

DRC BRIEF

Rachel Miller and Gina Livermore

Long-Term Impacts of Employment Interventions Targeted to People with Mental Health Conditions

Because mental health conditions can negatively affect employment, people with these conditions make up a large share of federal disability program participants. Federal agencies have tested supported employment (SE) interventions designed to help those with mental health conditions keep or obtain employment and reduce their dependence on public programs. This brief describes the characteristics of adults with mental health conditions who participate in the federal disability programs and reports evidence from three recent studies of longer-term impacts of SE on the employment of people with mental health conditions. The findings indicate that, although a large share of disability program participants with mental health conditions report that they want to work, many face barriers, including being discouraged by failed past work attempts. Although there is evidence that SE interventions can lead to positive impacts on employment and earnings for this population, the SE interventions studied to date have not reduced long-term reliance on federal disability benefits among those with mental health conditions.

SSA reports that about one-quarter of adults participating in the DI and SSI programs qualify for disability benefits primarily on the basis of a mental health condition.

INTRODUCTION

The employment-related consequences of mental health conditions are well documented. Mental health conditions can affect labor market outcomes through their effects on educational attainment, employment discrimination, and job performance (Banerjee, Chatterji, & Lahiri, 2017; Diehl, Douglas, & Honberg 2014; Modini et al., 2016; Harvey, Modini, Christensen, & Glozier, 2013; Kessler et al., 2008). Because some mental health conditions have significant negative effects on employment, people with mental

health conditions represent a large share of working-age adults (age 18 to retirement age) participating in the Supplemental Security Income (SSI) and Social Security Disability Insurance (DI) programs. The U.S. Social Security Administration (SSA) reports that about one-quarter of the adults participating in DI and SSI programs qualify for disability benefits primarily on the basis of a mental health condition (SSA 2017a, 2017b).

Aside from the fact that people with mental health conditions make up a large share of participants in the federal disability programs,

The research reported herein was performed pursuant to a grant from the U.S. Social Security Administration (SSA) funded as part of the Disability Research Consortium. The opinions and conclusions expressed are solely those of the authors and do not represent the opinions or policy of SSA or any agency of the Federal Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, expressed or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of the contents of this report. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply endorsement, recommendation or favoring by the United States Government or any agency thereof.

this population is important for several reasons. First, relative to all adult SSI and DI beneficiaries, those receiving benefits on the basis of a mental health condition are younger on average, and so they receive benefits for more time: an average of 21 versus 14 years (Riley & Rupp, 2015). Second, partly because of their long tenure on public support programs, they generate about one-third greater DI, SSI, Medicare, and Medicaid expenditures, on average, relative to all adult beneficiaries: almost \$400,000 versus about \$300,000 (in 2012 dollars) by retirement age (Riley & Rupp, 2015). Third, members of this population have higher poverty rates, and, fourth, they have a greater desire to work relative to other beneficiaries (Livermore & Bardos, 2017). All of these factors have led policymakers to look for interventions that would improve the economic well-being of people with mental health conditions and reduce their reliance on federal disability and other support programs.

Among working-age SSI and DI beneficiaries, 46 percent have a mental health condition that limits their daily activities.

Although people with serious mental health conditions face significant obstacles to employment, many are able to become employed, and many more may be able to do so with early and appropriate intervention and supports. Supported employment (SE) programs that combine ongoing vocational supports with behavioral health services can improve the employment and other outcomes of people with significant mental health conditions (Modini et al., 2016; O'Day et al., 2014). SE is a general term that encompasses a range of services and supports provided to people with significant disabilities to help them obtain and maintain employment. The Individual Placement and Support (IPS) model is an example of a widely adopted SE approach used to help people with mental health conditions, which integrates rapid job search, competitive employment, benefits counseling, and ongoing clinical and vocational supports, all tailored to the person's needs and preferences (Drake, Bond, Goldman, Hogan, & Karakus, 2016; Drake, Bond, & Becker, 2012; Bond et al., 2001).

This brief describes findings from recent studies of the longer-term impacts of SE interventions on the employment of people with mental health conditions. These studies build on the existing literature by assessing the impacts of SE five or more years after the interventions ended. First, we describe the characteristics of people with mental health conditions who participate in the federal disability programs. Then, we describe findings

from the three studies of the longer-term impacts of SE on the employment of people with mental health conditions, all of which targeted potential or actual federal disability program participants. Finally, we discuss the implications of the findings for efforts to help people with serious mental health conditions increase their economic well-being and reduce their dependence on the SSI and DI programs.

