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Research Report

Estimated Number of Persons Eligible for Vision Rehabilitation Services Under Expanded Medicare

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It has been well documented by researchers that the incidence of visual impairment (both blindness and low vision) increases as people age (see, for example, Congdon et al., 2004; Crews, 1994; Lighthouse International, 2001; Rubin, 2000) and that these physical declines can adversely affect an individual's ability to perform activities that facilitate independent living (Alliance for Aging Research, 1999; Crews & Campbell, 2001, 2004; Higgins & Bailey, 2000; Tielsch, 2000).

In 2000, nearly 35 million Americans were aged 65 or older, representing more than 12% of the population (U. S. Census Bureau, 2001). It is projected that the population of older Americans will double to more than 70 million by 2030, including nearly 9 million persons aged 85 and older (Administration on Aging, 2001). Given the greater incidence of visual

impairment with age, this enormous increase in the size of the elderly population, coupled with longer life expectancies, may result in an unprecedented number of Americans who become blind or have low vision as they progress into old age.

Undoubtedly, many of these individuals could benefit from blindness and low vision rehabilitation services (hereafter, vision rehabilitation services) that would enable them to remain functionally independent, active members of their communities. The benefits of services that include instruction in orientation and mobility (O&M), instrumental activities of daily living (IADL), and activities of daily living (ADL) have been documented in evaluations of rehabilitation programs (see, for example, Cavenaugh & Steinman, 2004) that have been funded under Title VII, Chapter 2, of the Rehabilitation Act of 1973 as amended (P.L. 105 - 220). (Title VII, Chapter 2 program funding is provided to state-federal vocational rehabilitation agencies to support independent living services for persons aged 55 or older with severe visual impairments for whom employment goals are not feasible.)

Advocates in Congress have recognized the practical benefits of such vision rehabilitation services and the inadequacy of funding, given the current and projected number of older persons with visual impairments. For example, the Consolidated Appropriations Act of 2004 (HR 2673) included funding for a five-year

demonstration project for the provision of Medicare-covered vision rehabilitation services in patients' homes by vision rehabilitation professionals (National Vision Rehabilitation Cooperative, 2004). Although originally scheduled to begin in July 2004, the staff of the Centers for Medicare and Medicaid Services (CMS) now project that the demonstration project will be launched in selected communities throughout the United States before the end of 2005 (James Coan, project officer, Low Vision Rehabilitation, CMS, personal communication, March 8, 2005). Vision rehabilitation professionals will team with ophthalmologists and optometrists in the development and implementation of written individualized vision rehabilitation plans for Medicare beneficiaries with noncorrectible vision loss. According to Coan, physicians would claim Medicare reimbursement for such services.

The Rehabilitation Research and Training Center on Blindness and Low Vision at Mississippi State University recently conducted research on the estimated costs of providing national Medicare coverage for vision rehabilitation services. Medicare is a health insurance program for people aged 65 and older, some disabled people who are younger than age 65, and people with end-stage renal disease. When beneficiaries with disabilities reach age 65, they are included in the "aged" group. Medicare Part A covers the costs of inpatient hospital care, care in a skilled nursing facility, and some home health care. There is

no monthly Part A premium for most beneficiaries. (A monthly premium is charged if the beneficiary or spouse does not have 40 or more quarters of Medicare-covered employment.) Medicare Part B is an optional program that requires a separate monthly premium. It covers physicians' services, outpatient hospital services, certain home health services, and durable medical equipment (CMS, 2004). Services that are provided by vision rehabilitation professionals would be covered under Medicare Part B. Approximately 93% of the total Medicare population are covered by both Part A and Part B (CMS, n.d.). The purpose of this article is to report the estimated number of Medicare beneficiaries who are blind or have low vision who have Part B coverage and, among them, the number who are likely to benefit from vision rehabilitation services.

Method

Data from the 1999 Medicare Current Beneficiary Survey (MCBS) were analyzed to estimate the number of Medicare Part B beneficiaries and the number who reported difficulty performing ADLs and IADLs. The MCBS is a continuous, multipurpose survey of a representative sample of the Medicare population, including both aged (beneficiaries who are 65 and older) and disabled persons (beneficiaries who are younger than age 65). A random sample of beneficiaries was drawn from geographic primary sampling units (PSUs), consisting of counties or

groups of counties, to represent the nation, including the District of Columbia and Puerto Rico. Within the PSUs, the sample was restricted to addresses within selected zip codes, or sub-PSU areas. Beneficiaries who resided in these areas were then selected for the sample by systematic random sampling within age strata (0–44, 45–64, 65–69, 70–74, 75–79, 80–84, and 85 or older).

Two public-use data sets are produced from the MCBS on a calendar-year basis: Access to Care and Cost and Use. Both modules are available for health-related research, evaluation, and epidemiologic projects following submission of a written request, including detailed information on the research protocol, at an approximate cost of $500 for each module. The Cost and Use data set provides more comprehensive information on all health expenditures and services than does the Access to Care data set and represents all persons who were enrolled in the program during the particular year. The Cost and Use data set for calendar year (CY) 1999 was chosen for analysis because at the time of purchase, it was the latest available data set that included the necessary data on expenditures for health care services. (The 2002 Cost and Use data set is now available to researchers.) Data files were provided through CMS on tape cartridges in EBCDIC format (an alternative character code), which required conversion to ASCII format before analyses. Detailed information on the data sets can be found at the web site <www.cms.hhs.gov/mcbs/default.asp>.

