



**OUTCOMES FOLLOWING TERMINATION OF
SOCIAL SECURITY DISABILITY INSURANCE**

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Abstract

This paper examines the experiences of former Social Security Disability Insurance (DI) beneficiaries in the years following termination of benefits due to medical improvement or work. It uses data from the 2019 Disability Analysis File to identify return to DI or subsequent participation in the Supplemental Security Income (SSI) program within 5 or 10 years of benefit termination. It draws on data from the Master Earnings File to document earnings in the 5- and 10-year periods following termination and how those earnings compare to the U.S. Census Bureau poverty threshold. Finally, it examines the characteristics of former beneficiaries associated with a successful return to work or independence from Social Security disability programs in the years following termination of benefits.

The paper found the following:

- Among people whose benefits terminated due to medical improvement from 2005 to 2014, 16 percent of former DI-only beneficiaries and 14 percent of former concurrent beneficiaries returned to DI within five years.
- Among people whose benefits terminated due to work from 2005 to 2014, 32 percent of former DI-only beneficiaries and 50 percent of former concurrent beneficiaries returned to DI within five years.
- Fewer than half of former beneficiaries whose benefits terminated due to medical improvement had average post-termination earnings above the poverty threshold. Those whose benefits terminated due to work were more likely to have post-termination earnings above the poverty threshold than those whose termination was due to medical improvement.
- Age and certain diagnoses were strongly associated with earnings below the poverty threshold and return to disability entitlement, especially schizophrenia and other psychotic disorders, and intellectual disabilities.

The findings have several policy implications:

- SSA's new Beyond Benefits Study is looking at the support needed by beneficiaries who are likely to exit or who have exited due to medical improvement to promote self-sufficiency and reduce return to disability benefit entitlement, perhaps to be tested in a

future demonstration. Our results indicate that this population may benefit from targeted work and employment support services.

- We found much higher rates of subsequent entitlement amongst people whose benefits terminated due to work compared to those who medically improved. This finding suggests there may be advantages to expanding the target population of the demonstration to include former beneficiaries whose benefits terminated due to work.

Introduction

The Social Security Disability Insurance (DI) program protects workers and their families by providing a monthly cash benefit to qualifying individuals. In 2019, about 8.4 million people received DI disabled worker benefits and the average monthly benefit amount was \$1,258 (Social Security Administration [SSA] 2020a). To be eligible to receive DI disabled worker benefits, individuals must be unable to earn more than a certain amount, known as substantial gainful activity (SGA), due to a serious impairment that is expected to result in death or to last for a continuous period of at least 12 months. To assess continued eligibility for the program, SSA conducts two types of reviews: medical reviews and work continuing disability reviews. Benefit termination occurs if a medical review finds an individual's condition has improved to the extent that he or she can perform SGA (termination due to medical improvement) or if an individual sustains work above SGA for a pre-defined period of time (termination due to work activity).

Termination of benefits can have implications for the economic well-being of former beneficiaries. Those who lose benefits do not meet the standards for DI eligibility; however, they might not be able to earn at a level that would enable them to be self-sufficient. By the time of benefit termination, many individuals have been out of the labor force for several years and could have suffered human capital depreciation and weakened social and employment networks (Brucker 2015; Autor et al. 2015). Prior work has found that only one-third of beneficiaries whose benefits were terminated for medical improvement from 1998 to 2008 had any earnings over a five-year follow-up period (Hemmeter and Bailey 2016). In light of these outcomes, SSA is conducting the Beyond Benefits Study which seeks to gather information on the needs of beneficiaries whose entitlement is ending due to medical improvement and make recommendations for policy changes or a demonstration that would promote substantive and sustainable employment.¹

In addition to the economic well-being of former beneficiaries, understanding their outcomes is also relevant from a program operation perspective. Concern about the financial status of the DI trust fund has led to additional dedicated funding for program integrity (SSA 2020b, 2020c) and more stringent eligibility requirements (Morton 2013). Former beneficiaries' subsequent return to the DI program raises concerns about the longevity of the termination

¹ More information is available at: <https://www.ssa.gov/disabilityresearch/documents/Exits-1-pager.pdf>

decision. Prior research found that about one-fifth of DI-only beneficiaries whose benefits terminated for medical improvement from 2003 to 2008 returned to the DI program within eight years (Hemmeter and Stegman 2013).

