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Chapter Authors: Lisa I. Iezzoni, Jane R. Soukup, Suzanne G. Leveille

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## How do Medicare Beneficiaries with Physical and Sensory Disabilities Feel About Their Health Care?

Lisa I. Iezzoni, Jane R. Soukup, and Suzanne G. Leveille

Persons with disabilities often experience more problems than others with their health care quality, along various dimensions.<sup>1</sup> *Healthy People 2010*, which sets national health priorities, notes disparities in care for many persons with disabilities, (U.S. Department of Health and Human Services 2000) and in 2005, the U.S. Surgeon General called for concerted efforts to eliminate these disparities (U.S. Department of Health and Human Services 2005). Disability thus joins such patient attributes as race, ethnicity, and nonmajority cultural traditions as targets for health care quality improvement, especially ensuring patient-centered care, perhaps the fundamental guiding principle for improving care according to the Institute of Medicine's seminal report *Crossing the Quality Chasm* (Institute of Medicine Committee on Quality of Health Care in America 2001; Berwick 2002).

Patient-centered care—care that meets patients' preferences, expectations, and needs—requires open and accurate communication between patients and clinicians, as well as ready access to services and other interven-

Lisa I. Iezzoni, M.D., M.Sc., is professor of medicine, Harvard Medical School, and Associate Director, Institute for Health Policy at the Massachusetts General Hospital, Boston. Jane R. Soukup, M.Sc., is a data analyst at Beth Israel Deaconess Medical Center, Boston. Suzanne G. Leveille, Ph.D., is assistant professor of medicine, Harvard Medical School, and a research associate in the Division of General Medicine and Primary Care, Beth Israel Deaconess Medical Center, Boston.

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1. See U.S. Department of Health and Human Services 2000; Rosenbach 1995; Rosenbach, Acamache, and Khandker 1995; Andriacchi 1997; Chan et al. 1999; Lawthers et al. 2003; Iezzoni et al. 2000a; Iezzoni et al. 2001; Iezzoni et al. 2002; Weil et al. 2002; Iezzoni et al. 2003; Iezzoni et al. 2004a; O'Day, Killeen, and Iezzoni 2004; O'Day et al. 2005; Iezzoni et al. 2004b; Iezzoni and O'Day 2006; Iezzoni, Killeen, and O'Day 2006; and McCarthy et al. 2006.

tions. Persons with specific functional impairments, such as vision or hearing deficits, impaired mobility, or limited manual dexterity, confront special communication and physical access challenges within typical medical settings (Iezzoni and O'Day 2006; U.S. Department of Health and Human Services 2005; Kirschner, Breslin, and Iezzoni 2007; Institute of Medicine Committee on Disability in America 2007). Administrative, financial, and organizational factors exacerbate potential barriers to care, as do reduced appointment times and harried physicians. People with disabilities are not necessarily acutely or even chronically ill (e.g., persons who were born blind or deaf and have no active health problems). Nevertheless, many do have narrow margins of health and need extensive time with their physicians to address complex issues (Burns et al. 1990; Gans, Mann, and Becker 1993; Bockenek et al. 1998). Health insurers, including Medicare, typically provide inadequate coverage of items or services required by people with disabilities, such as maintenance physical therapy, personal assistance services, and assistive technologies (Institute of Medicine Committee on Disability in America 2007, Cassel, Besdine, and Siegel, 1999). Discussing options and developing alternative approaches to meet patients' ongoing needs may require additional time with clinicians.

Little work has examined whether persons with specific sensory and physical impairments are receiving patient-centered care (i.e., whether they believe that their care is meeting their expectations and needs). Here, we examine results from the Medicare Current Beneficiary Survey (MCBS), which asks respondents twenty questions about their health care experiences. These questions encompass the technical and interpersonal aspects of care, (Donabedian 1980), as well as measures of access to care. Each dimension holds special implications for persons with visual, hearing, and physical impairments.