FEDERAL DISABILITY PROGRAM PARTICIPANTS WITH MENTAL HEALTH CONDITIONS: POPULATION SIZE AND CHARACTERISTICS

Livermore and Bardos (2017) used survey data linked with SSA administrative data to profile SSI and DI program beneficiaries with psychiatric disabilities (those who qualified for SSI or DI on the basis of limitations caused by a mental health condition). They estimated that SSI and DI beneficiaries with SSA-determined psychiatric disabilities represented 37 percent of all adult disability program beneficiaries. This estimate is larger than the statistics published by SSA (cited above) because, in addition to the primary impairment that qualified the individual for DI or SSI, it accounts for secondary impairments SSA considered as contributing to medical eligibility for the programs. The authors also found that 15 percent of beneficiaries without an SSA-determined primary or secondary psychiatric disability reported that a mental health condition limited their daily activities. Taken together, the findings suggest that mental health conditions serious enough to interfere with daily activities affect 46 percent of working-age DI and SSI beneficiaries. The authors also found that just over one-third of those determined by SSA as eligible for the disability programs on the basis of a mental health condition did not attribute activity limitations to a mental health condition. Thus, many SSI and DI program participants whom SSA determined to have psychiatric disabilities do not believe their impairments limit their activities (or are unwilling to acknowledge them as limiting to others), and many others have mental health conditions they consider limiting of which SSA is unaware.

Livermore and Bardos (2017) documented many ways in which the characteristics of SSI and DI beneficiaries with SSA-determined psychiatric

disabilities differ from those of other beneficiaries; some of those differences likely affect the beneficiaries' ability to find and maintain employment (Figure 1). In addition to the differences in sociodemographic characteristics shown in Figure 1, those with psychiatric disabilities were less likely than other beneficiaries to report many activity limitations but more likely to report emotional, social, and cognitive limitations.

interventions to help prevent failed work attempts for many SSI and DI program participants with mental health conditions if they can be implemented in a timely and effective manner.

LONG-TERM IMPACTS OF SE INTERVENTIONS ON EMPLOYMENT OUTCOMES

Federal agencies sponsored three demonstrations implemented with experimental study designs to evaluate the effectiveness of SE targeted to different groups of people with mental health conditions. All found positive impacts of SE on employment during the one or two years after treatment group members received services. Three recent studies examined the impacts of these SE interventions on employment and disability program participation several years after the original evaluations concluded.

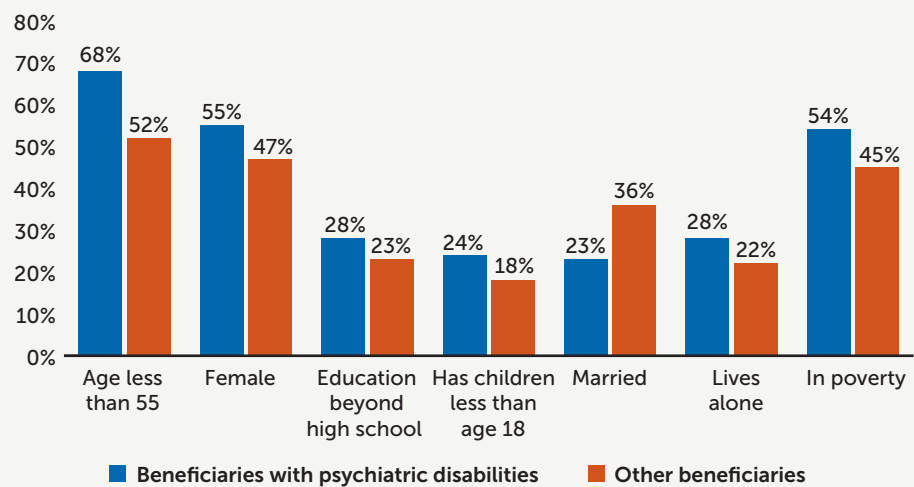
Demonstration to Maintain Independence and Employment

Cook, Burke-Miller, and Bohman (2017) studied an intervention that targeted workers with mental health conditions who had not yet applied for federal disability benefits. The authors analyzed the outcomes of participants at the Texas site of

Among working-age SSI and DI beneficiaries with psychiatric disabilities, 48 percent said they have work goals or saw themselves working in the near future.

