J Occup Rehabil (2007) 17:355–369
DOI 10.1007/s10926-007-9088-x

Mobility Limitations Negatively Impact Work Outcomes among Medicaid Enrollees with Disabilities

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Received: 2 March 2007 / Accepted: 16 May 2007 / Published online: 15 June 2007

Abstract
Introduction Fear of losing health insurance is believed to be a significant work barrier for people with disabilities in the US. We examined the relationship of different types of daily activity limitations to work outcomes among adults with a variety of disabling conditions for whom the risk of losing health insurance has been removed by enrolling in a Medicaid buy-in (MBI) program.
Methods 1093 working-age adults with disabilities in the Massachusetts MBI program responded to the MassHealth Employment and Disability Survey, which provided data on the types of disabling conditions and activity limitations members experienced as well as three work outcomes—work status of members; annual earnings above substantial gainful activity of working members; and plans to work in the future of non-working members.
Results Among different types of activity limitations, mobility limitations were generally associated with poorer work outcomes, regardless of disabling condition. Across members in three disability groups—psychiatric; physical; and co-occurring psychiatric and physical—those reporting mobility limitations were significantly less likely to be working or, if non-working, to be planning work than those reporting no or other types of limitations. There was an exception to this pattern with respect earnings among working members. Overall, work outcomes among members with co-occurring psychiatric and physical disabilities were most consistently negatively impacted by mobility limitations.
Conclusions Rehabilitation providers aiming to promote entry into the workforce need to be aware of the varied ways in which mobility limitations may create barriers for people with all types of disabilities.

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Keywords Adults with disabilities · Employment · Activity limitations · Rehabilitation · Medicaid

Introduction

Although many people with disabilities want to work [1], data from multiple national surveys show that only about 40–50% of US working-age adults with disabilities are employed, while over 80% of adults without disabilities work [2–6]. Employment rates are even lower, at about 12%, for working-age adults receiving disability cash benefits from the federal Social Security Disability Insurance (SSDI) or Supplemental Security Income (SSI) programs [4]. Moreover, when they do work, adults with disabilities typically have lower earnings than their non-disabled counterparts, and often have earnings below *substantial gainful activity*[1] (SGA), the level at which eligibility for disability cash benefits is jeopardized [4, 7].

A host of barriers, at both environment and person levels, can prevent people with disabilities from entering the workforce or limit their earnings from work. Environmental barriers may include the stigma associated with disability, inaccessible workplaces and transportation, or the complexities of public disability cash benefit (SSDI/SSI) and health insurance programs such as Medicare and Medicaid. Fear of losing benefits, particularly health insurance, is a widely acknowledged barrier to employment for people with disabilities [8]. Person factors may include disrupted education or a limited work history as well as the severity of the disabling conditions or functional limitations individuals may experience. Person and environment effects are often difficult to disentangle. Still, if practice and policy efforts are to make a real difference in employment for people with disabilities, the full range of barriers that keep people with disabilities unemployed or underemployed need to be identified and addressed.

This study focuses on a group for whom the risk of losing Medicaid, the federal/state program that provides medical coverage for low-income people in the US, is effectively eliminated by virtue of enrolling in a ''buy-in'' program, which allows beneficiaries to retain coverage when their income exceeds traditional limits [9]. A prior study of Medicaid buy-in (MBI) enrollees [10] found employment status and work earnings to vary considerably among individuals with different types of disabling conditions, and also found a lack of concordance between working and earning. Those with a psychiatric or developmental disability were generally more likely to work but less likely to have earnings over SGA than those with a physical disability, who were generally less likely to work, but more likely to have earnings over SGA than other participants. Participants with co-occurring psychiatric and physical disabilities had the poorest work outcomes, both in terms of working and earning. The study reported here builds on this line of inquiry by examining the relationship of another important indicator of health status—daily activity limitations [11, 12]—to work outcomes among people receiving public disability benefits.