## **14.1 Methods**

### **14.1.1 Database**

We examined responses from 15,056 community-dwelling (noninstitutionalized) Medicare beneficiaries interviewed in the 2001 MCBS. As described elsewhere, (Adler 1994, 1995), the MCBS is an ongoing, longitudinal survey of a representative panel of Medicare beneficiaries, with an oversampling of persons under age sixty-five and eighty-five years of age and older. We eliminated persons receiving Medicare under the end stage renal disease entitlement (less than 1 percent of respondents).

Persons typically remain empaneled in the MCBS for four years, with the sample replenished annually (e.g., to replace respondents who died). The MCBS interviews panel members or their proxies in-person three times yearly, tracking participants wherever they reside and using two

types of surveys: computer-assisted community questionnaires for persons living in the community, and facility questionnaires for respondents in long-term care or institutional settings. With the facility questionnaire, interviewers query administrators or designated staff, not the Medicare beneficiary, and therefore do not address respondents' perceptions of care. We used results only from the MCBS community survey, which included questions about demographic characteristics, health status and functioning, perceptions of care, and usual source of care. We considered both self- and proxy-reported responses. Overall, 8.9 percent of respondents were proxies: among persons under age sixty-five, proxies supplied 15.3 percent of responses; 8.0 percent of persons over sixty-four years of age had proxies.

#### 14.1.2 Disability Indicators

Annually, the MCBS asks about specific sensory and physical abilities (Adler 1994). We used these responses to identify five categories of potential disabilities pertaining to vision, hearing, walking, reaching overhead, and grasping and writing. For each category, we created two levels based on answers about the extent of difficulties, assigning people to the most severe level for which they qualified. The appendix presents our algorithm for assigning disability categories based on survey responses.

#### 14.1.3 Perceptions of Care

The September–December round of the MCBS includes supplemental surveys on experiences with and perceptions of respondents' usual source of care. Tables 14.2 through 14.4 show the language used in asking about twenty different aspects of care. Questions typically had four response options: strongly agree, agree, disagree, and strongly disagree. We grouped agree and strongly agree responses (likewise disagree and strongly disagree responses). The directionality of the questions varied. Agreement sometimes suggested poor experiences and sometimes good care. We modeled responses bearing negative connotations.

#### 14.1.4 Analyses

All findings employed MCBS sampling weights to produce nationally representative Medicare population estimates. Our analyses used Stata (version 8.2, College Station, Texas).

We used direct standardization methods to adjust for age using seven groupings (eighteen to forty-four, forty-five to sixty-four, sixty-five to sixty-nine, seventy to seventy-four, seventy-five to seventy-nine, eighty to eighty-four, and eighty-five years and over) and sex. For each disability category and each quality dimension, we produced multivariable logistic regression models predicting negative perceptions of care based on: age group, sex, race, ethnicity, residence location (urban versus rural), education (high school or less versus more than high school), household income (< \$25,000

and \$25,000+), managed care participation, having a specific physician, and proxy respondent. This model adjusts for patient and organizational attributes that could affect perceptions of care to isolate the contributions of disability. We report adjusted odds ratios with 95 percent confidence intervals (CI).

In prior work using the 1996 MCBS, we produced separate multivariable models for persons age sixty-five years and above and younger than sixty-five (Iezzoni et al. 2003). We failed to find consistent, important differences by these broad age groups, although in some instances a nonsignificant trend suggested that younger persons were less satisfied than older persons. Here, we present results from the models combining elderly and younger respondents. Only 92 MCBS respondents reported being blind; because results from this group are statistically unstable, we present results from persons reporting very low vision (1,457 respondents). For brevity in the other impairment categories, we show results only for the most disabled groups. Although generally trends were apparent (i.e., rates of dissatisfaction rose with increasing severity of impairment), this did not always occur across the twenty questions.

## 14.2 Results

Of an estimated 35.28 million noninstitutionalized Medicare beneficiaries in 2001, 65.6 percent (estimated 23.08 million) reported at least one of five disabling conditions (table 14.1). Among people under age sixty-five (12.8 percent of noninstitutionalized Medicare beneficiaries or 4.52 million), 75.4 percent (estimated 3.31 million) noted at least one of the five disabling conditions.

