activities all of the time. Those with a speci-

Table 3

Percent of Disabled Medicare Beneficiaries, by Type of Disability and Selected Characteristics

Characteristic	All Disabled Beneficiaries	Persons With Mental Disability	Other Disability		
			Persons Ever Told They Had a Mental Disorder	Persons With Specified Condition	Persons With Unspecified Condition
			Percent		
Total	100.0	100.0	100.0	100.0	100.0
Age[1]					
Under 45 Years	33.9	52.1	50.1	17.9	36.2
45 - 54 Years	22.2	20.9	24.1	21.1	23.0
55 - 64 Years	44.0	27.1	25.9	61.0	40.9
Chi Squared = 154.62***					
Sex					
Male	61.8	60.7	64.6	62.5	60.4
Female	38.2	39.3	35.4	37.5	39.6
Chi Squared = 1.26					
Race/Ethnicity					
White	75.3	71.5	72.6	78.8	74.3
Black	16.9	20.0	19.7	14.2	17.2
Hispanic	5.7	6.6	4.4	5.6	6.0
Other	2.2	1.9	3.3	1.5	2.5
Chi Squared = 18.04**					
Educational Status					
Less Than 12 Years	48.9	40.9	42.4	52.2	51.2
12 Years	33.6	39.1	33.1	32.5	32.8
More Than 12 Years	17.5	20.0	24.5	15.3	16.0
Chi Squared = 19.80***					
Living Arrangement					
Alone	28.0	34.9	43.9	22.5	26.3
With Spouse	54.7	42.4	36.4	61.5	57.4
With Others (Including Children)	17.4	22.7	19.7	16.1	16.3
Chi Squared = 58.93***					
Income					
$10,000 or Less	55.1	64.0	67.3	48.0	53.8
$10,001-20,000	26.4	21.5	21.3	29.5	27.3
$20,001-35,000	13.3	11.5	9.2	16.8	12.2
$35,001 or More	5.2	3.0	2.2	5.7	6.6
Chi Squared = 41.52***					
Insurance Coverage					
Medicare Only	30.5	35.8	30.3	28.8	30.4
Medicare and Medicaid	27.1	36.8	38.9	20.6	25.3
Medicare and Private	35.2	21.5	22.5	43.9	36.7
Medicare and Other/Combined	7.2	5.9	8.3	6.8	7.6
Chi Squared = 63.44***					
General Health Status					
Excellent	5.4	4.4	6.4	2.4	8.2
Very Good	9.3	8.6	10.6	5.1	12.8
Good	20.1	19.1	23.9	17.0	21.8
Fair	30.3	32.4	27.3	32.2	28.9
Poor	35.0	35.4	31.8	43.4	28.2
Chi Squared = 64.36***					

See notes at end of table.

Table 3—Continued

Percent of Disabled Medicare Beneficiaries, by Type of Disability and Selected Characteristics

Characteristic	All Disabled Beneficiaries	Persons With Mental Disability	Other Disability		
			Persons Ever Told They Had a Mental Disorder	Persons With Specified Condition	Persons With Unspecified Condition
			Percent		
Level of Dependency					
None	17.8	21.2	24.0	13.4	18.3
IADLs Only	20.0	33.7	27.8	13.0	18.7
1-2 ADLs	34.4	26.8	23.5	42.3	33.8
3-4 ADLs	17.9	13.2	15.8	20.2	18.2
5-6 ADLs	9.9	5.1	8.9	11.0	11.0
Chi Squared = 109.48***					
Health Limits Social Activities					
None of the Time	31.5	28.7	32.7	26.1	37.0
Some of the Time	54.6	51.6	51.1	60.4	51.6
All of the Time	13.9	19.7	16.3	13.6	11.4
Chi Squared = 24.63***					
Census Division					
New England	2.7	1.1	5.4	3.2	1.8
Mid Atlantic	17.0	15.2	16.7	18.3	16.5
East North Central	17.9	21.6	17.2	16.0	18.6
West North Central	5.4	5.7	4.4	5.4	5.6
South Atlantic	23.1	26.4	21.8	25.0	20.7
East South Central	8.6	7.7	6.1	10.1	8.3
West South Central	9.1	7.0	7.9	8.7	10.7
Mountain	5.6	4.3	5.6	5.1	6.5
Pacific	10.7	11.0	15.0	8.2	11.4
Chi Squared = 51.88***					
Urban or Rural Location					
Urban	70.0	67.9	73.1	70.0	69.6
Rural	30.0	32.1	26.9	30.1	30.4
Chi Squared = 1.16					

[1]As of July 1, 1991.

*** Significant at the 0.01 level.
** Significant at the 0.05 level.

NOTES: IADL is instrumental activity of daily living. ADL is activity of daily living. Percentages may not add to 100 due to of rounding.

SOURCE: Health Care Financing Administration, Office of the Actuary: Data from Round 1 of the Medicare Current Beneficiary Survey; data analysis by the Center for Health Economics Research, Waltham, MA.

fied disability more often reported that social activities were affected some of the time.

