

## Functional Outcomes and Consumer Satisfaction in the Independent Living Program for Older Individuals Who Are Blind

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**Abstract:** This study of a national sample of elders served by the Independent Living Program for Older Individuals Who Are Blind found that, overall, they were highly satisfied with the quality and timeliness of services and help in achieving independent living goals. A slight improvement was found in their perceptions of functional outcomes from 1999 to 2004.

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To strengthen the various programs under the Rehabilitation Act of 1973, Congress added consumer satisfaction as an area of study for improving service delivery to the 1998 Amendments to the act (Workforce Investment Act, P.L. 105-220). More specifically, Section 12 (Evaluation) was amended to require the commissioner of the Rehabilitation Services Administration to conduct studies in a variety of areas, including consumer satisfaction. As part of this process, the Rehabilitation Research and Training Center (RRTC) on Blindness and Low Vision at Mississippi State University (MSU) received funding from the Rehabilitation Services Administration (RSA) through the National Institute on Disability and Rehabilitation Research (NIDRR) to conduct a national consumer satisfaction survey of participants served by the Independent Living Program for Older Individuals Who Are Blind (Title VII-Chapter 2).

This study provides important, contemporary information because, with the exception of a national survey by Moore, Giesen, and Weber (1999), no other national surveys have been conducted of older individuals who are visually impaired (that is, those who are blind or have low vision). This study also addressed the requirements of the Government Performance Results Act

(GPRA) of 1993 (P.L. 103-62), which emphasizes improving the effectiveness of federal programs and public accountability by promoting a new focus on the quality of services, results, and consumer satisfaction.

## **Background**

The independent living program is designed to serve individuals aged 55 or older whose significant visual impairment makes it extremely difficult for them to obtain competitive employment but for whom independent living goals are feasible. Independent living services that are available (but not necessarily provided) under the program are described in P.L. 105-220, Section 752. They include services to help correct blindness (such as visual screening and surgical or therapeutic treatment), the provision of visual devices (like magnifiers and eyeglasses), and other specific services that are designed to assist older individuals in adjusting to visual impairment, maintaining independence, and becoming more mobile and more self-sufficient (including independent living skills training, information and referral services, peer counseling, individual advocacy training, orientation and mobility instruction, braille instruction, and transportation services).

Relatively little research has been devoted to the independent living program since it was initially funded by Congress in fiscal year (FY) 1987. An analysis of the Title VII-Chapter 2 annual report for FY 2004, the latest year for which data are available, indicated a mean of 1,159 consumers were served in each of the 56 programs that reported (Moore & Sansing, 2005), or approximately 65,000 consumers nationwide. It is estimated, however, that fewer than 2% of older persons who are visually impaired have received services through the Title VII-Chapter 2 service delivery program in the past decade (Orr, Scott, & Rogers, 2005). Given the higher funding levels since the program converted to formula grants in FY 2000 and the steadily increasing number of consumers who are served annually, there is a growing need to strengthen and expand program evaluations. From a policy perspective, several investigators (Crews, 2000; Kennedy, 2002; Lidoff, 2000, 2003; Moore, 2003; Moore & Stephens, 1994; Orr & Rogers, 2001; Rogers & Orr, 1999; Stephens, 2001) have emphasized the importance of evaluations for improving service delivery and increasing consumer satisfaction. Few studies, however, have analyzed the level of consumer satisfaction among the population of elderly people who are visually impaired (Huff & Qualls, 2003). Given the dearth of research on consumer satisfaction among this population, there is a need to examine this issue from a national perspective.

In the current study, we used nationally representative data to address six

main areas of inquiry that pertained to functional outcomes and/or satisfaction with services among the participants in the Title VII-Chapter 2 program. First, we wanted to know the overall level of satisfaction with services among the participants with respect to three survey items that were specifically designed to assess satisfaction with the quality and timeliness of independent living services and the achievement of goals as a result of these services. Next, we were interested in four comparisons that addressed functional outcome levels and/or satisfaction across 10 survey items. Responses were coded in the following four categories (1) gender, (2) age group--"young-old" (aged 79 or younger) versus "old-old" (aged 80 or older) participants, (3) housing status--participants who lived alone versus those who lived with someone else, and (4) the time of life during which the participants became visually impaired. Finally, to determine whether functional outcome ratings had statistically improved or declined over a five-year period, we compared seven common functional outcome areas, which are discussed in the Instrument section, that were used in both the current study and in the initial pilot study (Moore et al., 1999).