Among persons over age sixty-five, those with more severe impairments were generally older, on average, than people with less severe limitations (table 14.2). After adjusting for age, higher percentages of women than men typically reported impairments; hearing difficulties was the major exception, where men reported much higher rates than women. After adjusting for age and sex, higher percentages of black than white persons reported all impairments except hearing difficulties. Adjusted percents for Hispanic persons and people of other races varied by disabling condition. Persons with impairments were more likely than others to have only a high school education and annual incomes under \$25,000.

Across the five disability categories, from 81.5 percent to 92.8 percent of persons younger than age sixty-five reported having a usual physician (table 14.1). Thus, roughly 10 percent to 20 percent of these younger individuals did not have a usual doctor. Fewer persons older than age sixty-four reported being without a usual physician. Even so, just over 6 percent of older persons with any major disability lacked a usual doctor.

**Table 14.1** Population estimates of disabling conditions and having a specific physician

Disabling condition	Population estimates millions (population %) <sup>a</sup>			Has a specific physician (%) <sup>b</sup>	
	All	Age < 65	Age 65 +	Age < 65	Age 65+
All beneficiaries regardless of presence of disabling condition	35.28	4.52	30.76	87.3	
Vision					
Blind	0.19 (0.5)	0.04 (1.0)	0.14 (0.5)	81.5	96.4
Very low vision	3.16 (9.0)	0.57 (12.7)	2.59 (8.4)	88.8	92.9
Hearing					
Deaf/very hard of hearing	2.78 (7.9)	0.28 (6.2)	2.50 (8.1)	88.9	92.4
Hard of hearing	12.41 (35.3)	1.21 (26.8)	11.2 (36.5)	89.1	93.2
Walking					
Major difficulties	6.32 (18.0)	1.22 (27.1)	5.10 (16.6)	92.8	95.0
Moderate difficulties	5.83 (16.6)	1.31 (29.2)	4.52 (14.7)	90.2	92.7
Reaching overhead					
Major difficulties	3.65 (10.4)	0.96 (21.4)	2.69 (8.8)	92.8	94.7
Moderate difficulties	2.75 (7.8)	0.68 (15.1)	2.07 (6.8)	89.4	94.5
Grasping and writing					
Major difficulties	2.46 (7.0)	0.72 (15.9)	1.74 (7.3)	90.4	94.0
Moderate difficulties	2.94 (8.3)	0.68 (15.2)	2.25 (5.7)	91.6	93.8
None of the 5 disabilities	12.15 (34.5)	1.11 (24.6)	11.04 (35.9)	80.8	90.7
At least one major disability	10.35 (29.4)	2.08 (46.0)	8.27 (26.9)	91.5	93.9

Source: 2001 Medicare Current Beneficiary Survey.

<sup>a</sup>Rewighted population estimates for Medicare beneficiaries, excluding those qualifying because of end-stage renal disease.

<sup>b</sup>Percent adjusted for population weights but not standardized by age and sex.

### 14.2.1 Perceptions of Health Care Access and Quality

Tables 14.3 through 14.5 show percents (adjusted for age and sex using direct standardization) reporting negative views of various aspects of their care. Table 14.3 examines concerns about costs and access to care: more than 20 percent of persons with major disabilities are dissatisfied with their out-of-pocket costs, compared with 11.8 percent of persons without any of the five impairments. Rates of dissatisfaction for these other cost and access dimensions among persons with major disabilities are two- to three-fold those reported by persons without disability. Table 14.4 addresses perceptions of technical aspects of care. Although persons with major disabilities report higher rates of dissatisfaction along these dimensions, the vast majority of persons report few concerns, with only 1 to 3 percent of persons questioning their doctor's competence and training. The most problematic area involved concerns that the patient has health problems