There were minor variations in the geographic distribution of the disabled, with a disproportionate share of the mentally disabled residing in the East North Central Division (22 percent) and the South Atlantic Division (26 percent). Those with a mental disorder were more likely to reside in the Pacific Division (15 percent). There were no differences by urban or rural location.

The disabled Medicare population is demographically quite different from the elderly Medicare population (Rosenbach and Huber, 1991). The disabled are disproportionately male (62 percent versus 41 percent among the elderly), more likely to be of a race other than white (25 percent versus 13 percent), more likely to have completed high school (49 percent versus 43 percent), more likely to have low income (55 percent versus 31 percent), more likely to have no public or private supplemental insurance coverage (31 percent versus 11 percent), more like to report fair or poor health status (65 percent versus 42 percent), and more likely to

Table 4

Percent of Disabled Medicare Beneficiaries with Activity Limitations, by Type of Disability

Activity With Limitation	All Disabled Beneficiaries	Persons With Mental Disability	Other Disability		
			Persons Ever Told They Had a Mental Disorder	Persons With Specified Condition	Persons With Unspecified Condition
			Percent		
Instrumental Activities of Daily Living					
Using Phone	19.2	21.3	20.9	21.0	18.8
Doing Light Housework	37.0	36.1	36.2	42.9	33.3
Preparing Meals	31.4	32.1	36.3	37.5	26.8
Shopping	44.8	48.5	47.3	50.5	42.0
Paying Bills	29.2	50.2	45.1	**24.7	**23.7
Activities of Daily Living					
Bathing	25.9	21.3	26.7	**28.6	27.4
Dressing	23.5	17.4	23.5	**28.4	**24.2
Eating	9.4	7.2	10.0	8.5	11.6
Walking	54.3	38.8	42.9	**65.5	**55.1
Transferring	34.1	26.6	32.5	**38.1	**35.4
Toileting	14.6	10.0	12.5	**16.9	**16.1

**$p < 0.05$ (reference group is persons with mental disability).

SOURCE: Health Care Financing Administration, Office of the Actuary: Data from Round 1 of the Medicare Current Beneficiary Survey; data analysis by the Center for Health Economics Research, Waltham, MA.

have functional limitations (82 percent versus 42 percent). Thus, the disabled population is a very vulnerable population, both in terms of socioeconomic status and health status.

Usual Source of Care

Disabled Medicare beneficiaries with a mental disability or disorder were less likely than the other two groups to report a physician's office as the usual source of care (Table 5). For example, 45 percent of the mentally disabled versus 64 percent of those with a specified disability usually visited a physician's office. Instead, those with a mental disability more often identified a place, such as a clinic, as the usual source of care; nevertheless, they generally indicated they had a regular physician. Those with a specified disability were least likely to indicate they had no regular source—perhaps because of their complex medical needs.

By far the most common mode of transportation to the usual source was either driving or being driven. It is worth noting, however, that those with a mental disability or disorder were more likely than other groups to take public transportation to their usual source.

How do the disabled feel about their usual source and how do attitudes vary among the four groups? There was almost universal agreement among respondents that their doctor is competent and well trained (96 percent on average). Nine in 10 beneficiaries also felt that their doctor had a good understanding of their medical history, although this was most often reported by those with a specified disability. In general, those with a specified physical disability had consistently higher ratings than those with a mental disability; for example, they reported most frequently that they had great confidence in their doctor and that they depend on their doctor to make them feel better. Those with a mental disability were significantly less likely to feel that their doctor answers all their questions, checks everything when examining them, and understands things that are wrong. They also were less likely to indicate that the doctor tells them all

Table 5

Percent of Disabled Medicare Beneficiaries, by Type of Disability and Usual Source of Care

Characteristic	All Disabled Beneficiaries	Persons With Mental Disability	Other Disability		
			Persons Ever Told They Had a Mental Disorder	Persons With Specified Condition	Persons With Unspecified Condition
			Percent		
Total	100.0	100.0	100.0	100.0	100.0
Usual Source of Care					
Physicians' Office or Health Maintenance Organization	57.6	45.3	48.5	63.7	59.5
Other Place, Regular Physician	24.1	32.9	30.5	23.4	19.4
Other Place, No Regular Physician	9.4	11.1	11.4	8.1	9.2
No Regular Source	9.0	10.7	9.6	4.8	11.9
Chi Squared = 53.12**					
Mode of Transportation to Usual Source					
Walking	4.6	5.2	6.6	2.4	5.9
Driving	84.5	78.7	77.3	90.0	83.7
Public Transportation	8.1	14.0	12.9	5.3	7.0
Other	2.8	2.1	3.2	2.3	3.4
Chi Squared = 37.87**					
Attitudes Toward The Usual Source					
Doctor Is Competent and Well Trained	95.8	94.8	94.2	96.7	96.2
Doctor Has Good Understanding of Medical History	91.6	89.5	86.3	**94.2	90.8
Doctor Answers All Questions	91.4	86.4	87.9	**93.2	**92.1
Sample Person Has Great Confidence in Doctor	90.7	87.4	85.3	**93.3	91.1
Doctor Checks Everything When Examining	90.6	84.9	85.9	**91.5	**93.1
Doctor Understands Things That Are Wrong	87.8	81.7	82.0	**91.8	**87.7
Doctor Tells Sample Person All (S)he Wants to Know	86.5	81.3	83.6	**88.3	86.8
Sample Person Depends on Doctor to Feel Better	83.4	79.3	77.5	**86.9	83.8
Doctor Seems To Be In a Hurry	22.7	23.7	23.1	21.2	23.4
Health Problems Not Discussed	19.9	22.4	25.4	17.3	20.0
Doctor Does Not Explain Medical Problems	18.2	25.6	20.1	**16.2	**18.5
Doctor Acts As If Doing a Favor	13.4	18.6	18.1	**9.4	13.5