## **Method**

### **PARTICIPANTS**

We asked Designated State Units (DSUs) that administer Title VII-Chapter 2 programs to submit a quota-based list of randomly selected cases that were closed during each quarter between October 1, 2003, and June 30, 2004, including each consumer's telephone number and the name of the independent living counselor, rehabilitation teacher, or independent living specialist who served the individual during his or her program. An initial list of 1,866 prospective participants was obtained from DSUs in 48 states and the District of Columbia. Of the original cases that were submitted, we were able to contact and survey 1,016 individuals by telephone from MSU, with a response rate of 62%. In addition, 9 participants were contacted and surveyed directly by one DSU that served them, and their responses were subsequently forwarded to MSU by that agency. Thus, data were gathered for a total sample of 1,025 consumers whose cases were closed by state Title VII-Chapter 2 programs during FY 2004.

The consumers who we were unable to survey by telephone included those who refused or whose family member refused to participate; those with communication problems, health problems, and the like; and those who stated that they did not receive rehabilitation or independent living services. Moreover, only individuals who were actually reached by telephone and had the opportunity to agree or decline to participate were included.

## **SAMPLING APPROACH**

A systematic quota sampling plan was based on the annual report of the previous year of the number of closed cases in the independent living program of each state and the District of Columbia. The total sample goal was at least 1,000 respondents. This sample size was determined to be ample for accurate national estimates of satisfaction. A quota was established for each state on the basis of the proportion of closed cases in that state relative to the national total number of closures. That proportion was applied to the target sample size of 1,000 to yield a quota for each state that would reflect proportional representation of each state in the target sample. A 5% increment was added to each state's quota to allow for nonrespondents. Thus, ideally, each state would provide its quota of respondents, plus 5%, systematically randomly sampled from its closed cases for the target year. Despite our best efforts, however, there was a shortage of participants because of noncompliance and inadequate compliance in some states. Thus, it was necessary to oversample in other states, when possible, to meet the total sample-size requirement. To correct for oversampling, we applied a weighting scheme that adjusted the over- or undersampling to approximate the original sample size that was planned for each available state. (The weighting had to be modified slightly because one state had only one respondent. This, in addition to nonparticipating states and missing item-level data, resulted in the weighted  $n$  being less than the goal of 1,025 participants for the data that were gathered.) Thus, with the weighting technique, an effort was made so that the necessary sampling variations did not disproportionately influence our results.

## **INSTRUMENT**

The survey instrument contained 6 demographic items (gender, age, living situation, cause of visual impairment, age at the onset of the visual impairment, and the presence of a secondary disability) and 10 items that were related to the perceptions of outcomes of the participants. Seven of these 10 items were based on the survey that was designed and pilot-tested in four states during the 1996-97 fiscal year (Moore et al., 1999) and were subsequently used to assess functional outcomes related to the Title VII-Chapter 2 program nationwide (Moore, Giesen, Weber, & Crews, 2001). The 7 common items were related to the consumers' perceived improvement in areas that were related to functional outcomes and consisted of statements, such as "I feel more confident in my current ability to perform activities" (Item 1). Each statement was preceded by, "As a result of my participation in the rehabilitation program for independent living. . . ." to help ensure that the level of agreement of the individuals was related to the

services they received (see [Table 1](#) for a list of the items). The participants reported their level of agreement with the statements by choosing one of the following alternatives (code values given in parentheses): "strongly agree" (4), "agree" (3), "don't know/not sure" (2.5), "disagree" (2), "strongly disagree" (1), or "not applicable" (missing).