The CY 1999 Cost and Use data set included information from interviews with 13,106 Medicare beneficiaries. Full sample weights were used to estimate national population totals. Beneficiaries were interviewed in the community and in long-term-care facilities (including nursing homes, retirement homes, personal care facilities, long-term-care units in hospital complexes, mental health facilities, assisted care homes, and institutions for persons who are mentally retarded and developmentally disabled). Approximately 12% of the interviews in the community were conducted with proxies. In a community interview, attempts were made to interview the sampled person unless he or she was unable to answer the questions. If the person was not able to answer the questions, he or she was asked to designate a proxy respondent, usually a family member or close friend who was familiar with the person's health care. All the interviews in the facilities were conducted by proxy; generally, the nurses answered health-related questions and the administrative staff answered questions about medical charges and payments. Survey items from the interviews in the community and facilities included questions that were related to vision, functional skills, and general health status. Responses to these items were used to identify those beneficiaries who were blind or had low vision and their functional status.

Medicare Part B beneficiaries were selected from the

data set and were divided into two groups: those who were surveyed in the community and those who were surveyed in facilities. The questions on vision loss differed for these two groups. Beneficiaries who were living in the community were asked if they wore eyeglasses or contact lenses (yes or no) and if they were "blind" or had "no trouble seeing," "a little trouble seeing," or "a lot of trouble seeing" even when they wore eyeglasses or contact lenses. They were identified as being blind or having low vision if they reported that they were blind or described themselves as having "a lot of trouble seeing" even with correction. For beneficiaries who were living in facilities, vision—with adequate light and with visual aids, if used—was described by proxies as "adequate" (can see regular print), "impaired" (can see large print), "moderately impaired" (not able to see headlines but can see objects), "highly impaired" (can follow objects with the eyes), or "severely impaired" (can see light, colors, and shapes or has no vision). These beneficiaries were identified as being blind or having low vision if their vision loss was described as moderately, highly, or severely impaired. We determined that both groups of beneficiaries could benefit from services if they reported difficulty with at least one ADL (such as bathing, dressing, or eating) and at least one IADL (such as preparing meals, shopping, or managing money). Although we did not use general health status (excellent, very good, good, fair, or poor) to exclude beneficiaries, we did exclude beneficiaries who were comatose.

Results

The number of Part B Medicare beneficiaries was estimated to be 36.9 million, of whom approximately 9% (3.2 million) were blind or had low vision (see Table 1). Although not reported in Table 1, almost 90% (2.9 million) of the visually impaired beneficiaries were aged 55 and older, and 10% (0.3 million) were younger than age of 55.

As a measure of who could benefit from vision rehabilitation services, we included Part B beneficiaries who were identified as blind or as having low vision who reported difficulty performing at least one ADL and at least one IADL. As Table 2 indicates, more than 17% (1.5 million) of the 8.5 million beneficiaries who had difficulty performing ADLs and IADLs were visually impaired. Approximately 1.3 of the 1.5 million were aged 55 and older.

Almost half (46%) the Part B Medicare beneficiaries who were identified as visually impaired had difficulty with ADLs and IADLs—1.5 million of the 3.2 million beneficiaries. In comparison, approximately one-fifth (21%) of the Part B Medicare beneficiaries without visual impairments had difficulty with both ADLs and IADLs—7.0 million of the 33.5 million.

Discussion and implications

The analysis of the CY 1999 MCBS indicated that approximately 3.2 million Part B Medicare beneficiaries (of all ages) were blind or had low vision. A review of the literature on the prevalence of visual impairments yielded several estimates of the number of persons aged 65 and older who are visually impaired—for example, 7.3 million (Lighthouse International, 2001) and 5.4 million (American Foundation for the Blind, 2001). Given the CMS's (n.d.) estimate that 96% of persons aged 65 and older receive Medicare, estimates using the MCBS data are somewhat lower than these sources.

In contrast, DaVanzo, Dobson, and Sen (2002), using the 1999 5% Standard Analytical Part B Physician File, estimated that of 100,860 Medicare beneficiaries who were diagnosed as visually impaired, 2,680 received vision rehabilitation services that were covered by Medicare. Differences in estimates of prevalence can be attributed largely to the methods that are used to identify the presence of visual impairment. For example, we used self-report data, whereas DaVanzo et al. used a clinical measure to identify beneficiaries with vision loss. The differences are not surprising, given that the prevalence rates of blindness and low vision are generally higher when self-report instruments are used (Massof, 2002). Furthermore, using a physician file could result in underreporting, especially if a patient's presenting complaint is not related to blindness or low vision and the physician is unaware that the person has a visual impairment.

Even if national Medicare coverage were available for in-home vision rehabilitation services, it would be difficult to estimate the number of eligible beneficiaries who would likely receive services. Factors such as the availability of certified rehabilitation professionals (including certified rehabilitation teachers, O&M instructors, and low vision therapists) to provide services, perceptions of the benefits of such services by eligible beneficiaries, and criteria for eligibility (such as the level of visual impairment) would affect the receipt of services. We estimate that 1.5 million visually impaired beneficiaries who are living in communities and facilities and who have difficulty performing ADLs and IADLs could benefit from services. In addition, our follow-up analysis indicated that reduced functioning was related to higher Medicare costs. For example, the mean annual amount paid by Medicare for health care was almost 80% higher for the 1.5 million visually impaired beneficiaries with functional difficulties relative to the amount paid by Medicare for the visually impaired beneficiaries without functional difficulties ($9,266 and $5,165, respectively). Further research is needed to determine if vision rehabilitation services that are provided by vision rehabilitation professionals result in improvements in the functional health status, and thus the quality of life, of beneficiaries who are visually impaired and if substantial reductions in Medicare costs are realized when these beneficiaries who are receiving

rehabilitation services have improved levels of ADL and IADL functioning.

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