



**LEAD CENTER**

**POLICY BRIEF**

# The Impact of Employment on the Health Status and Health Care Costs of Working-age People with Disabilities

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## 1. OVERVIEW

Reducing health care spending is a national priority. As of 2013, health care spending represented over 17% of Gross Domestic Product (GDP) (Centers for Medicare and Medicaid Services), with a disproportionate amount of that spending going towards adults with disabilities. In fact, on a per-capita basis, expenditures for people with disabilities are over four times higher than those for their counterparts without disabilities (Stapleton & Liu, 2009). This leads them to account for 27-37% of total health expenditures, which are largely borne by the public sector, especially Medicaid and Medicare (Anderson, Armour, Finkelstein, & Wiener, 2010; Stapleton & Liu, 2009).

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Employment programs might be one way to lower these costs. A large body of research has established that employed individuals are healthier than those who are not employed (Yelin & Trupin, 2003; Thomas & Ellis, 2013; Ross & Mirowsky, 1995; McKee-Ryan, Song, Wanberg, & Kinicki, 2005). This association cuts across many demographics, including gender, age, and disability status (Hartman, undated). Thus, some analysts hypothesize that enhancing employment opportunities for working-age people with disabilities may improve health status and thus decrease health care costs. Employment can improve health by increasing social capital, enhancing psychological well-being, providing income, and reducing the negative health impacts of economic hardship.

However, while the correlation between health and employment has been well established, the causal relationship is complicated. Two seemingly competing hypotheses may explain the correlation:

- 1. Employment increases health status:** Employment has social, psychological, and financial benefits that improve health.
- 2. Healthy people are more likely to work:** Health has an impact on an individual's desire to work and their likelihood of being hired or retained.

Using a variety of statistical approaches, researchers have found evidence that both hypotheses are true. Each explains a portion of the correlation between employment and health with the relative importance of each theory varying by demographic characteristics and research methodology. It may be that the two theories are mutually reinforcing rather than mutually exclusive. Full-time employment improves health, and health bolsters the odds of full-time employment (Ross & Mirowsky, 1995). These studies though, look at the general population, and so the magnitude of these correlations for people with disabilities is less clear.

Although a great deal of research exists on the relationship between employment and health status for the general population, there is no research on how this relationship affects costs. A variety of factors complicate the analysis beyond the bi-directional relationship between employment and health, including the availability and affordability of health insurance and other determinants of health-related behaviors. This complex and interrelated set of factors makes it methodologically difficult to determine the impact of employment on health care costs. Nevertheless, one empirical study suggests the presence of such a link. Evidence from a study of supported employment clearly shows that employment increases mental health status and reduces the long-term mental health care expenditures of people with mental health disabilities (Bush, Drake, Xie, McHugo, & Haslett, 2009).

This policy brief concludes that employment seems to have a protective impact on health and thus establishes that an added benefit of investing in the employment of people with disabilities – beyond the impact on their income and the possible savings from various social protection programs – would be to lower public expenditures on health care. However, the current state of research cannot accurately gauge the magnitude of the impact.

This brief is structured as follows: Section 2 presents evidence of the correlation between employment and health for working-age people with disabilities; Section 3 teases out the causal relationship between employment and health status using evidence from the general population and discusses the applicability of these findings to people with disabilities; Section 4 explores the difficulty in assigning health care cost savings to health status improvements caused by employment; and Section 5 describes the Supported Employment study.

## 2. CORRELATION BETWEEN EMPLOYMENT AND HEALTH STATUS

The correlation between employment and health for the general population is well established and presented in several large-scale literature reviews and meta-analyses that examine over 300 studies (Paul & Moser, 2009; McKee-Ryan, Song, Wanberg, & Kinicki, 2005; Marwaha & Johnson, 2004; Ross & Mirowsky, 1995; Mastekaasa, 1996).