[1] As defined by the US Social Security Administration, people with disabilities are generally considered to be engaging in SGA when their countable monthly earnings from work exceed $900 (2007 level). SGA is higher for those who are blind. At the time of the current study (2003), SGA was $800 for non-blind individuals. http://www.ssa.gov/OACT/COLA/SGA.html

Activity Limitations and Work

Traditionally, disability has been viewed as a relatively fixed characteristic of an individual, attributed to a medically determinable physical or mental condition, and people with severe physical or mental conditions have generally been presumed to be unable to work [13]. Rather than emphasize conditions or diagnoses, contemporary models view health and disability in relation to a person's functional status [14–16]. Functional status is reflected in the individual's capacity to carry out a full range of daily activities, and difficulties in executing everyday activities are commonly referred to as functional or activity limitations. People with the same disabling condition may or may not experience the same types of activity limitations. Thus, functional status and participation in major roles such as worker can vary considerably within a disability group [17].

While there is no single gold standard for measuring activity limitations, the domains assessed by such measures typically include personal self-care tasks such as grooming, dressing and feeding; functional mobility tasks such as transferring from bed to chair or moving inside the home (self-care and functional mobility tasks are commonly referred to as activities of daily living or ADLs); household tasks such as cooking and cleaning and community mobility tasks such as shopping (commonly referred to as instrumental activities of daily living or IADLs); and may also include communication, social and cognitive capacities such as getting along with others, learning new information or solving problems [18–21]. Severity might be indicated by the total number and/or specific types of activity limitations. Using data from the US National Health Interview Survey (NHIS-D), Berry [22] found an increased number of activity limitations to be associated with a decreased likelihood of working among young adults aged 18–29 with disabilities who were SSI beneficiaries. A recent analysis of NHIS-D data by Maag [3] showed an overall employment rate of 54% for people with disabilities aged 25–61, but rates ranged from 17% to 31% for people reporting limitations in ADLs or IADLs such as housework or shopping. Similar associations between activity limitations and work have been shown with other US population-based surveys [4, 6].

Associations between specific types of activity limitations and work have also been demonstrated in diagnosis-specific studies of disability. Studies have shown limitations in functional mobility and other physical capacities to be associated with either a decreased likelihood of working, or in some instances a likelihood of working part time rather than full time, among people with spinal cord injuries, multiple sclerosis (MS), and traumatic brain injuries (TBI) [23–25]. Additionally, cognitive limitations have been shown to predict poorer work outcomes among people with MS and TBI [23, 24, 26]. Limitations in cognitive and social skills have been found to predict poorer work outcomes among people with serious mental illness [26, 27].

The goal of the study reported here is to examine the relationship of varying types of activity limitations to work outcomes among adults with a variety of disabling conditions for whom an important environmental barrier, the risk of losing health insurance, has been removed. With this barrier removed, we can more directly examine the role that activity limitations play in work among people with disabilities. Using data from a survey of Massachusetts MBI program members, we examined the relationship of activity limitations to three work outcomes—work status (i.e. working vs. not working) of all members; earnings over SGA (i.e. over $10,000 annually) among working members; and future work plans among non-working members. Specifically, we asked:

(1) To what extent are both number and type of activity limitations associated with these three work outcomes among Massachusetts MBI program members?
(2) Are the relationships of different types of activity limitations to the three work outcomes consistent across members with different types of disabling conditions?

Method

Study Participants

Study participants included adults with disabilities, age 19–64, who were enrolled in the Massachusetts Medicaid (MassHealth) buy-in program, known as CommonHealth. The CommonHealth program is available to working-age adults up to age 64 who meet federal Social Security Administration (SSA) or state disability criteria, but who have family income too high to qualify for the standard Medicaid program. Those who work 40 hours per month or more pay a family income-adjusted premium. Those who are not working or work less than 40 h per month must meet a one-time deductible based on family income and pay a family income-adjusted premium. There are no income or asset limits for the Common Health program.