Among the 10 items were 3 items that were specifically designed to assess the participants' satisfaction with their independent living programs. The items addressed the quality and timeliness of the services and the achievement of independent living goals through the program. These items were, "Overall, were you satisfied with the quality of services provided by your independent living specialist or rehabilitation teacher?" (Item 8); "Overall, were you satisfied with the timeliness of the services provided?" (Item 9); and "Overall, were you satisfied with how the program helped you achieve your goals for independent living?" (Item 10). Again, the participants reported their level of agreement with the statements by choosing one of the following alternatives: "very satisfied" (4), "satisfied" (3), "dissatisfied" (2), "very dissatisfied" (1), or "not applicable" (missing).

## **ANALYSES**

We used SPSS7 12.0 to conduct all the analyses. First, we calculated weighted descriptive statistics for the six demographic characteristics in the data set. Then, to determine the overall satisfaction rating, we calculated the percentage of responses that indicated the participants' agreement with three satisfaction items. Next, we performed univariate analyses of variance (ANOVA) with Tukey's post hoc tests on weighted data to compare the mean ratings on all 10 items with respect to four independent variables (gender, age group, living situation, and age group at onset of the visual impairment). These specific analyses were chosen because they replicated those that were reported in Moore et al. (2001) and thus allowed for a comparison of the data at two distinct points in time--1999 and 2004. Finally, we performed univariate ANOVAs to compare the overall ratings on seven common functional outcome items over the same five-year period. Because consumer satisfaction ratings were not available in the 1999 data, we could not compare such ratings with those in the current study.

For each univariate ANOVA comparison, we obtained and reported eta square when differences were statistically significant. Statistical significance is often facilitated in analyses that are based on extremely large data sets; therefore, we used eta square to estimate the magnitude of the effect within each ANOVA.

# Results

## DEMOGRAPHIC CHARACTERISTICS

Of the participants, 70% were female and 30% were male. The majority (56.6%) of the participants were aged 80 years or older, and 41.4% were aged 79 years or younger (the remaining 2% refused to disclose their age), and the mean age was 79.2 years. More participants (52.6%) lived alone, and 47.1% lived with a spouse or with someone else. The most commonly reported reason for their visual impairment (59.9%) was macular degeneration, and the majority (73.2%) of participants began to experience vision loss after age 55. Finally, slightly more than half the participants (50.5%) reported experiencing at least one other medical condition in addition to their visual impairment.

## CONSUMER SATISFACTION

The participants were overwhelmingly satisfied with the quality and timeliness of the independent living services, and with how the program helped them achieve their independent living goals. Specifically, 95% of those surveyed either agreed (23%) or strongly agreed (72%) that they were satisfied with the quality of services provided by their independent living specialist or rehabilitation teacher (now more commonly referred to as a certified vision rehabilitation therapist), 93% either agreed (33%) or strongly agreed (60%) that they were satisfied with the timeliness of the services that were provided, and 90% either agreed (36%) or strongly agreed (54%) that they were satisfied with how the program helped them achieve their independent living goals. There were no ceiling effects.

### *Gender differences*

For four of the seven functional outcome items (1, 2, 3, and 7), improvement ratings were statistically higher among the women than among the men. On average, the women rated the following items higher than did the men: level of confidence in their ability to perform activities; ability to move confidently around where they lived; ability to prepare meals for themselves; and ability to participate in the lives and activities of their families, friends, and communities. Although these items were statistically significant, eta square (less than or equal to .005 for items 1, 2, and 7) reflected only minimal to small effect sizes. According to the criteria set by Green, Salkind, and Akey (2000), eta squares of .01, .06, and .14 represent small, medium, and large effect sizes, respectively. Given these criteria, only Item 3 ("I am better able to prepare meals for myself") reached the threshold for a small

effect size (.01).

Of the three items that were designed to measure satisfaction with services provided by independent living programs, no significant differences were found between the men and the women. The men and the women were equally satisfied with the quality and timeliness of the independent living services and the achievement of independent living goals because of the services.