SSI and DI beneficiaries with psychiatric disabilities were more likely than other beneficiaries to report that they would like to work (48 percent compared with 37 percent), but they were no more likely than others to be employed. This might be related to the finding that beneficiaries with psychiatric disabilities were more likely than others to report employment barriers, including being discouraged by previous work attempts, perceiving that others do not think they can work, lacking reliable transportation, and not wanting to lose cash or health insurance benefits. The most frequently cited work barrier after poor health was being discouraged by previous work attempts; this barrier was reported by 47 percent of disability program participants who had SSA-determined psychiatric disabilities and indicated that they had work goals and expectations but were not employed when they were interviewed. It suggests that there may be a window of opportunity for SE

Selected characteristics of beneficiaries with and without psychiatric disabilities



Note: All differences between beneficiaries with and without psychiatric disabilities shown are statistically significant at the 0.05 level.

Source: Livermore and Bardos (2017).

Figure 1

The Texas DMIE sought to provide supports to people with mental health conditions before those conditions compelled them to leave the labor force and apply for federal disability benefits.

the Centers for Medicare & Medicaid Services-funded Demonstration to Maintain Independence and Employment (DMIE) during the five years after the demonstration ended. The Texas DMIE program, implemented from 2007 to 2009, included interventions typically provided in SE models like IPS. It provided enhanced access to health care, person-centered case management, and employment supports to employed adults with mental health conditions. The program's goals were to help participants postpone or avoid applying for federal disability benefits, and to improve their physical and mental health, enhance their quality of life, and promote sustained employment. The original experimental evaluation of the demonstration found that, one year after receiving an average of 21 months of services, treatment group participants' rate of SSI and DI receipt decreased by 1.2 percentage points, representing a 27 percent reduction compared to the control group rate (Gimm, Hoffman, & Ireys, 2014).

Given these promising early findings, Cook et al. (2017) followed the Texas DMIE participants for an additional five years to assess the longer-term impact of the early intervention on employment (the study did not assess impacts on disability program participation). Overall, the study found no impacts on employment or participants' reliance on Medicaid as a source of health insurance. But among the subgroup of participants identified as having a serious mental illness, treatment group participants were almost five times as likely as control group participants to be employed during the follow-up period. Thus, the study provides some evidence of the long-term effectiveness of SE interventions for workers with mental health conditions when targeted to those most in need of the services.

Employment Intervention Demonstration Program

Cook, Burke-Miller, and Roessel (2016) conducted a 13-year follow-up study of beneficiary participants in the Employment Intervention Demonstration Program (EIDP) sponsored by the Substance Abuse and Mental Health Services Administration. EIDP was an experimental study of SE programs targeting people with mental health conditions that operated from 1996 to 2000. Those assigned to the treatment group received SE services that included personalized job search assistance and ongoing vocational supports provided by multidisciplinary teams that

coordinated employment and clinical services. The original EIDP evaluation found that, by two years after enrollment, treatment group participants were more likely than control group participants to be competitively employed (55 percent versus 33 percent); they also had higher average monthly earnings (\$122 versus \$99) (Cook et al., 2005).

In their follow-up study, Cook et al. (2016) matched the EIDP data to SSA administrative data to assess the impacts of the interventions on employment, earnings, and SSA disability benefit suspension or termination because of work. They found that, relative to the control group, the SE treatment group members were almost three times as likely to be employed during the 13-year follow-up period, had higher average earnings (though the difference was small—about \$24 per month), and were about 13 times more likely to have had their disability benefits suspended or terminated because of work during the follow-up period. The impacts of the interventions on all three outcomes declined with time and eventually disappeared; most had ended by about eight years after the start of the follow-up period (Figure 2). The authors hypothesized that several factors, in addition to the declining effects of the intervention, may have contributed to the declines and eventual disappearance of the SE impacts, including declining labor force participation as the study participants aged, the effects of the 2007–2009 recession, and incomplete earnings data in the later years because of delays inherent in SSA's process for documenting earnings.