Data Collection

Study data were collected using the 136-item MassHealth Employment and Disability Survey (MHEDS). Developed and fielded in 2003 under a Medicaid Infrastructure Grant from the Centers for Medicare and Medicaid Services, the MHEDS gathered data on disability, employment status, and health care experiences of working-age adults with disabilities in the MassHealth program. Items were developed through a review of existing national and state surveys on health, disability and employment and with input from stakeholder groups advising the grant, and the MHEDS underwent cognitive and pre-testing with people with disabilities enrolled in MassHealth prior to fielding. Additional information on MHEDS development efforts and major findings are available elsewhere [28, 29]. At the time the MHEDS was administered, there were just over 8000 working-age adults with disabilities enrolled in the CommonHealth program. After obtaining IRB approvals, we administered the MHEDS to 1933 randomly selected CommonHealth members using a dual-mode administration method, including two mailings of an English language version of the MHEDS and telephone interviews with members who did not respond by mail. The telephone interview version of the MHEDS was available in English and Spanish. All data were collected between the last week of July and the fourth week of October 2003. Complete MHEDS data were available for 1093 CommonHealth members, for a 57% response rate.[2]

[2] Using MassHealth administrative data, we found that respondents were significantly more likely to be female, older, have higher family income and have higher Medicaid expenditures than non-respondents. Respondents and non-respondents did not differ in CommonHealth eligibility category or in Medicare enrollment.

Measures

For the analyses reported here, we used variables derived from members' answers to survey questions regarding disabling conditions, current activity limitations and three work outcomes. *Disabling conditions* were determined from members' answers (1 = yes, 0 = no) to the following:

(1) Are you legally blind or deaf? (*Sensory disorder*)
(2) Do you have any physical disabilities that make it difficult for you to walk, move or get around? (*Physical disability*)
(3) Do you have any mental or emotional problems, such as depression, anxiety or bipolar disorder? (Psychiatric disability)
(4) Do you have any type of developmental disability, such as autism or mental retardation? (*Developmental disability*)
(5) Do you have a disease or long-term illness such as cancer, heart disease, AIDS, or lung disease? (*Long-term illness*)
(6) Do you have any disabilities or health conditions as a result of a serious head injury? (*Head injury*)

There was no limit to the number of conditions to which members could answer ''yes''. *Current activity limitations* were determined from members' answers (1 = yes, 0 = no) to six questions regarding difficulties in ADLs and IADLs:

In the last four weeks, have you had any problems—

(1) Crossing a room or getting from a bed to a chair without help from another person?
(2) Getting around inside the home?
(3) Dressing, bathing or showering, feeding or grooming yourself?
(4) Going outside the home, for example to shop or visit a doctor's office?
(5) With household tasks like cooking or cleaning?
(6) Concentrating long enough to finish everyday tasks?

A principal components analysis indicated that the first two questions formed a single factor. Thus, the six questions yielded five activity limitations variables: *moving inside the home* (yes to either questions 1 or 2); *doing basic self-care* (question 3); *going outside the home* (question 4); *doing household chores* (question 5); and *concentrating* (question 6).

The survey also yielded data on three work outcomes. *Work status* (1 = working, 0 = not working) was derived from members' answer to the question, ''Are you currently working at a job for pay?'' For working members, we used their report of earnings in the past year from all paid jobs to create a dichotomous variable reflecting annual *earnings over SGA* (i.e. over $10,000) (1 = yes, 0 = no). For non-working members, we used members' answers to questions about whether they were currently looking or planning to look for work in the next few years to create a variable called *planning future work* (1 = currently looking/planning to look for work, 0 = neither looking nor planning to look for work).

Data Analysis

All study data were analyzed using SAS for Windows, version 9.1 [30] statistical software. Descriptive statistics (frequencies and means) were generated for all variables used in

the analyses. χ^2 and analysis of variance procedures were used to examine differences in rates of working for members reporting varying numbers and types of activity limitations, and differences in number of activity limitations reported by members with varying types of disabling conditions. We used the Cochran-Mantel-Haenszel statistic to estimate the common odds of achieving each of the three work outcomes for members reporting different types of activity limitations across three groups of members reporting different types of disabling conditions, and used the Breslow-Day statistic to test the homogeneity of the odds ratios for each of the three groups.