Fewer studies have focused specifically on people with disabilities, but several studies have documented that employment is associated with better health for this population. For example:

- The California Work and Health Survey (1999-2000) revealed that the 54% of people with disabilities who reported that they were in “excellent, very good, or good” health were employed compared to only 26% of those who reported they were in “fair or poor” health (Yelin & Trupin, 2003).
- The Behavioral Risk Factor Surveillance System Survey found that employed individuals with any disability experience mental distress less frequently than those with a disability who are not employed (18% vs. 40%). This relationship held up even when controlling for demographics and individual characteristics including age, sex, race/ethnicity, education, marital status, health risk behaviors, body mass index, health care coverage, and self-rated general health (Okoro, Strine, McGuire, Balluz, & Mokdad, 2007).
- Medicaid recipients with disabilities in North Carolina who used a high level of health care services were less likely to be employed than those who used fewer services (Thomas & Ellis, 2013).
- Self-reported survey data and secondary claims data analyses of 810 Kansans ages 18-64 with disabilities enrolled in the Medicaid Buy-in in 2011 indicated that participants with any level of paid employment had significantly lower rates of smoking and better quality of life. The study also found self-reported health status was significantly higher and per person/per month Medicaid expenditures were lower among those who were employed (Hall, Kurth, & Hunt, 2013).
- Work is related to a decrease in mental health symptoms and a higher quality of life for people with schizophrenia (Marwaha & Johnson, 2004), as well as those with physical disabilities (Turner & Turner, 2004).

### 3. CAUSAL RELATIONSHIP BETWEEN WORK AND HEALTH STATUS

The causal relationship between increased work and improved health most likely runs in both directions. Employment increases health status, while at the same time healthy people are more likely to seek and maintain employment. Either explanation could be behind the strong correlation between the two outcomes.

#### *a. Employment leads to better health*

Quantitative evidence from the general population highlighted in several meta-analyses and literature reviews points to the health benefits of work and the detrimental impacts of unemployment. Work can lead to better health through two mechanisms - financial and psychological.

- **Financial Benefits:** Employment increases household income and decreases economic hardship, both of which improve physical and psychological well-being. Numerous studies have demonstrated that poverty leads to poor health status (Thompson, Wells, & Coats, 2012). Well-paying work provides individuals with the financial means to access heat, nutritious food, health care, and safe housing, all of which impact health directly. The stress of trying to pay bills and feed and clothe a family on an inadequate household income generates psycho-physiological distress, malaise and susceptibility to disease (Montgomery, Cook, Bartley, & Wadsworth, 1999). People with higher incomes are more likely to have a regular provider of medical care and health insurance coverage. One of the most significant financial benefits of working (besides income) is health insurance. A majority of Americans (60%) receive employer-sponsored health insurance (State Health Access Data Assistance Center, 2013). Individuals with health insurance are more likely to see their primary care doctor and dentist and receive routine screenings for blood pressure and cholesterol, and get preventive care.
- **Psychological Benefits:** Employment has long been associated with key components of mental health including self-esteem, self-worth, purpose and identity. Some psychologists ascribe to the theory that work provides relationships and social connections; a time structure on the working day; the assignment of social status; regular productive activity; and the opportunity to engage in collective efforts greater than could be achieved alone (Jahoda, 1982). Other psychologists contend that unemployment affects self-concept because occupation is often an important component of an individual's personal identity. Thus, unemployment threatens that identity and can damage an individual's sense of self-worth (Turner & Turner, 2004). Quantitative evidence substantiates that when people lose their jobs, they tend to experience a significant deterioration in mental health, and when unemployed persons find new jobs, their mental health improves significantly (McKee-Ryan, Song, Wanberg, & Kinicki, 2005).

In much of the research on the relationship between health and employment status, health status is defined using measures of functioning. Physical illness, impairment of mental well-being and disability are used as measures of ill health. However, while loss of function can be an indicator

of a change in health status, functional abilities may not serve as indicators of health status if they are a stable feature of a person's life (Krahn, Fujiura, Drum, Cardinal, & Nosek, 2009). For example, if a person has difficulty walking because they lost their foot in an accident many years ago, it is not a sign of poor health, but rather a sign of a functional limitation. However, if difficulty walking is caused by a congestive heart condition, then it could be seen as an indicator of poor health.

Unfortunately, while the conceptualization of the health of people with disabilities has moved from a medical model in which disability is seen as ill health, to a social model in which people with disabilities can live full healthy lives, the measurement of health status used in research has not kept up (Krahn, Fujiura, Drum, Cardinal, & Nosek, 2009).