### *Age differences*

We tested whether the perceived improvement in functional outcomes and satisfaction ratings differed between the young-old and the old-old participants across the survey items. Only one functional outcome comparison was statistically different between the age groups. In response to Item 7 ("I am better able to participate in the lives and activities of my family, friends, or community"), the young-old participants indicated greater perceived improvement than did the old-old participants ( $p = .04$ ). Eta square was .005, reflecting a minimal effect size.

On two of the three items that were designed to measure satisfaction with the services provided by the independent living programs (Items 9 and 10), the younger participants were statistically more satisfied than were the older participants ( $p < .001$ ). That is, the young-old participants were more satisfied with the timeliness of the services provided and felt more satisfied with how the program helped them to achieve their independent living goals than did the old-old participants. Eta squares were .012 and .013, respectively, reflecting small effect sizes.

### *Living arrangements*

We found three functional outcome improvement comparisons (Items 3, 4, and 6) that were statistically different ( $p < .04$ ), but only one effect (Item 6) accounted for barely more than 1% of the item variance. The participants who lived alone indicated slightly greater perceived improvement in their ability to prepare meals and to manage housekeeping tasks than did those who lived with others. Eta squares were .009 and .005, respectively, both reflecting small effect sizes. In contrast, the participants who lived with others were more likely to indicate greater perceived improvement in their ability to access reading materials, such as books, newspapers, and magazines, than were the participants who lived alone. Eta square was .012, reflecting a small effect size.

With respect to the three satisfaction items that were designed to measure

satisfaction with the independent living services, no statistically significant differences were found. Regardless of whether they lived alone or lived with others, the participants were equally satisfied with the quality and timeliness of independent living services and the goals that were achieved as a result of the services.

### *Age at onset of visual impairment*

Among the seven functional outcome items, five comparisons were statistically significant ( $p < .008$ ) (Items 1, 2, 3, 4, and 7) with small effect sizes. In general, the participants who began to lose their vision in their 80s or older were statistically less agreeable to statements about improvements in their functional outcomes than were those who began to lose their vision at an earlier age. For instance, the participants whose age at onset of vision loss was 80 or older were statistically less likely to agree that the services had made them feel more confident in their ability to perform activities than were those who began to lose their vision at an earlier age.

Similarly, all three satisfaction items were rated lower by the participants whose onset of vision loss occurred later in life ( $p < .04$ , eta squares were .02 or smaller). For instance, those whose age at onset of visual impairment was 80 or older were statistically less likely to agree that they were satisfied with how the program helped them to achieve their independent living goals than were those who began to lose their vision at an earlier age.

## **COMPARISON WITH THE PREVIOUS STUDY**

Our last analysis assessed whether the mean functional outcome ratings had statistically improved or declined over the intervening five-year period. Table 1 presents the tests for change from 1999 to 2004 and the weighted mean functional outcome ratings for common items that were used in both the current study and in Moore et al. (1999). In Moore et al. (1999), no items were used that directly assessed levels of consumer satisfaction. As a result, we were not able to compare data between the two years on the satisfaction items. Nevertheless, the results indicated that for six out of seven statistically significant comparisons of the means for functional outcomes, the current agreement levels had risen slightly in relation to the earlier measure.

Overall, as a result of the services they received, the consumers who were surveyed in 2004 felt more confident in their ability to perform activities; felt better able to move confidently around where they lived; to prepare meals for themselves; to manage housekeeping tasks; to manage paperwork; and to participate in the lives and activities of their families, friends, or communities than did those who were surveyed in 1999. In all but one of these

comparisons, eta squares reflected small effect sizes. The effect size for Item 5 ("I am better able to manage my paperwork") was trivial. Over the five-year period, improvement ratings decreased in only one area of functional outcomes. In 1999, the consumers felt that they were better able to access reading materials, such as books, newspapers, and magazines, than did those who were surveyed in 2004. Eta square was .024, reflecting a small effect size.

## **Discussion**

Independent living services are thought to be an effective and efficient way to allow older persons who are blind or have low vision to remain living in their homes and community environments (Huff & Qualls, 2003). Our results lend support to this position. Across all the items reflecting improvement in functional outcomes and satisfaction with services that we analyzed, the responses suggested that the participants perceived that their programs had improved their ability to live independently, regardless of their gender, age group, living situation, or age at onset of visual impairment. Nevertheless, some interesting differences between the groups emerged from our analyses.