** $p < 0.05$ (reference group is persons with mental disability).

SOURCE: Health Care Financing Administration, Office of the Actuary: Data from Round 1 of the Medicare Current Beneficiary Survey; data analysis by the Center for Health Economics Research, Waltham, MA.

they want to know. Moreover, those with a mental disability were more likely than those with a physical disability to feel that their doctor does not explain medical problems (26 percent versus 16 percent), and that the doctor acts as if doing a favor (19 percent versus 9 percent).

Satisfaction With Care

Of the eight dimensions of satisfaction displayed in Table 6, disabled Medicare beneficiaries were most satisfied with the followup care received after an initial treatment or operation (89 percent) and least satisfied with the out-of-pocket costs of medical care (60 percent). Within the disabled population, those with a mental disability had lower levels of satisfaction on almost all dimensions. For example, 82 percent of those with a mental disability were satisfied with followup care, versus 90-92 percent of those with other types of disabilities.

Interestingly, there is a substantial differential in perceptions about the concern of doctors for the beneficiaries' overall health: 75 percent of those with a mental disability were satisfied versus 83 percent of those who had ever been told they had a mental disorder, and 87-90 percent of those with other conditions. This suggests that those with a mental disability more often felt individual doctors were only concerned

Table 6

Percent of Disabled Medicare Beneficiaries, by Type of Disability and Dimension of Satisfaction[1]

Dimension of Satisfaction	All Disabled Beneficiaries	Persons With Mental Disability	Other Disability		
			Persons Ever Told They Had a Mental Disorder	Persons With Specified Condition	Persons With Unspecified Condition
			Percent		
Followup Care Received After an Initial Treatment or Operation	89.0	81.7	85.4	**92.4	**89.9
Overall Quality of Care Received in the Past Year	88.0	80.9	83.7	**88.1	**91.5
Concern of Doctors for Overall Health	85.9	74.8	85.4	**89.5	**87.2
Information Given About What Was Wrong	84.3	75.6	83.7	**88.0	**85.4
Getting Medical Care Needs Taken Care of at the Same Location	84.2	77.6	83.0	**84.4	**86.9
Ease and Convenience of Getting to a Doctor from Home	83.2	80.4	81.1	83.2	85.0
Availability of Medical Care at Night or on Weekends	81.1	67.3	82.8	**83.0	**84.3
Out-of-Pocket Costs of Medical Care	60.3	61.1	79.2	57.8	62.6

**p < 0.05 (reference group is persons with mental disability).

[1]Percent reporting they were very satisfied or satisfied with the particular dimension.

SOURCE: Health Care Financing Administration, Office of the Actuary: Data from Round 1 of the Medicare Current Beneficiary Survey; data analysis by the Center for Health Economics Research, Waltham, MA.

with an isolated symptom or disease and not the beneficiaries' overall health.

Another area with substantial disparities was in the availability of medical care at night and on weekends. Only 67 percent of those with a mental disability versus 83-84 percent of those with another condition were satisfied with after-hours access.

Finally, there appear to be no variations in the level of satisfaction with out-of-pocket medical costs. This may be in part a function of the widespread supplemental coverage—either public or private—within the disabled population.

Unmet Need

One way of assessing the net effect of access and satisfaction indicators is to measure the extent of unmet need. Those with a mental disability were more likely than other disabled Medicare beneficiaries to report that they had a problem in the past year and did not see a physician (this excludes those who said the problem was not serious). Fully 1 in 3 mentally disabled Medicare beneficiaries (34 percent) had experienced such a barrier in the past year, compared with 20-24 percent of the other three groups (Table 7).