In this study, we investigated the earnings trajectories and the SSA program return rates of beneficiaries whose benefits were terminated for work or for medical improvement to better understand how benefit termination affects beneficiaries' economic well-being and which groups of beneficiaries are most likely to experience positive outcomes. Prior literature on the earnings and subsequent program participation of former DI beneficiaries has largely examined beneficiaries terminated for medical improvement (Hemmeter and Stegman 2013, Hemmeter and Baily 2016). Research on those whose benefits terminated due to work has generally focused on documenting rates of termination and does not track post-termination outcomes (for example, Ben-Shalom and Mamun 2015 and Anand and Ben-Shalom 2018). Individuals whose benefits terminated for work differ from those whose benefits terminated for medical improvement in several ways that could affect their subsequent outcomes. The latter group underwent a medical review during which a disability examiner and medical expert determined the individual's condition had improved to an extent that the individual no longer had a qualifying disability. In contrast, those who lost eligibility due to work had verified earnings above SGA for an extended period, making them ineligible for benefits. Although it is uncertain whether their medical conditions had improved, these beneficiaries demonstrated an ability to sustain work at or above SGA. In addition, some of those whose benefits terminated for work are eligible² for an expedited reinstatement that allows them to return to the program quickly, if needed. These differences in work history and rules governing return to DI could lead to differences in earning trajectories and program participation in the years following termination.

This study adds to the literature by examining the outcomes of former DI beneficiaries whose benefits were terminated for work in addition to those whose benefits were terminated for medical improvement. Whereas prior literature has examined outcomes for people whose benefits terminated as recently as 2008, our analysis timeframe extends from 2005 to 2014. Thus, our analysis period encompasses the Great Recession of 2007 to 2009 and the subsequent recovery years, which had widespread impacts on employment opportunities and participation in social programs. Comparing post-termination outcomes during and after the Great Recession

² These beneficiaries must have the same underlying medical condition that prevents them from working.

enables us to observe whether the outcomes of former beneficiaries changed along with the business cycle.

We investigate trends in program participation and earnings in the 5- and 10-year period following benefit termination separately by pre-termination entitlement status (DI-only versus concurrent DI and Supplemental Security Income [SSI]) and by reason for termination (employment versus medical improvement). We compare average post-termination earnings to the U.S. Census Bureau poverty threshold for a single individual as a proxy for economic self-sufficiency. Finally, we examine the characteristics of former beneficiaries associated with a successful return to work or independence from DI in the years following termination of benefits.

The rest of this paper is organized as follows: Section 2 provides background on DI eligibility rules and benefit terminations. Section 3 describes the data and methods. Section 4 presents our main findings and Section 5 presents our conclusions.

Background

Eligibility Requirements

In addition to the medical criteria described before, eligibility for DI worker benefits depends on a person's work history.³ To be eligible, an individual must have a sufficient amount of earnings in recent years based on criteria that vary with age. In addition to sufficient recent earnings, people must have sufficient overall duration of work which, again, depends on the age when the individual became disabled. It is possible to gain entitlement to DI benefits based on another person's (such as a spouse) earnings history, but in this paper, we will focus on beneficiaries who are entitled to DI benefits based on their own work history, classified by SSA as disabled workers.