**Table 14.2** Demographic characteristics by disabling condition

Condition	Mean age in years		Demographic characteristic (adjusted %) <sup>a</sup>					
	< 65	65 +	Men	Women	White	Black	Hispanic	Other race
Vision								
Blind	49.2	80.5	0.7	0.5	0.6	0.7	0.6	0.4
Very low vision	52.3	78.1	8.3	10.5	9.2	9.9	13.3	10.2
Hearing								
Deaf/very hard of hearing	53.1	78.6	11.3	6.3	8.7	5.5	8.3	9.6
Hard of hearing	53.0	76.3	40.7	31.4	37.4	27.7	23.3	34.5
Walking								
Major difficulties	53.3	78.4	15.5	21.5	19.1	23.2	16.3	18.5
Moderate difficulties	52.1	76.6	15.8	18.4	16.6	18.7	20.7	18.2
Reaching overhead								
Major difficulties	53.2	77.2	9.3	12.0	10.6	11.6	11.9	11.3
Moderate difficulties	53.0	76.6	7.0	8.9	7.9	10.4	8.7	8.6
Grasping and writing								
Major difficulties	52.8	77.1	7.0	7.9	7.5	7.8	8.5	8.4
Moderate difficulties	52.6	78.2	8.3	9.0	8.6	10.3	8.6	8.5
None of the 5 disabilities	46.4	73.3	31.2	34.5	32.0	36.6	39.2	35.2
At least one major disability	52.8	77.7	29.4	32.0	31.2	30.8	29.0	32.2

Source: 2001 Medicare Current Beneficiary Survey.

<sup>a</sup> Reweighted population percents. Figures by sex, adjusted by age group (18–44, 45–64, 65–69, 70–74, 75–79, 80–84, and 85+ years). Figures by race and ethnicity adjust for age group and sex using direct standardization.

that should be discussed but are not, with up to 15 percent of persons with major disabilities reporting dissatisfaction.

Interpersonal aspects of care also generated concerns among persons with major disabilities (table 14.5). Nearly 20 percent view their doctor as seeming in a hurry, and almost 15 percent report that their doctor often does not explain medical problems. Nonetheless, less than 10 percent note that their doctor fails to answer all their questions.

Various demographic factors likely influence perceptions of care. Table 14.6 therefore presents odds ratios for being dissatisfied with various aspects of care, after adjusting for demographic characteristics and other attributes. Being without the specific impairment serves as the reference group for each adjusted odds ratio. Virtually every adjusted odds ratio is highly statistically significant (the exception involves the question about physician competence and training). Having any major impairment is associated with adjusted odds ratios generally greater than 2.0, with several surpassing 3.0. Several questions generated especially high adjusted odds ratios across the impairment categories, including: ease of getting to the

**Table 14.3** Concerns about costs and accessing care (%)<sup>a</sup>

Aspect of care	No DA	Very low vision	Deaf/HOH	Major difficulties		
				Walking	Reaching	Manual dexterity
Out-of-pocket costs paid for medical services <sup>b</sup>	11.8	21.0	21.4	22.2	23.3	23.1
Ease and convenience of getting to a doctor from where person lives	2.9	12.1	10.8	10.6	11.0	12.3
Getting all medical care needs taken care of at the same location	3.4	10.3	7.8	8.6	9.6	11.4
Availability of medical services at night and on weekends	4.1	11.0	12.4	9.4	10.7	12.7
Ease of obtaining answers to questions over the telephone about treatment or prescriptions	6.2	12.0	12.5	11.9	13.7	14.0

Source: 2001 Medicare Current Beneficiary Survey.

Note: No DA = none of the 5 disabling conditions; HOH = very hard of hearing.

<sup>a</sup>Percent very or somewhat dissatisfied, adjusted for age category and sex using direct standardization.

<sup>b</sup>Phrasing of questions in MCBS.

doctor, having health problems that are not discussed, receiving follow-up care, perceptions that the doctor cares about the patient's overall health, doctors answering all the patient's questions, and concerns about overall quality of care.