Of those with any unmet need, the most commonly reported reason was a financial barrier, such as "costs too much," "doctor charges more than Medicare pays," or "doctor does not accept Medicaid." About two-thirds of the disabled reported a financial barrier as the reason for not seeing the doctor. Next in order of importance among each of the four groups were non-financial barriers, such as "no way to get to doctor,"

Table 7

Percent of Disabled Medicare Beneficiaries, by Type of Disability and Self-Reported Reason for Unmet Need

Characteristic of Unmet Need	All Disabled Beneficiaries	Persons With Mental Disability	Other Disability		
			Persons Ever Told They Had a Mental Disorder	Persons With Specified Condition	Persons With Unspecified Condition
Percent With Unmet Need[1]	23.3	33.6	**20.9	**24.3	**20.3
Reasons					
Financial Barrier[2]	66.9	61.3	68.1	70.8	63.1
Non-Financial Barrier[3]	40.7	45.2	39.8	36.1	47.0
Supply Barrier[4]	13.9	25.4	25.2	**11.2	**10.5
Other Barrier	20.7	13.8	24.2	17.9	21.9

** $p < 0.05$ (reference group is persons with mental disability).

[1]Reflects the percent who had a health problem in the previous year and who did not receive care; excludes those who reported the problem was not serious.
[2]Includes "costs too much," "doctor charges more than Medicare pays," or "doctor does not accept Medicaid."
[3]Includes "no way to get to a doctor," "could not leave family," "did not have time," "doctor could not do much," or "fear of what's wrong."
[4]Includes "could not get an appointment" or "doctor not available."

SOURCE: Health Care Financing Administration, Office of the Actuary: Data from Round 1 of the Medicare Current Beneficiary Survey; data analysis by the Center for Health Economics Research, Waltham, MA.

"could not leave family," "doctor couldn't do much," or "fear of what's wrong." Supply barriers reflect such concerns as "could not get an appointment," or "doctor not available." Those with a mental disability or disorder were more than twice as likely as the other two groups to report they encountered supply barriers (25 percent versus 11 percent).

Multivariate Analysis

The descriptive results have highlighted differences in access and satisfaction within the disabled Medicare population. To what extent, though, do such differences disappear when controlling for variations in the characteristics of the population (e.g., age, education, supplemental insurance status, income, health status)? Multivariate analysis enables us to control for predisposing, enabling, and need characteristics simultaneously, to ascertain the net effect of the type of disability on access and satisfaction. Moreover, multivariate analysis shows the effect of individual characteristics, controlling for need, indicating the equitability of access within the disabled population.

Table 8 presents multivariate results for six dependent variables included in the descriptive analysis: (1) the probability of having a usual source; (2) the probability of having a physician's office as a usual source (conditional upon having a regular source); (3) satisfaction with the overall quality of care; (4) satisfaction with the out-of-pocket costs of care; (5) satisfaction with the availability of care at night or on weekends; and (6) the probability of having any unmet need. These variables are a subset of the indicators already mentioned but represent the important dimensions of access and satisfaction.

As shown in Table 8, the cause of disability often is a significant determinant of access and satisfaction. Those in the residual category were less like to have a usual source of care than those with a mental disability. However, of those with a usual source, those with non-psychiatric conditions were more likely to have a physician's office as their usual source. In other words, those with a mental disability were more likely to rely on a clinic or other place as their usual source. Satisfaction was consistently higher among those with a condi-

Table 8

Determinants of Access and Satisfaction Within the Mentally and Physically Disabled Medicare Population