About 12 percent of disabled worker beneficiaries are concurrently receiving SSI payments (SSA 2019). The SSI program provides payments to qualifying people with disabilities who have limited income and resources.⁴ SSI benefit payments decline by 50 cents

³ SSDI eligibility requirements are described at this link: <https://www.ssa.gov/benefits/disability/qualify.html> How work credits are earned is described at this link: <https://www.ssa.gov/pubs/EN-05-10072.pdf>

⁴ Individuals who are at least 65 years old do not have to be disabled to receive SSI benefits. SSI eligibility requirements are described at this link: <https://www.ssa.gov/ssi/text-eligibility-ussi.htm>

for each dollar of monthly⁵ earned income after the first \$65 of earned income (and the remainder of a \$20 general income exclusion). For a single individual living alone with no other income or other exclusions who received benefits in 2019, the threshold at which the SSI benefit payment amount would reduce to zero was about \$1,600 of monthly earned income.⁶ Because the SSI program does not have a work history requirement, we expect SSI recipients to have a weaker connection to the labor force.

DI Rules Governing Work Activity

The eligibility requirements for DI benefits are linked to both work activity and level of impairment. Here we discuss the rules related to work. People who are eligible to receive DI benefits are those who cannot engage in SGA due to a medically determined physical or mental impairment. SSA adjusts the SGA earnings level annually based on changes in the national average wage. The monthly SGA amount for non-blind people in 2022 is \$1,350.

Program rules allow beneficiaries to test their ability to work without losing their benefits.⁷ The trial work period (TWP) allows beneficiaries to test work with no effect on receipt of DI benefits. The TWP consists of the first 9 months within a rolling 60-month window in which monthly earnings exceed an annually-adjusted monthly threshold: \$970 in 2022. After the TWP, the extended period of eligibility (EPE) begins and lasts for at least 36 months. During the EPE, if beneficiaries engage in SGA in a particular month, they do not receive DI benefits for that month – known as a suspension. This is true for all months during the EPE except for a grace period comprising the first month of SGA and the following two months. During the EPE, a beneficiary is eligible to receive DI benefits for any month in which earnings are below SGA. After the first 36 months of the EPE, DI benefit eligibility terminates if the beneficiary engages in SGA. Given this progression, the earliest that a beneficiary could lose entitlement is 45 months after returning to work.

⁵ Unless otherwise noted, all income and benefit amounts are monthly.

⁶ SSI eligibility rules are described in detail at this link: <https://www.ssa.gov/ssi/text-eligibility-ussi.htm>

⁷ The SSA Red Book is a summary of work incentive rules applicable to SSDI and SSI beneficiaries: <https://www.ssa.gov/redbook/eng/introduction.htm>

Work Continuing Disability Reviews

DI beneficiaries are required to submit timely reports of work activity to SSA. SSA also detects unreported beneficiary earnings using external reports of earnings, such as Internal Revenue Service (IRS) data and the National Directory of New Hires. For beneficiaries who either self-report, are identified via external reports with earnings near the annualized SGA level, or are considered by SSA as likely to have a large overpayment, SSA conducts a work continuing disability review (CDR) to determine whether work activity affects SSDI benefits. If the beneficiary has exhausted his or her TWP, 36-month EPE, and grace-period months and subsequently engaged in SGA, SSA terminates benefits. In 2019, SSA completed 306,680 work CDRs (SSA 2021).

People whose benefits terminated for work are eligible to request expedited reinstatement (EXR) within 60 months of termination. EXR provides is a means by which former beneficiaries can return more quickly to the DI program if they have to reduce their hours or stop work due to their disability. An individual who applies for EXR immediately receives up to six months of provisional cash benefits while SSA conducts a medical review to investigate whether to reinstate the individual. If SSA reinstates DI benefits through EXR, DI payments begin. The average processing time between a regular, non-EXR, application and the start of benefit payments (or notice of denial) is almost four months (SSA 2020d) for initial allowances. People applying for EXR must have lost entitlement due to work activity, they must not perform SGA at the time of EXR application, and they must have the same or a related disabling condition as the original barrier to performing SGA. EXR rules therefore make it easier to return to the DI program for some of those whose benefits terminated due to work relative to those whose benefits terminated due to medical improvement.

Medical CDRs

SSA also conducts a medical continuing disability review typically once every three to seven years to assess continued eligibility for DI benefits. The timing of the review depends on an SSA classification of likelihood of medical improvement. The diary date, or the date of the next medical CDR, is set at the time of award and is subsequently updated after each CDR if benefits are not terminated. During the review, SSA assesses if there has been medical improvement since the last favorable decision.