Results

Characteristics of CommonHealth Members

Characteristics of the 1093 CommonHealth members are shown in Table 1. Members had a mean age of 46 years, 49% were male, and most were Caucasian and reported speaking English as their primary language. Almost half had some college education or more. Psychiatric disability and physical disability were the most common disabling conditions reported by members, at 61% and 55% respectively; 55% of members reported more than one disabling condition. Current activity limitations were common among members, with 69% of members reporting at least one activity limitation and half reporting multiple limitations. Doing household chores, concentrating and going outside the home were the most commonly reported limitations, at 47, 46 and 36%, respectively. Approximately half (47%) of members were working for pay; four in ten reported earnings above SGA. More than one-third (38%) of non-working members reported planning to work in the future.

Differences in Rates of Working by Number and Type of Activity Limitations

Rates of working declined significantly among members reporting from zero to five activity limitations, from 68% to 19% ($P < .0001$). While the overall rate of working for the 204 members reporting only one activity limitation was quite high at 56%, this rate varied considerably depending on the *type* of limitation members reported. Specifically, the mean rate of working for members reporting a single limitation in either moving inside the home or going outside the home (hereafter referred to as *mobility limitations*) ($n = 39$) was only 28%, while the mean rate of working for those reporting a single limitation in either concentrating, doing household chores or doing self-care (hereafter referred to as *other limitations*) ($n = 165$) was significantly higher at 62% ($P = .0001$). Among members reporting multiple limitations, we again observed differences in working rates for those with mobility versus other limitations. The mean rate of working for members reporting multiple limitations including at least one mobility limitation was 26% ($n = 455$), while the rate of working among members reporting combinations of two other limitations (i.e. concentrating, chores or self-care) remained high at 55% ($n = 77$) ($P = .0001$).

Activity Limitations Reported by Members with Varying Disabling Conditions

Because of the prevalence of psychiatric and physical disability among members, with over 87% of members reporting either or both conditions, we classified members into

Table 1 Demographic characteristics, disabling conditions, activity limitations and work status among CommonHealth members (n = 1093)

Member Characteristics	
Demographics	
Mean age (sd)	46 (10.23)
Gender (male)	532 (49%)
Race (Caucasian)	1021 (93%)
Ethnicity (Latino)	36 (3%)
English is primary language	1019 (93%)
Living with spouse or partner	312 (29%)
Education (some college or more)	533 (49%)
Received SSDI within past 12 months	647 (59%)
Disabling conditions[a]	
Psychiatric disability	668 (61%)
Physical disability	599 (55%)
Long term illness	404 (37%)
Head injury	97 (9%)
Developmental disability	96 (9%)
Sensory disorders (blind or deaf)	54 (5%)
Number of disabling conditions	
One	489 (45%)
Two	407 (37%)
Three or more	197 (18%)
Activity limitations in past 4 weeks[a]	
Doing household chores	517 (47%)
Concentrating	502 (46%)
Going outside the home	392 (36%)
Moving inside home	316 (29%)
Doing basic self-care	297 (27%)
Any limitation	751 (69%)
Multiple limitations	547 (50%)
Work status	
Currently working for pay	510 (47%)
Annual earnings over $10,000 (workers n = 510)	213 (42%)
Intends to work in future (non-workers n = 583)	219 (38%)

[a] Members could identify more than one type of disabling condition and more than one type of activity limitation, so these percentages exceed 100%

four disability groups based on their report of these two conditions. The four groups included:

1. Members with a *psychiatric disability* (n = 356), who may have also reported other conditions but did not report physical disability;
2. Members with a *physical disability* (n = 287), who may have also reported other conditions but did not report psychiatric disability;
3. Members with *co-occurring psychiatric and physical disabilities* (n = 312), who may also have reported other conditions;
4. Members with any combination of *all other conditions* (i.e. long-term illness; head injury; developmental disability; and/or sensory disorder) (n = 138), who did not report psychiatric or physical disability.