Characteristic	Probability of Having a Usual Source of Care	Probability of Having a Physician's Office as the Usual Source[1]	Probability of Having Unmet Need	Satisfaction With Overall Quality of Care	Satisfaction With the Out-of-Pocket Costs of Care	Satisfaction With the Availability of After-Hours Care[2]
Intercept	1.5625	0.4203	-1.9545	-1.382	1.3304	0.7248
	(1.6814)	(1.2773)	(1.2252)	(1.4888)	(1.0646)	(1.8378)
Disability Status (Mental Disability Omitted)						
Ever Told They Had a Mental Disorder	0.1066	0.2399	***-0.7520	0.1620	0.2941	0.3026
	(0.3135)	(0.2225)	(0.2145)	(0.2545)	(0.1877)	(0.2676)
Specified Condition	0.3686	**0.4553	***-0.7271	***0.6794	0.3037	***0.6552
	(0.3019)	(0.1835)	(0.1816)	(0.2544)	(0.1836)	(0.2105)
Unspecified Condition	*-0.3476	***0.6546	***-0.8230	***0.9386	*0.3115	**0.6684
	(0.1961)	(0.1940)	(0.1833)	(0.2638)	(0.1712)	(0.2649)
Age	0.0057	-0.0080	0.0566	0.0758	*-0.0832	0.0074
	(0.0679)	(0.0480)	(0.0476)	(0.0597)	(0.0439)	(0.0720)
Age-Squared	0.0003	0.0001	-0.0007	-0.0006	**0.0010	0.0000
	(0.0008)	(0.0005)	(0.0005)	(0.0006)	(0.0005)	(0.0008)
Sex (Female Omitted)						
Male	***-0.6995	***-0.4473	**-0.3634	0.0203	**0.2440	0.0583
	(0.2207)	(0.1069)	(0.1393)	(0.1634)	(0.1191)	(0.1556)
Race/Ethnicity (White Omitted)						
Black	0.3726	***-0.6314	-0.0856	-0.3370	-0.0504	0.3132
	(0.2864)	(0.1865)	(0.1874)	(0.2067)	(0.1604)	(0.2541)
Hispanic	-0.4108	0.2215	0.1287	-0.5754	0.2012	0.2187
	(0.3986)	(0.2793)	(0.2639)	(0.3573)	(0.2510)	(0.3965)
Other/Unknown	-0.6385	-0.3236	**0.7617	-0.7850	0.4890	-0.1539
	(0.4456)	(0.4380)	(0.3816)	(0.5894)	(0.4404)	(0.5795)
Educational Status (More than 12 Years Omitted)						
Less Than 12 Years	-0.2271	***0.5094	-0.1097	-0.1678	0.0367	***0.6322
	(0.2704)	(0.1780)	(0.2231)	(0.2420)	(0.1428)	(0.2141)
12 Years	-0.3144	***0.5015	0.0342	0.0732	0.2051	**0.4609
	(0.2639)	(0.1778)	(0.1843)	(0.2320)	(0.1657)	(0.2152)
***Living Arrangement* (Alone Omitted)**						
With Spouse	-0.1055	**0.5166	0.1510	0.3852	-0.1893	-0.1031
	(0.2813)	(0.2114)	(0.2142)	(0.2480)	(0.1989)	(0.2380)
With Other (Including Children)	0.2014	0.0968	***-0.5040	**0.4183	0.2398	0.0737
	(0.2285)	(0.1611)	(0.1499)	(0.2021)	(0.1707)	(0.2376)

See footnotes at end of table.

Table 8—Continued

Determinants of Access and Satisfaction Within the Mentally and Physically Disabled Medicare Population

Characteristic	Probability of Having a Usual Source of Care	Probability of Having a Physician's Office as the Usual Source[1]	Probability of Having Unmet Need	Satisfaction With Overall Quality of Care	Satisfaction With the Out-of-Pocket Costs of Care	Satisfaction With the Availability of After-Hours Care[2]
Income (More than $35,000 Omitted)						
Less Than $10,000	-0.5625	-0.2602	***1.2783	-0.1425	**-0.7062	*-1.0005
	(0.5317)	(0.3510)	(0.4157)	(0.3761)	(0.3170)	(0.5659)
$10,001-$20,000	0.1471	*-0.5722	***1.2987	0.0229	**-0.6826	-0.8786
	(0.5430)	(0.3433)	(0.3932)	(0.4112)	(0.3029)	(0.5389)
$20,001-$35,000	0.5931	-0.5992	0.5923	0.0953	-0.0726	-0.2269
	(0.6454)	(0.3758)	(0.4183)	(0.3928)	(0.3464)	(0.5464)
Supplemental Insurance Coverage (None Omitted)						
Medicaid	**0.5455	0.2234	***-0.8880	0.3907	***1.3435	0.1162
	(0.2324)	(0.1669)	(0.2247)	(0.2452)	(0.1605)	(0.2197)
Private	0.4544	***0.7281	***-0.6552	0.0073	0.2076	0.0661
	(0.2819)	(0.1878)	(0.1680)	(0.2022)	(0.1583)	(0.2390)
Other/Combined	*0.7055	***0.5637	**-0.5333	*0.6105	***0.8596	0.2862
	(0.3932)	(0.2109)	(0.2349)	(0.3554)	(0.2639)	(0.3538)
Perceived Health Status (Poor Omitted)						
Excellent	*-0.6962	-0.4612	*-0.7421	*0.9554	***1.1013	0.8326
	(0.3961)	(0.2800)	(0.3819)	(0.5225)	(0.3555)	(0.5305)
Very Good	***-1.3040	0.3570	**-0.7099	0.5544	***0.8321	**0.9227
	(0.3550)	(0.2390)	(0.2713)	(0.3889)	(0.2415)	(0.4577)
Good	-0.2758	-0.2169	***-0.6410	*0.5763	***0.5656	***0.8394
	(0.2979)	(0.2044)	(0.2042)	(0.2931)	(0.2056)	(0.2542)
Fair	-0.3726	-0.1151	**-0.4243	***0.5874	***0.4501	**0.4938
	(0.2616)	(0.1578)	(0.1645)	(0.1651)	(0.1481)	(0.2079)
Level of Dependency (No ADLs or IADLs Omitted)						
1 ADL Only	0.1808	0.0789	-0.2073	-0.2260	**0.4850	0.0632
	(0.2833)	(0.2015)	(0.2629)	(0.3325)	(0.2070)	(0.3314)
1-2 ADLs	0.1132	-0.0474	*0.4831	***-0.8607	-0.2193	-0.0376
	(0.2648)	(0.2361)	(0.2542)	(0.3003)	(0.1950)	(0.2775)
3-4 ADLs	0.2305	-0.0860	***0.9047	**-0.7666	***-0.5977	-0.0423
	(0.3946)	(0.2669)	(0.2518)	(0.3556)	(0.2045)	(0.3070)
5-6 ADLs	0.3291	-0.0399	**0.7383	***-1.0684	**-0.5900	**-0.7023
	(0.5388)	(0.2816)	(0.3279)	(0.3622)	(0.2347)	(0.3219)

See footnotes at end of table.