### 14.3 Discussion

The vast majority of Medicare beneficiaries with and without disabilities perceive their physicians as competent and well-trained and hold favorable views of their overall quality of care. Along most other dimensions of care, 80 percent to 90 percent of persons report satisfaction, regardless of disability. However, after accounting for various demographic and other respondent attributes, Medicare beneficiaries with major sensory and physical disabilities are significantly more likely to be dissatisfied with the care they receive, including difficulties accessing care, perceived incomplete understanding by physicians of patients' clinical histories and conditions, lack of thoroughness, and inadequate communication. People with disabilities are also much more likely than others to lack confidence in their doctors. These findings held across disabling conditions.

Given the breadth of quality concerns, devising strategies to improve the



**Table 14.4** Concerns about technical aspects of care (%)<sup>a</sup>

Aspect of care	No DA	Very low vision	Deaf/HOH	Major difficulties		
				Walking	Reaching	Manual dexterity
Doctor is competent and well-trained	1.0	1.6	2.6	1.5	1.6	2.3
Doctor is very careful to check everything when examining you	4.9	7.8	9.1	9.0	9.7	10.6
Doctor has a good understanding of your medical history	3.1	6.3	6.5	5.4	5.8	8.2
Doctor has a complete understanding of the things that are wrong with you	4.8	8.4	7.0	7.5	7.4	10.7
Often has health problems that should be discussed but are not	5.5	11.5	13.9	12.6	14.2	15.4
Availability of care by specialists when needs it	2.8	8.3	7.5	6.8	8.1	8.8
Follow-up care received after an initial treatment or operation	2.4	7.2	6.2	6.7	6.6	7.3
Has great confidence in doctor	4.0	7.8	8.7	7.9	7.6	8.3
Overall quality of the medical services received in the last year	2.6	8.3	8.7	7.7	7.6	9.3

Source: 2001 Medicare Current Beneficiary Survey.

Note: No DA = none of the 5 disabling conditions; HOH = very hard of hearing.

<sup>a</sup>Percent very or somewhat dissatisfied, adjusted for age category and sex using direct standardization.

experiences of patients with disabilities requires careful thought. The fact that persons with disabilities have, on average, lower incomes and educational attainment than do others will likely complicate efforts to relieve their concerns about accessing care and out-of-pocket medical expenses. Making getting to their doctor easier also poses important challenges. Many individuals with disabilities cannot drive, do not own cars, cannot afford taxis, or do not have family or friends who can easily take them to their physicians' offices. Medicaid sometimes covers transportation expenses (e.g., taxi fares) to medical appointments, but Medicare does not.

Concerns related to communication and time might be interwoven, offering opportunities for improvement. Although people with disabilities feel their physicians are competent, they are simultaneously less satisfied

**Table 14.5** Concerns about interpersonal aspects of care (%)<sup>a</sup>

Aspect of care	No DA	Very low vision	Deaf/HOH	Major difficulties		
				Walking	Reaching	Manual dexterity
Concern of doctors for overall health rather than just for an isolated symptom of disease	3.5	9.7	8.8	8.2	9.9	10.1
Doctor often seems to be in a hurry	12.9	17.6	19.8	18.1	18.3	20.1
Doctor often does not explain medical problems	7.4	11.8	12.9	12.7	13.4	15.1
Doctor often acts as though doing you a favor by talking to you	4.9	7.2	8.4	6.6	8.5	9.7
Doctor tells all you want to know about your condition and treatment	6.4	10.5	11.0	9.9	11.7	13.2
Doctor answers all your questions	2.9	5.4	6.8	5.8	6.5	7.7

*Source:* 2001 Medicare Current Beneficiary Survey.

*Note:* No DA = none of the 5 disabling conditions; HOH = very hard of hearing.

<sup>a</sup>Percent very or somewhat dissatisfied, adjusted for age category and sex using direct standardization; for "favor" question, percent who completely or somewhat agree.

with their physicians' thoroughness and communication. These latter issues may not reflect reservations about physicians' technical competence, but instead connote worries that physicians do not take the time required to both understand fully patients' clinical concerns and communicate effectively. Although numerous patients, regardless of disability, view physicians as hurried, persons with disabilities and significant health problems may face special risks from time constraints.