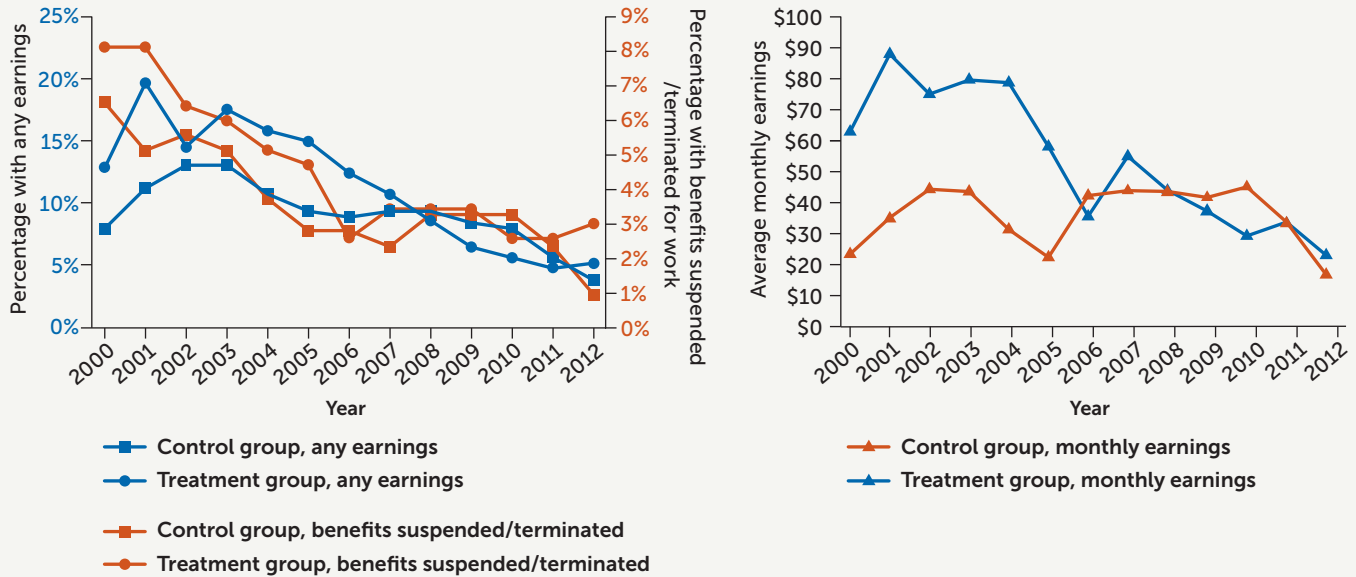
Although EIDP treatment group members did not on the whole attain economic self-sufficiency, the long-term study findings provide strong evidence for the potential of SE interventions to have sustained impacts on employment and disability benefit receipt among people with mental health conditions.

Mental Health Treatment Study

Baller et al. (2018) studied the outcomes of participants in SSA's Mental Health Treatment Study (MHTS) during the five years after the demonstration ended. MHTS, implemented from 2006 to 2010, targeted DI beneficiaries with schizophrenia and affective disorders. It randomly assigned participants to treatment and control groups, and treatment group members were offered IPS services, clinical case management, supplemental health insurance, and other medical

The EIDP follow-up study findings provide evidence for the potential of SE to help those with mental health conditions reduce their reliance on federal disability benefits.

Outcomes among EIDP treatment and control group participants, 2000–2012



Source: Cook et al. (2016).

Figure 2

supports for two years. The original MHTS evaluation found that participants in the treatment group were more likely to be employed (61 percent versus 40 percent) and had higher average monthly earnings (\$148 versus \$97) than those in the control group, but were no more likely to have had their DI benefits suspended or terminated because of earnings (Frey et al., 2011).

Baller et al. (2018) followed the MHTS participants for five additional years through SSA administrative records. Over the full follow-up period, the authors found that treatment group members remained significantly more likely to be employed and had significantly higher earnings than control group members, but continued to be no more likely to have their DI benefits suspended or terminated because of earnings (Figure 3). In 2011 (the start of the follow-up period), treatment group participants were more than twice as likely as those in the control group to report any earnings, and on average earned \$737 more in that year than the control group did. Over time, treatment group earnings grew on average by \$134 more per year than the earnings of the control group.