There was a significant difference across the four groups in total number of activity limitations reported ($P < .0001$) (data not shown). Pairwise comparisons showed the four groups to all differ significantly from each other (all P's $< .05$), with those with co-occurring psychiatric and physical disabilities reporting the greatest number of

limitations (mean = 2.85, of a possible 0–5) and those with all other conditions reporting the fewest limitations (mean = 0.38). Because the 138 members with all other conditions reported so few activity limitations, they were dropped from further analyses, resulting in a reduced sample of 955 members.

Activity Limitations and Work Outcomes for Members in Three Disability Groups

Within each of the three remaining disability groups, members reporting at least one *mobility limitation* were significantly less likely to work than members reporting no limitations and those reporting one or two *other limitations* (all *P*'s < .0004); differences between those reporting no limitations and one to two other limitations were not significant (data not shown). Based on these findings, we categorized all members into one of two activity limitations groups—one including members with *no or other limitations* and the second including members with at least one *mobility limitation*.

We next examined differences between members with no/other limitations versus mobility limitations on the three work outcomes—work status of all members; earnings over SGA among working members; and planning future work among non-working members—across the three groups. As shown in Fig. 1, across the three groups members with mobility limitations were significantly less likely to be working than those with no/other limitations, with a common odds ratio (OR) of .28 (95% CI = .21–.38; $P < .0001$); ORs for the three groups did not differ significantly. Similarly, as shown in Fig. 2, non-working members with mobility limitations were significantly less likely to be planning future work than those with no/other limitations, with a common OR of .58 (95% CI = .39–.86; $P = .007$), with no significant differences in ORs across the three disability groups. The associations of activity limitations to these two outcomes—work status and planning work—were unaltered by gender, age (under 40 vs. 40 and over) or level of education (high school or less vs. some college or more) (data not shown).

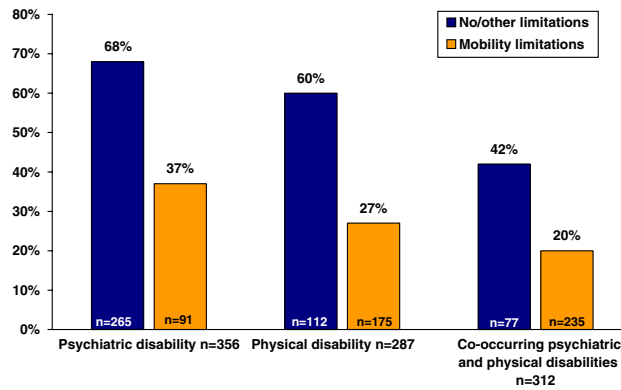

Fig. 1 Rates of working among members in three disability groups reporting no/other limitations versus mobility limitations ($n = 955$). *Note.* Common odds ratio (OR) across groups = 0.28 (95% CI = 0.21–0.38; $P < .0001$); ORs for the three groups did not differ significantly. *No/other limitations* includes members reporting no limitations and those reporting 1–2 limitations in chores, self-care and/or concentrating only. *Mobility limitations* includes those reporting at least 1 limitation in moving inside home or going outside home (and also includes a small number of members ($n = 15$) reporting all three "other" limitations)

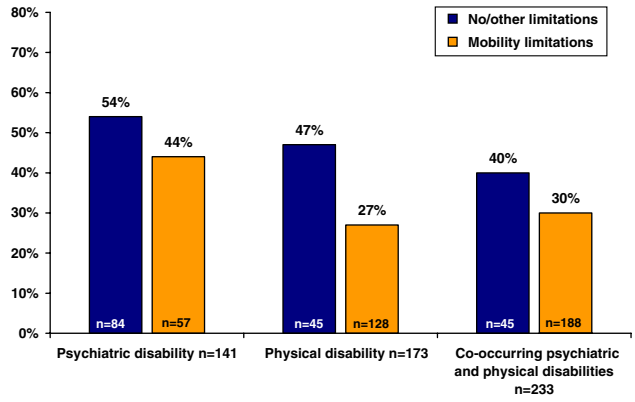

Fig. 2 Rates of planning to work in the future among non-working members in three disability groups reporting no/other limitations versus mobility limitations ($n = 547$). *Note.* Common OR across groups = 0.58 (95% CI = .39–.86; $P = .007$); ORs for the three groups did not differ significantly. *No/other limitations* includes members reporting no limitations and those reporting 1–2 limitations in chores, self-care and/or concentrating only. *Mobility limitations* includes those reporting at least 1 limitation in moving inside home or going outside home (and also includes a small number of members ($n = 12$) reporting all three ''other'' limitations)