SSA conducts medical CDRs using one of two approaches. SSA uses a scoring model to identify the likelihood of medical improvement. For cases with a high likelihood of medical improvement, SSA initiates a full medical review (FMR). For cases with a lower likelihood of medical improvement, SSA sends a mailer or questionnaire that solicits additional information from this group of beneficiaries. Based on this information, SSA determines if a FMR is appropriate. In fiscal year 2019, SSA conducted 215,720 FMRs and 766,913 mailer CDRs (SSA n.d.) for disabled workers (resulting in 39,056 initial cessations and field office terminations).

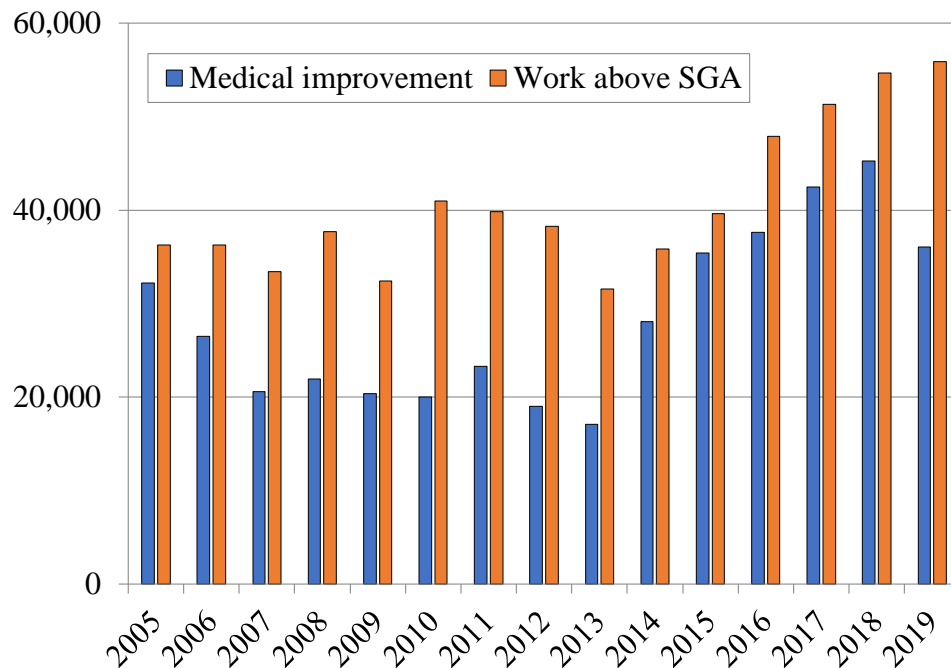
Appeals Process

Beneficiaries have the right to appeal the outcome of work and medical CDR decisions. For findings of medical improvement, if a beneficiary makes a reconsideration request to SSA within ten days of the date on the SSA notice, then they will continue to receive benefits during the reconsideration process (benefit continuation is not allowed for terminations due to work). A reconsideration is the first level of appeal after the initial decision. Beneficiaries have the option to appeal a reconsideration determination via a hearing before an Administrative Law Judge and appeals to even higher judicial levels are possible. SSA's Office of the Chief Actuary estimates that, after all appeals, SSA will cease paying benefits to about 2 percent of worker beneficiaries who underwent a medical CDR (either an FMR or a mailer CDR) during fiscal year 2016 (SSA 2020e).

Trends in DI Terminations

Figure 1 shows the count of disabled workers whose benefits terminated by calendar year and reason for termination from 2005 to 2019. From 2005 to 2013, the number of terminations due to medical improvement fluctuated around 20,000 per year and the number due to work above SGA was about 34,000 per year, on average. The number of terminations due to medical improvement increased in each year from 2014 to 2018, peaking at about 45,000 before dropping to 36,000 in 2019. The number of terminations due to work increased monotonically from 2014 to 2019, peaking at almost 56,000 in 2019.