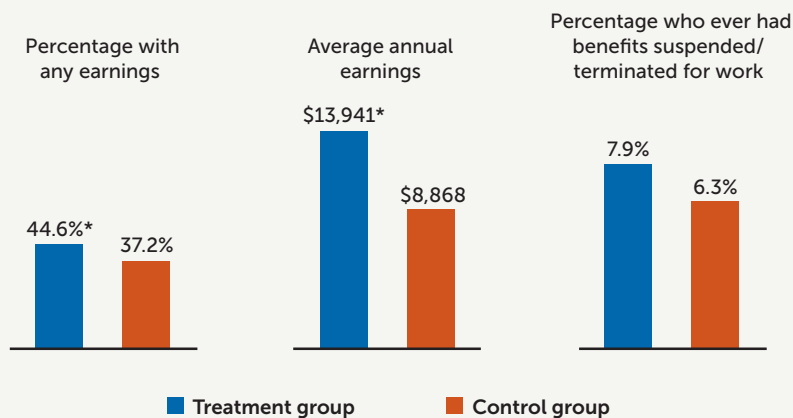
MHTS treatment group participants did not on the whole attain employment at levels that

would lead to economic self-sufficiency. However, the authors note that the positive impacts on employment and earnings likely improved participants' overall well-being in terms of the financial gains from work and the potential positive effects of employment on socialization and self-esteem.

CONCLUSION

The findings summarized in this brief have several implications for efforts to help people with disabling—or potentially disabling—mental health conditions obtain and maintain employment and reduce their dependency on federal disability and other programs. First, people with mental health conditions represent a very large share of working-age adults receiving SSI and DI benefits and many of them have the desire to work. Thus, there appears to be demand for employment supports among those with mental health conditions, and the benefits to them and the federal government from their successful employment are potentially large. However, the findings also suggest that SSA and other organizations might have difficulty targeting SE or other supports to DI and SSI beneficiaries with mental conditions because many do not acknowledge that their

Outcomes among MHTS treatment and control group participants, 2011–2015



* The treatment group value is statistically different from the control group value at the 0.01 level.
Source: Baller et al. (2018).

Figure 3

Challenges in targeting SE or other supports to DI and SSI beneficiaries with mental health conditions include: many beneficiaries do not acknowledge that their conditions are limiting, and many others are not identified in SSA records as having limiting mental health conditions.

conditions are limiting, and many others are not identified in SSA records as having limiting mental health conditions.

Second, although SE interventions have been shown to improve the employment of people with mental health conditions, the findings of Cook et al. (2016) and Baller et al. (2018) from the long-term follow-ups of the EIDP and MHTS demonstrations suggest that the potential for SE interventions to help beneficiaries with mental health conditions work and improve their economic well-being in the long term may be limited, especially when provided for only a short period of time. They do not provide strong evidence that SE interventions lead to long-term reductions in federal disability benefits, particularly in the DI program where benefits are not affected by earnings until beneficiaries sustain work at relatively high levels for an extended period (see box). It is unclear whether the limitations on study participants' ability to achieve economic independence were related to (1) their limited earnings capacity, (2) an unwillingness to work at levels that would jeopardize their public cash and health insurance assistance, (3) limitations in the ability of the services provided to address all employment barriers, or (4) the duration of the SE interventions (each demonstration provided services for two years or less).

Third, the longer-term study of DMIE participant outcomes suggests that early SE intervention can improve the employment outcomes of those with serious mental illness; however, it did not assess the impacts on SSI and DI program participation. The finding that employment impacts occurred only among participants with more significant mental health conditions suggests that targeting or prioritizing early intervention efforts to those with the most significant needs may offer greater value.

Although the long-term impacts of SE on earnings were generally modest and led to only small long-term impacts on disability benefit receipt

How earnings affect DI and SSI payments

In the DI program, cash payments are suspended for most participants when they work above the substantial gainful activity level (defined as \$1,220 per month in 2019 for nonblind individuals) for more than nine months. In the SSI program, cash payments are reduced almost immediately by earnings (by \$1 for every \$2 of earnings above a minimal level of income disregards). Both programs have rules that allow working participants to keep more of their cash payments under various circumstances.

in just one of the studies, SE interventions may lead to other benefits that these studies did not measure, including improved self-esteem and a reduction in difficulties that families living in poverty commonly experience.