In general, the women tended to agree with the functional outcome items more readily than did the men. On four of seven items that measured improvements in functional outcomes, the women rated their perceived level of improvement statistically higher than did the men. Of these four statistically significant areas, only one item ("I am better able to prepare meals for myself") produced an effect that accounted for barely more than 1% of the item variance. Given the nature of the item, this result may not be surprising. Among this age cohort, such activities as preparing meals may be viewed as traditionally female activities. Therefore, one may expect women to seek more training in these domains and thus benefit more from the services. However, in other areas that are central to maintaining independence (managing housekeeping tasks, managing paperwork, and accessing reading materials), no statistical differences were found between the men and the women. This result suggests that men and women can benefit comparably from training that focuses on general independent living skills.

Measures of satisfaction with the general quality and timeliness of services and the goals that were achieved as a result of the services were statistically equivalent for the men and the women. Overall, the participants were highly satisfied with their programs, regardless of their gender.

The age group of the participants made little difference in their perceived

improvements in functional outcomes. Although the young-old participants rated their ability to participate in the lives and activities of their families, friends, or communities slightly higher than did the old-old participants, the effect accounted for less than 1% of the item variance. Nevertheless, the young-old participants tended to indicate more improvement on functional outcome items. This greater improvement may be related to the overall better health and higher levels of residual vision among younger consumers than would be expected among the old-old consumers of the program. The interpretation of these data may be confounded by the age of the participants (independent of age at onset) because those aged 80 or older are more likely to have had a shorter duration of visual impairment.

Across the three satisfaction items, the young-old participants were notably more satisfied with the timeliness of the independent living services and the goals that were achieved as a result of the services. Still, the participants from both age groups rated their overall satisfaction levels very favorably with respect to the quality of services, timeliness of services, and how the program had helped them achieve their independent living goals.

Differences in living situations also had little impact on the participants' perceptions of improvements in functional outcomes, with effects accounting for from 0.5% to just over 1% of the variance in the measures. In the areas of preparing meals and managing housekeeping tasks, those who lived alone perceived slightly more improvement than did those who lived with others. Given the nature of these items, this outcome may not be surprising. It is possible that because of necessity, the participants who lived alone achieved more improvement in domestic and self-maintenance activities. In comparison, those who lived with others perceived slightly more improvement in their ability to access reading materials than did those who lived alone. It is possible that some advantage or confidence is gained in accessing text information when other persons are present in the household to assist in the activity.

Although there were some slight differences between those who lived alone and those who lived with others with respect to their ratings of functional outcomes, no differences were found between the two groups on overall satisfaction. Across all three items (Items 8, 9, and 10), consumer satisfaction with the program was notably high.

In general, the participants perceived the improvements in their functional outcomes and satisfaction with services to be higher when the onset of their visual impairment occurred at an earlier age. In comparison to results that suggested fewer differences in functional outcomes between the young-old

and the old-old participants, the results may suggest more difficulty adjusting to blindness and low vision when the onset of visual impairment occurs later in life, especially given the greater potential for secondary and tertiary health conditions. Since the largest proportion (55%) of consumers of independent living services nationwide are 80 years or older and legally or totally blind (69%) (Moore & Sansing, 2005), DSUs and their contractors need to ensure that maximum efforts are made to assist old-old consumers in adjusting to their vision loss, especially those who became visually impaired at age 70 or older.

Overall, our results reflect a program that is stable with respect to consumers' perceptions of its positive impact on their lives. The modest increase in perceived functional outcomes from 1999 to 2004 is encouraging and may be indicative of better-trained independent living service delivery staff and greater stability in funding for DSUs. Whereas the results of the current survey are encouraging and exceed the GPRA and RSA goals for consumer satisfaction, there is still a need for continued monitoring and more objective measures related to functional outcomes and satisfaction in the independent living program.

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