In contrast, when we examined the relationship of activity limitations to annual earnings over SGA among working members, we found a significant difference ($P < .009$) across the three groups. As shown in Fig. 3a, mobility limitations were associated with a significantly decreased likelihood of earning over SGA only among workers with co-occurring psychiatric and physical disabilities (OR = .30, 95% CI = .11–.85). On the other hand, mobility limitations were associated with a non-significant increased likelihood of earning over SGA among workers with a physical disability (OR = 1.43, 95% CI = .67–3.04), and appeared to have no impact on earnings among workers with a psychiatric disability (OR = 1.01, 95% CI = .47–2.13). For workers with a physical disability as well as those with co-occurring psychiatric and physical disabilities, associations between activity limitations and earnings were not altered by gender, age or level of education. However, among workers with a psychiatric disability, we observed an age and education effect on the relationship of activity limitations to earnings. As shown in Fig. 3b, among workers with a psychiatric disability, mobility limitations were associated with a decrease in earnings for younger (under 40) workers and/or for those with only a high school education or less (OR = .35, 95% CI = .10–1.32). However, among older workers (40 and over) with at least some college education, mobility limitations were associated with an increased likelihood of earning over SGA (OR = 2.47, 95% CI = .86–7.11). ORs for the two subgroups of members with a psychiatric disability were significantly different ($P < .02$).

Discussion

Even when an important policy-related barrier—fear of loss of health insurance—is removed, many people with disabilities face significant health-related barriers to employment. In a previous study of MBI enrollees, Henry and colleagues found rates of