REFERENCES

- Baller, J.B., Blyler, C., Bronnikov, S., Xie, H., Bond, G., Fillion, K., & Hale, T. (2018). Long-term follow-up of a randomized trial of supported employment for Social Security disability beneficiaries with mental illness. Disability Research Consortium draft working paper. Washington, DC: Mathematica Policy Research.
- Banerjee, S., Chatterji, P., & Lahiri, K. (2017). Effects of psychiatric disorders on labor market outcomes. *Health Economics*, 26(2), 184–205.
- Bond, G.R., Becker, D.R., Drake, R.E., Rapp, C.A., Meisler, N., Lehman, A.F., ... C.R. Blyler. (2001). Implementing supported employment as an evidence-based practice. *Psychiatric Services*, 52(3), 313–322.
- Cook, J.A., Burke-Miller, J.K., & Bohman, T.M. (2017). Demonstration to Maintain Independence and Employment in Texas: Long-term follow-up of health services utilization and employment outcomes. DRC Brief No. 2017-05. Washington, DC: Mathematica Policy Research.
- Cook, J.A., Burke-Miller, J.K., & Roessel, E. (2016). Long-term effects of evidence-based supported employment on earnings and on SSI and SSDI participation among individuals with psychiatric disabilities. *American Journal of Psychiatry*, 173(10) 1007–1014.
- Cook, J.A., Leff, H.S., Blyler, C.R., Gold, P.B., Goldberg, R.W., Mueser, K.T., ... Burke-Miller, J. (2005). Results of a multisite randomized trial of supported employment interventions for individuals with severe mental illness. *Archives of General Psychiatry*, 62, 505–512.
- Diehl, S., Douglas, D., & Honberg, R. (2014). *Road to recovery: Employment and mental illness*. Arlington, VA: National Alliance on Mental Illness.
- Drake, R.E., Bond, G.R., & Becker, D.R. (2012). *Individual Placement and Support: An evidence-based approach to supported employment*. New York: Oxford University Press.
- Drake, R.E., Bond, G.R., Goldman, H.H., Hogan, M.F., & Karakus, M. (2016). Individual Placement and Support services boost employment for people with serious mental illness, but funding is lacking. *Health Affairs* 35(6), 1098–105.
- Frey, W.D., Drake, R.E., Bond, G.R., Miller, A.L., Goldman H.H., Salkever, D.S., & Holsenbeck, S. (2011). *Mental Health Treatment Study: Final report*. Baltimore, MD: Social Security Administration.
- Gimm, G., Hoffman, D., & Ireys, H. T. (2014). Early interventions to prevent disability for workers with mental health conditions: Impacts from the DMIE. *Disability and Health Journal*, 7(1), 56–63.
- Harvey, S.B., Modini, M., Christensen, H., & Glozier, N. (2013). Severe mental illness and work: What can we do to maximise the employment opportunities for individuals with psychosis? *Australian and New Zealand Journal of Psychiatry*, 47(5), 421–424.
- Kessler, R.C., Heeringa, S., Lakoma, M.D., Petukhova, M., Rupp, A.E., Schoenbaum, M., ... Zaslavsky, A.M. (2008). Individual and societal effects of mental disorders on earnings in the United States: Results from the NCS-R. *American Journal of Psychiatry*, 165(6) 703–711.
- Livermore, G., & Bardos, M. (2017). Adults with psychiatric disabilities participating in the federal disability programs. *Psychiatric Rehabilitation Journal*, 40(2), 153–162.
- Modini, M., Tan, L., Brinchmann, B., Wang, M.J., Killackey, E., Glozier, N., ... Harvey, S.B. (2016). Supported employment for people with severe mental illness: Systematic review and meta-analysis of the international evidence. *British Journal of Psychiatry*, 209(1), 14–22.
- O'Day, B., Blyler, C., Collins, A., Fischer, B., Gill, C., Honeycutt, ... Bailey, M. (2014). Improving employment outcomes for people with psychiatric disorders and other disabilities. Washington, DC: Mathematica Policy Research.
- Riley, G., & Rupp, K. (2015). Cumulative expenditures under the DI, SSI, Medicare, and Medicaid programs for a cohort of disabled working-age adults. *Health Services Research*, 50(2), 514–536.
- SSA. (2017a). Annual Statistical Supplement, 2016. Baltimore, MD: SSA.
- SSA. (2017b). SSI Annual Statistical Report, 2016. Baltimore, MD: SSA.