Table 8—Continued

Determinants of Access and Satisfaction Within the Mentally and Physically Disabled Medicare Population

Characteristic	Probability of Having a Usual Source of Care	Probability of Having a Physician's Office as the Usual Source[1]	Probability of Having Unmet Need	Satisfaction With Overall Quality of Care	Satisfaction With the Out-of-Pocket Costs of Care	Satisfaction With the Availability of After-Hours Care[2]
Limit of Health on Social Activities (All of the Time Omitted)						
None of the Time	0.2270	**-0.5614	-0.2602	***1.0482	0.0481	**0.7248
	(0.3359)	(0.2157)	(0.2740)	(0.3159)	(0.1809)	(0.3194)
Some of the Time	0.2124	-0.2815	0.2961	*0.3965	***-0.3357	0.1042
	(0.2790)	(0.1915)	(0.1966)	(0.2084)	(0.1257)	(0.2053)
Census Division (Pacific Omitted)						
New England	***1.0197	0.2281	0.5040	0.7795	-0.0258	0.3991
	(0.3404)	(0.4273)	(0.4847)	(0.6250)	(0.2587)	(0.8041)
Mid-Atlantic	0.5352	**0.7030	-0.2125	0.0366	0.1278	**-0.8477
	(0.3360)	(0.2822)	(0.2596)	(0.4129)	(0.2706)	(0.4273)
East North Central	**0.8745	-0.2146	-0.0850	0.1334	-0.2034	-0.2887
	(0.3513)	(0.3274)	(0.3012)	(0.3613)	(0.2758)	(0.3917)
West North Central	0.2631	-0.7585	0.0025	0.1290	-0.1121	-0.0373
	(0.5098)	(0.5713)	(0.3010)	(0.5336)	(0.3850)	(0.5736)
South Atlantic	0.2824	**0.7283	0.0864	-0.0767	0.0124	-0.3564
	(0.2993)	(0.3032)	(0.2351)	(0.3653)	(0.2568)	(0.3996)
East South Central	*0.6180	*0.6621	-0.0607	0.5510	0.0542	0.4912
	(0.3299)	(0.3618)	(0.2273)	(0.4176)	(0.3207)	(0.4757)
West South Central	0.0348	0.1212	0.1998	0.3652	0.3050	-0.6671
	(0.3369)	(0.3059)	(0.2256)	(0.3986)	(0.2793)	(0.4813)
Mountain	0.7571	-0.0563	0.3179	0.6936	0.0031	-0.3169
	(0.6714)	(0.5898)	(0.3929)	(0.4473)	(0.3812)	(0.5076)
Urban/Rural Location (Rural Omitted)						
Urban	0.1063	**-0.4658	-0.0934	-0.0494	0.1161	-0.0366
	(0.2279)	(0.1802)	(0.1260)	(0.1753)	(0.1485)	(0.1888)
N	1,686	1,523	1,692	1,690	1,691	1,112
Minus Log Likelihood	440.96	902.02	818.74	561.79	1,003.49	495.79
Multiple R-Squared	0.0748	0.1317	0.1415	0.0774	0.1487	0.1012

[1]Conditional upon having a regular source.
[2]Includes those who reported any experence with this dimension.

*** Statistically significant at the 0.01 level.
** Statistically significant at the 0.05 level.
* Statistically significant at the 0.10 level.

NOTE: Standard errors are in parentheses.

SOURCE: Health Care Financing Administration, Office of the Actuary: Data from Round 1 of the Medicare Current Beneficiary Survey; data analysis by the Center for Health Economics Research, Waltham, MA.

tion other than a mental disorder, even controlling for demographic, social, economic, and need characteristics. Finally, the likelihood of reporting a barrier to care (unmet need) was significantly higher among the mentally disabled, compared with each of the three disability groups, all other things being equal. The multivariate results on satisfaction with the costs of care reveal that, once other factors are controlled, significant differences in the level of satisfaction are observed according to cause of disability.

In general, age is not a significant determinant of access and satisfaction, except with respect to costs. A U-shaped distribution is observed in the disabled Medicare population under 65 years of age. Men are less likely to have a usual source than women, and among men who do, they are less likely to have a physician's office as their usual source. In particular, Department of Veteran's Affairs facilities may be an important source of care for this population. Men are also less likely to report any unmet need in the past year and are more likely to be satisfied with the costs of care than women.