Many persons, especially with major disabilities, likely require more time for an average visit than do other patients. Four factors may contribute to extra time demands: complex underlying medical conditions; extra knowledge, skill, sensitivity, or time required by clinicians because of the disabling condition itself; the need to employ special means to ensure effective communication, such as sign language interpreters or assistive listening devices; and discordant perceptions and expectations between physicians and patients, especially around the experience of disability. Examples include informing blind persons about actions during the physical examination or discussing treatment plans with a deaf person through a sign language interpreter (Iezzoni et al. 2003; O'Day, Killeen, and Iezzoni

**Table 14.6 Adjusted odds ratios for being dissatisfied with various aspects of care (95%CI)**

Aspect of care	Major difficulties					Any major
	Very low vision	Deaf/HOH <sup>a</sup>	Walking	Reaching	Manual dexterity	
<i>Costs and access to care</i>						
Out-of-pocket costs	1.4 (1.2, 1.6)	1.6 (1.4, 2.0)	1.8 (1.6, 2.0)	1.7 (1.5, 2.0)	1.7 (1.4, 2.0)	2.1 (1.8, 2.4)
Ease of getting to doctor	2.1 (1.7, 2.6)	2.1 (1.6, 2.7)	3.0 (2.4, 3.6)	2.2 (1.8, 2.8)	2.4 (1.9, 3.1)	3.8 (3.0, 4.9)
All care at same location	1.9 (1.4, 2.6)	1.8 (1.4, 2.4)	2.4 (1.9, 3.1)	2.2 (1.8, 2.6)	2.6 (2.1, 3.3)	3.1 (2.5, 4.0)
Availability off-hours	1.7 (1.2, 2.3)	2.2 (1.6, 2.9)	1.8 (1.4, 2.3)	1.8 (1.4, 2.3)	2.0 (1.5, 2.6)	2.6 (2.0, 3.3)
Ease of telephone communication	1.4 (1.1, 1.8)	2.0 (1.6, 2.5)	1.9 (1.6, 2.4)	1.9 (1.5, 2.4)	2.0 (1.4, 2.7)	2.3 (1.9, 2.9)
<i>Technical care</i>						
Doctor competent	1.3 (0.7, 2.2)	2.4 (1.4, 4.0)	1.4 (0.9, 2.4)	1.4 (0.9, 2.2)	2.4 (1.5, 3.9)	2.5 (1.6, 3.9)
Doctor checks everything during exam	1.3 (1.0, 1.6)	1.6 (1.2, 2.0)	1.7 (1.4, 2.0)	1.6 (1.3, 1.9)	1.8 (1.5, 2.2)	2.0 (1.6, 2.4)
Doctor understands medical history	1.4 (1.1, 1.9)	1.6 (1.2, 2.2)	1.6 (1.3, 2.1)	1.5 (1.2, 1.9)	2.3 (1.7, 3.1)	2.2 (1.7, 2.8)
Doctor understands what is wrong	1.4 (1.1, 1.8)	1.4 (1.1, 1.8)	1.5 (1.2, 2.0)	1.4 (1.1, 1.8)	2.1 (1.6, 2.8)	1.9 (1.5, 2.4)
Has health problems that are not discussed	1.4 (1.2, 1.8)	2.2 (1.7, 2.8)	2.2 (1.8, 2.7)	2.0 (1.6, 2.4)	2.2 (1.8, 2.7)	2.6 (2.1, 3.1)
Availability of specialists	1.9 (1.4, 2.5)	1.8 (1.4, 2.4)	2.1 (1.6, 2.7)	2.1 (1.6, 2.7)	2.5 (1.9, 3.4)	2.7 (2.1, 3.5)
Follow-up care received	2.0 (1.4, 2.9)	2.0 (1.4, 2.8)	2.7 (2.1, 3.5)	1.9 (1.5, 2.5)	2.1 (1.6, 2.9)	2.8 (2.2, 3.7)
Has confidence in doctor	1.5 (1.2, 1.9)	1.8 (1.3, 2.4)	1.8 (1.5, 2.3)	1.4 (1.1, 1.8)	1.6 (1.2, 2.1)	2.2 (1.8, 2.8)
Overall quality of care	1.9 (1.4, 2.6)	2.3 (1.7, 3.2)	2.8 (2.2, 3.5)	2.0 (1.7, 2.5)	2.4 (1.9, 3.1)	3.3 (2.6, 4.2)
<i>Interpersonal care</i>						
Doctor concerned about overall health	1.7 (1.3, 2.3)	2.1 (1.6, 2.7)	2.2 (1.8, 2.7)	2.2 (1.8, 2.7)	2.4 (1.8, 3.1)	2.8 (2.2, 3.5)
Doctor often in hurry	1.2 (1.0, 1.4)	1.5 (1.3, 1.8)	1.4 (1.2, 1.6)	1.3 (1.1, 1.6)	1.5 (1.3, 1.8)	1.5 (1.3, 1.8)
Doctor does not explain things	1.2 (1.0, 1.4)	1.5 (1.2, 1.9)	1.7 (1.4, 2.1)	1.6 (1.4, 1.9)	1.7 (1.4, 2.1)	1.8 (1.5, 2.1)
Doctor acts as if doing you favor	1.2 (1.0, 1.5)	1.7 (1.3, 2.3)	1.3 (1.0, 1.6)	1.5 (1.2, 1.9)	1.8 (1.5, 2.3)	1.6 (1.3, 2.0)
Doctor tells you all you want to know	1.4 (1.1, 1.7)	1.6 (1.2, 2.0)	1.6 (1.3, 1.9)	1.7 (1.4, 2.0)	1.8 (1.5, 2.3)	1.8 (1.5, 2.1)
Doctor answers all questions	1.6 (1.2, 2.1)	2.0 (1.5, 2.7)	2.3 (1.7, 3.0)	2.2 (1.7, 2.8)	2.4 (1.8, 3.4)	2.4 (1.8, 3.1)