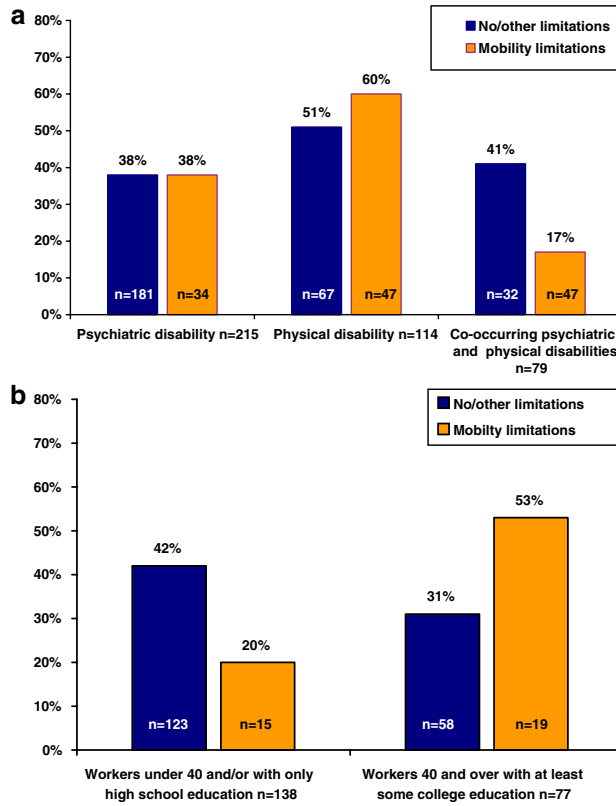

Fig. 3 (**a**) Rates of earnings over SGA among working members in three disability groups reporting no/other limitations vs. mobility limitations (n = 408). *Note*. SGA = substantial gainful activity. ORs for the three groups are significantly different at $P < .009$. *No/other limitations* includes members reporting no limitations and those reporting 1–2 limitations in chores, self-care and/or concentrating only. *Mobility limitations* includes those reporting at least 1 limitation in moving inside home or going outside home (and also includes a small number of members (n = 3) reporting all three ''other'' limitations). (**b**) Rates of earnings over SGA among two groups of working members with psychiatric disability with no/other limitations versus mobility limitations (n = 215). *Note*. SGA = substantial gainful activity. ORs for the two groups are significantly different at $P < .02$. *No/other limitations* includes members reporting no limitations and those reporting 1–2 limitations in chores, self-care and/or concentrating only. *Mobility limitations* includes those reporting at least 1 limitation in moving inside home or going outside home (and also includes a small number of members (n = 3) reporting all three ''other'' limitations)

working and rates of earning over SGA to vary among individuals reporting different types of disabling conditions [10]. This study adds to our understanding of the relationship of health status to employment outcomes among MBI enrollees by uncoupling the type of disabling conditions from the current activity limitations individuals may experience. We found activity limitations to differentially moderate the relationship between disabling conditions and work outcomes for people with psychiatric, physical and co-occurring psychiatric and physical disabilities. While we observed an overall decline in rates of working as members reported an increasing number of limitations, we found mobility limitations to be generally associated with

poorer work outcomes, regardless of type of disabling condition. Across three different disability groups, members reporting mobility limitations were significantly less likely to be currently working or, if non-working, to be planning work than those reporting no or other types of limitations. There was a notable exception to this pattern with respect to earnings among working members. Mobility limitations were associated with a decreased likelihood of annual earning over SGA among workers with co-occurring psychiatric and physical disabilities and among workers with a psychiatric disability who were younger and/or lacked at least some college education, but not among those with a physical disability or among older, college educated members with a psychiatric disability. Overall, work outcomes among members with co-occurring psychiatric and physical disabilities were most consistently negatively impacted by mobility limitations.

Disabling conditions and activity limitations may differ in their impacts on employment outcomes, with some conditions and/or limitations hampering entrance into the workforce and others limiting earnings at higher levels. Information about both conditions and limitations is needed for comprehensive rehabilitation intervention planning [17, 31, 32]. Our findings suggest that mobility limitations function primarily as a barrier to *entering the workforce*, reducing the likelihood that an individual will work or plan to work, regardless of the disabling condition the individual experiences. Mobility limitations were most common among members reporting either a physical disability or co-occurring psychiatric and physical disabilities, at 61 and 75% respectively, but were not uncommon among members with a psychiatric disability, at 26%. Our data did not allow us to identify the specific ways in which mobility limitations presented or how the presentation might have varied among members with different conditions. For example, while for many people a ''problem going outside the home'' is likely due to a physical impairment, it may be that for some people this limitation results from a psychological impairment (e.g., fear/anxiety about leaving the house) or even a resource limitation (e.g., a lack of adequate transportation). Rehabilitation providers aiming to promote entry into the workforce need to be aware of the varied ways in which mobility limitations may create barriers for people with all types of disabilities.

Coupling standard vocational services with rehabilitation interventions that specifically target mobility limitations might help promote workforce entry for some individuals. Broadly speaking, rehabilitation interventions seek to remediate an underlying impairment and restore or minimize the person's loss of function and/or to compensate for functional limitations through environmental modification [33]. Remediative interventions might include exercise to enhance physical capacity and stamina [34, 35], cognitive-behavioral therapy to address anxiety and enhance coping skills [36, 37] or educational interventions that enhance awareness of resources and teach people how to advocate for their rights under the ADA [38, 39]. Compensatory interventions might include the provision of personal assistance services both at home and in the workplace [40, 41], ensuring workplaces are accessible to wheelchairs or other mobility-supporting equipment [40, 41], exploring options for telework [42], or helping people secure needed transportation [43, 44].