There is a broad consensus among multiple disciplines, government agencies, and disability groups that these findings generally apply to people with disabilities. Work is therapeutic; promotes recovery and rehabilitation; leads to better health outcomes; minimizes the harmful physical, mental and social effects of long-term unemployment; promotes full participation in society, independence and human rights; reduces poverty; and improves quality of life and well-being (Waddell & Burton, 2006).

However, the magnitude of the impact may differ for people with disabilities compared to their non-disabled peers. On the one hand, because people with disabilities are more likely to be economically disadvantaged, the impact of an improved financial situation may be even more dramatic than it is for people with no disabilities (Turner & Turner, 2004). On the other hand, because many people with disabilities who are not working qualify for public support programs, the financial impact of not working may be lessened.

In describing the psychological impact of disability for people with physical disabilities, Turner & Turner (2004) explain that disability may either intensify or weaken the psychological impact. On the one hand, work may provide validation that an individual can participate fully in society. Thus, the loss of this validation may lead to a greater psychological impact for those with disabilities. On the other hand, unemployment may be perceived as more normative among people with disabilities, while not working may carry less stigma and result in less psychological impact. Statistical analysis found that unemployment affects the mental health of people with physical disabilities more than it affects the mental health of people without physical disabilities, providing support for the first theory (Turner & Turner, 2004).

Not all jobs have the same impact on health. For example, underemployment may not provide the same psychological benefits of full employment. In addition, jobs that are over-demanding; depersonalized; provide inadequate rewards; restrict occupational self-direction; and/or have conflicting demands, physical hazards or poor co-worker relationships may have negative rather than positive effects on health (Konrad, Moore, Ng, Doherty, & Breward, 2013). Among employed workers, individuals with disabilities are more likely than those with no disabilities to be underemployed, experience job insecurity, and to be in temporary, entry-level and part-time jobs, characteristics that may affect the positive impact of employment on health status.

Unfortunately, except for studies of the impact of supported employment on people with mental illness described in section 5 below, there is little direct quantitative evidence on the physical or mental health benefits of work for people with disabilities (Waddell & Burton, 2006).

### ***b. Better health status leads to employment***

Evidence from the general population suggests that an individual's employment status may be a consequence of their physical or mental health status rather than the cause. Although the effects of ill health on employment varies by demographic and educational characteristics (McDonough & Amick III, 2001), generally, people who are less healthy have a higher probability of losing their jobs and, when unemployed, need more time to find new employment (Mastekaasa, 1996). Chronic diseases may erode energy and concentration and thus may undermine required performance leading to job loss (Goetzel, et al., 2004). Poor mental health, distress, and low self-esteem may reduce the intensity of an individual's job search and may affect the impression the applicant makes on the hiring manager, thereby reducing their chance of being hired (Paul & Moser, 2009). People in ill health are also more likely to take early retirement than those in good health (Shuring, Burdorf, Kunst, & Mackenbach, 2007).

Although many studies explore the impact of disability on getting and maintaining employment, none assess the added impact of health status on the employment of people with disabilities. It is likely that, similar to the general public, ill health leads to a reduced chance of employment among people with disabilities. In addition to the factors affecting the general population, people with disabilities may find that ill health compounds the challenges to employment posed by their disability and declining health may make them more likely to apply for disability insurance.

## **4. HEALTH CARE COSTS**

In 2012, workers age 18-64 had average health care expenditures of \$3,264 compared to average expenditures for those in the same age group who were not employed of \$6,464<sup>1</sup>. This disparity is caused by a number of factors including age, socio-economic status, insurance status, disability status, health behaviors, exposure to hazards and others. It is thus methodologically challenging to estimate a causal relationship between work and health care costs. With the exception of the supported employment study described below, no study has assessed the impact of work on health care costs and whether the improvement in physical or mental health status caused by work has a significant impact on health care costs.