Source: 2001 Medicare Current Beneficiary Survey.

Note: Reference group is persons without the particular condition. Adjustment accounts for: age group, sex, race, ethnicity, residence location (urban versus rural), education (high school or less versus more than high school), household income (< \$25,000 and \$25,000+), managed care participation, having a specific physician, and proxy respondent.

2004; Iezzoni and O'Day 2006). Positioning people with extensive mobility limitations on examination tables generally takes more time than required for other patients.

Studies suggest that patients with longer visits report greater satisfaction than those with shorter appointments (Lin et al. 2001; Gross et al. 1998; Greene et al. 1994). However, persons with substantial health problems generally report less satisfaction with medical care than healthier individuals, possibly because they feel their needs are not fully met (Schlesinger, Druss, and Thomas 1999; Druss et al. 2000). Evidence concerning whether visit lengths have diminished in recent years and the relationship between time spent and managed care insurance remains controversial (Mechanic, McAlpine, and Rosenthal 2001). Nevertheless, average office visits last less than twenty minutes, which is unlikely to offer sufficient time for accommodating persons with significant disabilities and addressing all their health concerns.

Our results support the ideas offered by Wagner and colleagues, who examined the research evidence from the United States and Europe about improving health care outcomes for persons with chronic conditions (Wagner, Austin, and Von Korff 1996; Wagner et al. 2001). Providing complete information was one of four essential elements when designing systems of care, as were practice redesign, patient education, and expert systems (e.g., provider education, consultations). Other investigators have found that patients greatly value communication, respect, and being involved in decision making (Gerteis, Edgman-Levitan, Daley et al. 1993; Cleary et al. 1991; Gerteis, Edgman-Levitan, Walker et al. 1993). Patients who report that their physicians do not always take enough time to answer questions or do not provide sufficient information are likely to consider changing physicians (Keating et al. 2002).