Figure 1. *Count of Disabled Worker Beneficiaries Whose Benefit Terminated by Reason for Termination, 2005 to 2019*



Source: Annual Statistical Reports on the Social Security Disability Insurance Program (2001-2019).

Data and Methods

Data and Sample Construction

We used data from the 2019 version of the Disability Analysis File (DAF) for calendar years 2005 through 2019. The DAF is a longitudinal data file with information on all DI and SSI beneficiaries under full retirement age who received disability benefits in any month starting in 1996 through 2019. The DAF is constructed from existing SSA administrative data and updated annually.⁸

The 2019 version of the DAF includes information on FMRs sourced from the SSA Waterfall file, and on work continuing disability reviews drawn from the Disability Control File (DCF). The Waterfall file includes information on each level of the FMR determination process through the final decision and the most recent action of any FMR. The DCF has information on work continuing disability reviews, though this is limited to information related to the initial determination of the work CDR. We used the DCF to determine the timing and outcome of the

⁸ Information about the SSA DAF is available at <https://www.ssa.gov/disabilityresearch/daf.html>.

initial decision. We augmented this information with information in the DAF sourced from the Master Beneficiary Record (MBR) to establish the timing and outcome of the final decision.

We used the Master Earnings File (MEF) to construct measures of average earnings in the five and 10 years following termination of benefits. The MEF contains earnings information based on IRS Form W-2 and an annual tax return, among other sources.

The study population is disabled workers whose DI benefits terminated due to medical improvement or work in 2005 through 2014 and who were younger than age 60 as of the initial decision and younger than 62 as of the final decision (for beneficiaries who appealed the initial decision). Our final analysis sample consists of 177,505 former beneficiaries for whom SSA terminated benefits due to work and 63,032 former beneficiaries whose benefits terminated due to medical improvement. Our study population includes former beneficiaries whose benefits were terminated no later than 2014 to allow a five-year follow-up period (2019 was the most recent year of available data when we conducted this analysis). We also studied outcomes over 10 years for the subset of former disabled worker beneficiaries whose benefits terminated between 2005 and 2009 (76,492 terminations for work and 25,120 for medical improvement).

Outcomes and Analyses

We identified return to DI and return or new entry into SSI in the years following benefit termination using information in the DAF on current payment status. We checked for return to current payment status starting in the fourth month following the month of termination because individuals can continue to receive payments during a three-month grace period. We required seven consecutive months in current payment status to classify a former beneficiary as having returned to DI or SSI.⁹ This requirement stems from two potential confounders: presumptive SSI disability benefits and provisional benefits for former DI beneficiaries applying for EXR. In both instances, a prospective beneficiary may receive up to six months of payments while SSA works through the determination process. The requirement of seven consecutive months seeks to

⁹ The requirement necessitates 66 months of follow up data (for the five year follow up period). Given that our data extend through December 2019, our observation window for return to entitlement is censored for people whose benefits terminated in the last half of 2014 and who returned to current payment status in the final months of the 60 month follow-up period.

avoid counting an individual as having returned to DI if he or she received presumptive or provisional benefits but was ultimately denied benefits.¹⁰

We used an approach similar to that of Hemmeter and Bailey (2016) to examine earnings following termination. We averaged annual earnings observed in the MEF during the five years after the year of the termination. We excluded earnings in the year of termination to exclude pre-termination earnings from our measure (MEF earnings measures are at the annual level). If we observed a former beneficiary for a partial year due to death, we created an annualized measure of earnings in the year of death based on the number of months the individual was alive.¹¹ For example, if a former beneficiary died in June, we multiplied observed earnings in that year by two. We used the Consumer Price Index-All Urban Consumers (CPI-U) to adjust earnings measures to 2019 dollars.