Few differences are noted with respect to the three sociodemographic characteristics. Black disabled Medicare beneficiaries with a usual source were less likely to have a physician's office as the usual source. This may be a function of less availability of private physicians in these beneficiaries' neighborhoods. Beneficiaries of other races or ethnicities were more likely to report unmet need than white beneficiaries. Interestingly, among those with a usual source, individuals with a high school education or less were more likely to have a physician's office as their usual source (relative to those with more than a high school education). Satisfaction with the availability of after-hours care was higher among those with a high school education or less. Of those with a usual source, those living with a spouse were more likely than those living alone to visit a private physician's office, perhaps a function of the increased mobility afforded by the social support of a spouse. However, unmet need was lower among those living with others than those living alone; perhaps the social support of children or others can help overcome barriers to care.

Those with lower income were more likely to experience barriers to care and were less satisfied with the costs of care than those with higher incomes. This result is important because it suggests that low-income disabled persons potentially face financial access barriers, all other things being equal.

As might be expected, those with no supplemental insurance had a higher likelihood of experiencing unmet need than those with either public or private supplemental coverage (or combined coverage). Supplemental coverage through Medicaid or combined sources was also associated with a higher likelihood of a usual source; and among those with a usual source, private or combined coverage raised the probability of a private physician's office as the usual source. These results suggest that supplemental Medicaid coverage improves the likelihood of having a usual source, although that source may not necessarily be a private physician's office. Not surprisingly, having supplemental coverage either through Medicaid or combined sources was associated with a higher probability of satisfaction with the cost of care.

As perceived health status declines, the probability of experiencing unmet need increases, all other things being equal. Those in poor health status tended to be less satisfied with the selected dimensions of health care (quality, costs, availability), compared with those with better health status. Likewise, unmet need was higher

and satisfaction lower among those with higher levels of dependency. In general, there were no differences in access and satisfaction between those with IADLs only and those with no limitations. (For some unexplained reason, however, those with IADLs only were more satisfied with the cost of care than those with no limitations.) The final health-status variable captures the impact of health on social activities. Compared with those who were limited all of the time, those with no limits were less likely to have a physician's office as the usual source, perhaps because of lower medical need; they were more satisfied with the overall quality of care and availability of after-hours care. Those who were limited some of the time were relatively more satisfied with the overall quality and less satisfied with costs. Thus, we see a consistent pattern across all three health-status measures of lower levels of satisfaction and higher levels of unmet need among those in poorer health.

Finally, we examine geographic differences in access and satisfaction. Few differences are observed by census division, and no differences between urban and rural areas.

DISCUSSION

This analysis revealed several important results concerning the equitability of access within the current fee-for-service environment. Disabled Medicare beneficiaries with lower incomes or with no supplemental insurance clearly were less satisfied with the care they received and had higher levels of unmet need. Similarly, those with poorer health status had a lower likelihood of being satisfied and a higher likelihood of experiencing unmet need. Few differences were observed across the sociodemographic characteristics.

The major contribution of this analysis, however, has been to highlight the significant variations in access and satisfaction by type of disability. For example, those with a mental disability differed from those with other disabilities in terms of their type of usual source—those with a mental disability were more likely to report a usual place such as a clinic, rather than a doctor's office—and they were more likely to rely on public transportation to travel to their usual source. Those with a mental disability were less likely to feel that their usual provider checked everything when they were examined, that they understood things that were wrong, and that their provider answered all questions.

Levels of satisfaction tended to be lower among those with a mental disability, particularly in terms of their satisfaction with the overall quality of care, the availability of care after hours, the followup care, the doctor's concern for their overall health, the coordination of care at a single location, and the information given about what was wrong.

Finally, the descriptive and multivariate analysis results indicate that those with a mental disability were significantly more likely to report unmet need and were more likely than the other two groups to report supply barriers as a reason.

Thus, our current delivery system appears to fall short in meeting the needs of those with a mental disability. Availability of care appears to be inadequate (as reflected in the level of unmet need because of supply barriers), as well as the responsiveness of providers to the need for information by patients with mental disabilities. To the extent that physicians are unable to answer beneficiaries' questions, understand their problems, or check everything, there may be a greater need for more interdisciplinary training on treatment of mental illness. On the other hand, this may reflect the uncertainties inherent in chronic mental illness.

This analysis also has a number of impli-

cations for the design of managed care programs with a particular focus on the mentally disabled. Managed care programs restrict access to specialty care and hospital care through a primary care gatekeeper. Moreover, such programs can interrupt continuity of care if the prior source of care is not included in the managed care provider network. Those with a mental disability could be especially vulnerable, as this study has shown they often utilize non-office-based providers as their usual source. These beneficiaries are also more reliant on public transportation. Living alone and with very low incomes, many do not have cars, nor do they have the social supports (e.g., spouse, children) to take them to the doctor. This suggests that to foster continuity of care, managed care organizations should develop networks of community-based providers who can continue to serve this population and should develop payment schedules that adequately reimburse these providers for their services (many of which are enhanced services, beyond what private providers typically offer). Moreover, the accessibility of providers by means of public transportation needs to be considered in designing provider networks. Alternatively, managed care providers could offer transportation services to their disabled clients to address concerns about accessibility.