For people with disabilities, many and varied structural accommodations are important to ensure delivery of patient-centered, high-quality care (Institute of Medicine Committee on Disability in America 2007). Some involve removing environmental barriers (e.g., by installing ramps, widened doorways, and automatically-adjustable examination tables [Iezzoni and O'Day 2006; Kirschner, Breslin, and Iezzoni 2007]), while others represent essential tools (e.g., large print and Braille written materials and readily available sign language interpreters [Iezzoni et al. 2003; O'Day, Killeen, and Iezzoni 2004; Iezzoni and O'Day 2006]), and yet others reflect practice policies (e.g., scheduling longer appointment times). Strategies may reach beyond individual practices to the broader health care system, including paying more for routine visits of persons needing interpreters or special physical accommodations.

Our study has important limitations. Although the MCBS offers relatively rich insights about the perceptions of Medicare beneficiaries about their care, the information about specific impairments is limited to self-

reports. The MCBS does not inquire about critical disabling conditions, notably mental health disorders, developmental disabilities, and cognitive deficits. We could categorize disability only along sensory and physical impairments, although many persons younger than age sixty-five become eligible for disability because of psychiatric conditions. The use of proxy respondents further complicates interpretation of findings, although research offers contradictory evidence about the direction of potential bias (Iezzoni et al. 2000b; Todorov and Kirchner 2000; Epstein et al. 1989; Rothman et al. 1991; Dorevitch et al. 1992). The MCBS does not indicate the extent of respondents' acute and chronic underlying disease, nor how long they spent with physicians during office visits. Therefore, we could not directly test the hypothesis that disabled patients are especially susceptible to time constraints. Despite these limitations, the MCBS asks more extensive questions about patients' perceptions of care than do most other national surveys.

Reports suggest that rates of disability among older individuals fell substantially during the 1990s (Freedman, Martin, and Schoeni 2002). Multiple factors likely produced improved functional abilities among older persons, including new medical therapies and healthier lifestyles (e.g., decreased smoking). Nonetheless, with the aging population, the absolute number of Americans with functional limitations will rise over 300 percent by 2049 if the age-specific prevalence of major chronic conditions remains unchanged (Boult et al. 1996). The health care system continues to pose significant barriers to obtaining high quality care among persons with disabilities (Institute of Medicine Committee on Disability in America 2007), and our findings from the MCBS suggest that Medicare beneficiaries with sensory and physical impairments are less satisfied with important aspects of their health care than are their nondisabled counterparts. With growing numbers of Medicare beneficiaries with these functional deficits, considering ways to improve their health care experiences will become increasingly pressing in coming decades.

## Appendix

**Table 14A.1**      **Questions and Responses From the MCBS to Define Disabling Conditions**

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Disability questions and responses from the MCBS

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### Vision

Do you wear eyeglasses or contact lenses? (yes, no, blind)

Which statement best describes your vision (wearing glasses/contact lenses)

Blind                                      Blind on eyeglasses/contact lens question

Very low vision                      A lot of trouble (on vision question)

### Hearing

Do you use a hearing aid? (yes, no, deaf)

Which statement best describes your hearing (even with a hearing aid)?

Deaf/very hard of hearing      Deaf on hearing aid question or a lot of trouble (on hearing question)

Hard of hearing                      Uses hearing aid or has a little trouble hearing

### Walking

How much difficulty do you have walking a quarter of a mile (2 or 3 blocks)

Because of a health or physical problem do you have any difficulty walking by yourself and without special equipment?

Major difficulties                      Unable to walk 2–3 blocks or doesn't walk by self without special equipment

Moderate difficulties              A lot of difficulty walking 2–3 blocks or difficulty walking by self without equipment

### Reaching overhead

How much difficulty do you have reaching or extending your arms above shoulder level?

Major difficulties                      Reports being unable to do or having a lot of difficulty reaching

Moderate difficulties              Reports some difficulty reaching

### Grasping and writing

How much difficulty do you have either writing or handling and grasping small objects?

Major difficulties                      Reports being unable to do or having a lot of difficulty with hands

Moderate difficulties              Reports some difficulty with hands

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