Theoretically, interventions that improve physical or mental health status can have a significant impact on health care costs. Working-age (18-64) people in fair or poor health have more than five-times the number of annual medical provider visits than those in excellent or very good health (11.6 compared to 2.5 visits) and are almost nine times more likely to spend at least one night in a hospital (31.3% compared to 3.6%)

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<sup>1</sup> Author's analysis of the Medical Expenditure Panel Survey, 2012 Full Year Person-Level File using MEPSnetHC. [http://meps.ahrq.gov/mepsweb/data\\_stats/MEPSnetHC.jsp](http://meps.ahrq.gov/mepsweb/data_stats/MEPSnetHC.jsp). Expenditures include direct payments by individuals, insurers, and other public and private sources to the providers of services for hospital stays, emergency room visits, outpatient department visits, office-based medical provider visits, dental visits, home health care, and other medical expenses.

Mental health issues also impose costs by exacerbating medical conditions and by increasing the cost of caring for those conditions. Issues such as anxiety and depression can worsen the course of chronic diseases, such as cardiovascular disease, diabetes, obesity, asthma, epilepsy, and cancer, and weaken the immune system (American Psychological Association, 2014). Patients with anxiety or depression have medical care costs that are between one-and-a-half to two times as high as those without mental health issues, even after adjusting for differences in medical conditions (Simon, Ormel, VonKorff, & Barlow, 1995).

To some extent, the relationship between health status and health care costs should be the same for people with disabilities who are at risk for the same ailments and conditions as people in the general population (e.g., injury, obesity, hypertension and the common cold). However, this could be exacerbated by the addition of specific risks for secondary conditions that can damage their health status and increase health care costs.

In some cases, the process of maintaining good health through effective use of rehabilitation, medications, assistive medical technology, and other interventions may increase health care costs while increasing the chance of employment. Some people with disabilities who are not working report that they would be able to work if their need for disability-related health care services were met (Henry, Long-Bellil, Zhang, & Himmelstein, 2011). In this situation, employment could be related to both an increase in health and an increase in health care costs.

## **5. EVIDENCE FROM SUPPORTED EMPLOYMENT**

In the only longitudinal study in the U.S. that explores the impact of work on health care costs for people with disabilities, researchers at Dartmouth Medical School found that individuals with a serious mental illness, who maintained work with an average of 13.8 hours per week (5,060 hours per year), had lower mental health care costs than those who were unemployed or not steadily employed. Over the course of the study's 10 years, individuals who maintained steady employment had mental health medical costs that were \$166,350 less per person than the group that was unable to maintain consistent employment (Bush, Drake, Xie, McHugo, & Haslett, 2009).

The study, which followed 187 participants in an Individual Placement and Support (IPS) model Supported Employment program, clearly shows a correlation between employment and health care costs. In the first year of the program, people who were employed had an increase in outpatient utilization and a decrease in inpatient utilization. This increase in outpatient utilization is not surprising because IPS integrates employment with mental health treatment at the outset. After the first year, both outpatient and inpatient utilization and service costs decreased dramatically for participants who were working steadily compared to those who were not working or working only minimally.

The study's authors used three approaches to tease out the causal relationship (i.e., Does employment increase mental health or were people with better mental health more likely to be working steadily?). First, they statistically controlled for education, age, previous work, and illness severity and found that the same relationship exists between employment and decreased

health care costs. Second, they identified a temporal relationship where cost reduction followed engagement in employment. Third, they interviewed clients and found that many reported that working enabled them to manage their symptoms better and to leave the mental health system (Bush, Drake, Xie, McHugo, & Haslett, 2009). These findings are supported by studies of IPS in Europe (Kilian, et al., 2012).

## 6. CONCLUSION

Employment can improve an individual's physical and mental well-being, while job loss can have a detrimental effect. At the same time, poor health can impact the ability of an individual to get and maintain a job.

Working age people with disabilities are less likely to be employed than those without disabilities. They are also more likely to have depression, anxiety, and chronic disease including diabetes, heart disease and obesity. Their lack of employment exacerbates these conditions, creating a cycle where unemployment leads to ill health and ill health leads to unemployment.

Given that work can be good for health, it is likely that working reduces health care costs. However, research in this area is limited because it is methodologically challenging to arrive at quantitative estimates of the causal relationship between work and health care costs. Although it may be difficult to determine the proportion of healthcare cost savings due to employment, inferences may be drawn from the positive impact that work has on well-being.

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