Another theme of this study is the extent of supply barriers encountered by the mentally disabled. Availability of care after hours (on nights or on weekends) was second only to the costs of medical care in the level of dissatisfaction. One of the key sources of cost savings in managed care is from reduced emergency room use; thus, mechanisms are required for providing after-hours care, for example, through telephone consultation or urgent care centers. However, one of the benefits of managed care may be better coordination of care during regular hours, thus minimizing the need for after-hours care.

In order to minimize the level of unmet need, managed care plans will also need to monitor the availability of patient appointments on a timely basis, particularly for these vulnerable populations. Another key concern in the design of managed care programs is the integration of care in a single location. With their complex array of medical and social needs, the disabled population may present needs that are particularly challenging.

These results also suggest the importance of provider education. Many primary care providers may have little or no experience in treating the disabled population, particularly those with mental disorders. The mentally disabled population expressed relatively lower levels of satisfaction with the overall quality of care received in the past year, and more specifically, with the followup care, the type of information that was given, and the concern of doctors for their overall health. Their attitudes about their usual source of care also were not as favorable as others.

Finally, the results on satisfaction with the costs of care deserve commentary. In the descriptive analysis, there were no significant differences among the four groups in satisfaction with the out-of-pocket costs of medical care. However, when the multivariate analysis controlled for the characteristics of disabled Medicare beneficiaries, such as income, supplemental insurance status, and health status, the results showed that the mentally disabled had lower levels of satisfaction with the costs of medical care, relative to those with a specified disability or in the residual category. This result suggests that the differential cost-sharing arrangement for mental health treatment services (50 percent versus 20 percent for all other services) results in lower levels of satisfaction

among the mentally disabled, all other things being equal. This, too, may explain the higher levels of unmet need among the mentally disabled. One possible advantage of the shift to managed care may be more limited exposure to out-of-pocket expenses, to the extent that managed care programs avoid extensive use of copayments.

This analysis is based on survey data, and several caveats need to be stated. First, the cause of eligibility is self-reported and is dependent on respondent recall. Moreover, with the specified list of disabling conditions, respondents may tend to overreport those on the list, leading to measurement error in the reported cause of eligibility. However, the strength and consistency of the results suggest that there is face validity. Moreover, the similarity on numerous dimensions between those with a mental disability and those with a mental disorder (with another reason causing their Medicare eligibility) suggests that the results on access and satisfaction of the mentally disabled may be generalizable to those with a mental disorder, regardless of the original reason for eligibility.

It should also be noted that many disabled Medicare beneficiaries relied on proxies to respond to the survey. Thus, some of the perceptions about access and satisfaction may reflect the expectations and experiences of the proxies.[1]

This study focused on variations in access and satisfaction and did not address differential utilization patterns within the disabled Medicare population. Future analyses should examine differences in patterns of ambulatory care usage (differentiating between primary care and specialty care), emergency room use, and inpatient admissions (with a special focus on ambulatory care sensitive admissions). Such analyses, when adequately controlling for differences in health status, would provide valuable indicators of differences in realized access. The MCBS (with linked survey and claims data) is ideally suited for such analyses in the future.

In conclusion, this study has shown that the disabled Medicare population is heterogeneous in terms of barriers to access and levels of satisfaction. In the current predominantly fee-for-service environment, mentally disabled beneficiaries experienced relatively higher levels of unmet need, lower levels of satisfaction, and less favorable attitudes toward their usual source of care than other disabled Medicare beneficiaries. Clearly, there is long-standing concern about whether the incentives of capitation foster the appropriate level and mix of care required by disabled populations (Schlesinger, 1986). Davis, Collins, and Morris (1994) note that many managed care organizations have begun to compete for patient populations that they previously avoided. Such patients are sicker and have more complex medical and social problems that plans and providers may not be equipped to address. Although the shift to managed care presents opportunities for improving the coordination of care, as well as the integration of preventive, primary, and specialty care, ongoing monitoring is required to ensure that access and satisfaction within the disabled population do not deteriorate under managed care. Monitoring efforts, such as that maintained through the MCBS, need to be expanded to include (and, if necessary, oversample for) disabled populations enrolled in managed care. Specific questions regarding barriers to specialty referrals, denials of emergency room visits, and

[1]This was explored further in the multivariate analysis by including a dummy variable indicating whether the data were reported by a proxy. The results did not change with inclusion of this variable, suggesting that the findings on differences by type of disability are not an artifact of the higher use of proxies by those with a mental disability.

reasons for disenrollment need to be incorporated, to monitor areas in which vulnerable populations can be adversely affected. Such monitoring efforts may also identify areas in which managed care programs improve access and satisfaction, relative to the current fee-for-service environment.

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