Interventions that successfully reduce mobility limitations and help people move into employment might have only limited impact on workers' earnings. We did not find earnings to be negatively impacted by mobility limitations among workers with a physical disability or among a relatively small group of older, college-educated workers with a psychiatric disability. Presumably these workers were able to overcome any barriers to workforce entry created by their mobility limitations. Notably, we found very few workers with mobility limitations to have jobs in traditional ''blue collar''

occupations such as construction or maintenance. In general, jobs held by members with mobility limitations appeared to require less physical and conversely more cognitive abilities, and therefore might both garner higher wages and not be negatively impacted by mobility limitations. Cognitive impairments are well documented among people with psychiatric disabilities [27]. A lack of cognitive impairments and/or higher education might help mitigate any negative impact of mobility limitations on earnings for some people. As with the general population, education is highly related to earnings among people with disabilities [45, 46] and so interventions that optimize educational opportunities would be key to enhancing earnings for people with disabilities [47, 48].

Overall, members with co-occurring psychiatric and physical disabilities, comprising almost 30% of the sample, had the poorest work outcomes. Only a quarter of these members, who were the most likely to report mobility limitations, were currently working and only a quarter of those working were earning over SGA. People with co-occurring psychiatric and physical disabilities face multiple health-related barriers to employment [18]. Still it is worth noting that almost a third of these members reported planning to work in the future. Finding ways to best support the employment goals of people with complex health needs would be a worthwhile effort.

Generalizability

One advantage to studying people enrolled in a buy-in program is that, in theory, program enrollment controls for the impact of an important work barrier, allowing us to more directly study self-reported health status effects on work outcomes. Nevertheless, because this study focused on a small subgroup of adults with disabilities enrolled in MassHealth, generalizability of the study findings is a potential concern. However, when we examined a group of MHEDS respondents who were enrolled in the standard MassHealth program, we observed the same negative impact of mobility limitations on work status across members in the three disability groups. Moreover, population based surveys also point to the negative impact of mobility limitations on work. Thus, these findings are likely applicable to the larger population of working age adults with disabilities receiving public disability benefit programs.

Limitations

The MHEDS was not intended to provide a comprehensive appraisal of daily activity limitations experienced by MassHealth members, and thus included only a small number of activity limitations questions. In particular, with only single questions about concentrating and doing self-care, the MHEDS was unlikely to fully capture limitations in these domains. Nor did the MHEDS include questions about communication or social capacities. Additional questions in these domains might have revealed other associations between activity limitations and the work outcomes we examined. We did not have data that would have allowed us to confirm members' report of the disabling conditions or the activity limitations they experience. However, we have no reason to believe that there would be any systematic bias in reporting among members that would have altered our estimates of the associations between mobility limitations and work outcomes. In addition, we lacked any data on members' past or current use of employment services, and so do not know the extent to which members were receiving services that might address mobility limitations.

Conclusions

Even when an important environmental policy barrier is removed, people with disabilities experience significant health-related barriers to employment. Mobility limitations appear to reduce the likelihood of work participation for people with a variety of disabling conditions. Once people are working, other factors likely influence the level of earnings they are able to attain. Thus, work participation and earnings are not equivalent outcomes for people with disabilities. Assessments of the impacts of policy changes, such as federal efforts to promote work among people with disabilities through Medicaid buy-in programs, need to take into consideration the complexity of health challenges of this heterogeneous group. One set of strategies is not likely to solve the problems of low work participation and low earnings among people with disabilities. Interventions are needed on multiple fronts, including efforts to remove policy barriers and to provide services that address the range of challenges that people with disabilities face.

Acknowledgements This article was supported by the Massachusetts Medicaid Infrastructure Grant (Grant # DHHS/11-P-91918), and the Massachusetts Medicaid Infrastructure and Comprehensive Employment Opportunities Grant (CFDA # 93.768, HCFA/11–91234). Funding for both grants was provided by the Centers for Medicare and Medicaid Services. The authors thank Abigail Averbach, John Butterworth, Marsha Langer Ellison, Patricia Gallagher, Raymond Glazier, Fred Hooven, Zofia Kumas-Tan, Leslie Olin, Annette Shea, and Vickie Stringfellow for their contributions to the paper.

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