We compared average post-termination earnings with the poverty threshold defined by the U.S. Census Bureau for a single individual. The Census Bureau sets the poverty threshold based on the cost of a minimum food diet in 1963 adjusted for inflation.¹² The poverty measure is typically used to establish whether an individual's or a family's income is sufficient to cover basic needs. In our analysis we use the poverty threshold as a proxy for whether a former beneficiary's earnings were adequate for attaining economic self-sufficiency.¹³ To investigate whether certain beneficiary characteristics correlated with achieving economic self-sufficiency, we categorized each former beneficiary into four outcomes categories based on subsequent program participation (either DI or SSI) and whether their average post-termination earnings exceeded the poverty threshold. We estimated a multinomial logistic regression model to measure the association between each outcome grouping and demographic, programmatic, and economic characteristics. The characteristics we examined were age group, primary impairment category, SSA expectation for medical improvement as of the most recent favorable decision,

¹⁰ This requirement would not count a former beneficiary as having returned if that person returned to current pay status but died within the next six months. We found this to be a very rare occurrence. Of those we identified as not having returned to DI (or SSI) fewer than 0.003 percent returned to current pay status before dying within the next six months.

¹¹ We tested two alternative approaches for handling earnings in the year of death: 1) not including the year of death in the average, and 2) extrapolating the trend in earnings from the years prior to the year of death. Our results were not sensitive to either of these alternative approaches.

¹² <https://www.census.gov/topics/income-poverty/poverty/about/history-of-the-poverty-measure.html>

¹³ We tested two alternative thresholds: the federal minimum wage and an annualized version of the SGA threshold. The results were not sensitive to these alternate thresholds. Results are available upon request.

past participation in Ticket to Work, duration of entitlement as of termination, state of residence, and county unemployment rate in the year of termination.¹⁴

Results

Program Participation

Individuals whose benefits terminated due to work between 2005 and 2014 returned to DI at a greater rate than those whose benefits terminated for medical improvement over the same period. Table 1 shows the percentage of former beneficiaries we observed in current payment status in DI, SSI, or both within five years of benefit termination. Among former DI-only and formerly concurrent beneficiaries who lost eligibility due to medical improvement, 15.8 and 14.2 percent respectively returned to DI (either DI-only or to both DI and SSI) within five years. This is one or two percentage points higher than the rates of return that Hemmeter and Stegman (2013) found for FMR terminations that occurred in 2003 through 2008. A notably higher share of formerly DI-only beneficiaries (32.3 percent) and formerly concurrent beneficiaries (50.2 percent) who lost eligibility due to work returned to DI within five years. This might be due in part to the fact that people whose benefits terminated due to work are eligible to apply for EXR, whereas those who improved medically are not eligible for EXR.¹⁵ These results are consistent with recent work that found about half of those whose benefits were suspended for work subsequently returned to benefits (Shenk and Livermore 2021).

The percentage who returned to DI is especially high (50.2 percent) for those concurrently entitled at the time of termination for work. A relatively small number of former beneficiaries whose pre-termination earnings were in the narrow range above the SGA threshold (\$1,220 in 2019) and below the earnings threshold for ending entitlement to SSI payments (about \$1,600 in 2019) comprise this group. These individuals' pre-termination earnings were the lowest of those whose benefits terminated due to work and this lower level of earnings implies a

¹⁴ Ticket to Work is a voluntary SSA program that supports career development for beneficiaries who would like to return to work or work for the first time. Information on the program is available at this link:

<https://choosework.ssa.gov/library/fact-sheet-what-is-social-security-ticket-to-work-program>

¹⁵ In 2010, SSA terminated the DI benefits of 40,959 beneficiaries for SGA (SSA 2011, Table 50). In that same year, 10,127 (Table 58) received EXR reinstatement (which could have been requested by anyone whose SSA benefits terminated for work in the previous five years). This suggests that a notable number of former DI beneficiaries—perhaps on the order of one-quarter—who had benefits terminated for work received EXR reinstatement.

more tenuous attachment to the labor force than those whose income and resources were too high for entitlement to SSI payments before termination.

Table 1. *Subsequent Program Participation within Five Years of Benefit Termination, by Reason for Termination and Entitlement Status Before Termination (Percentages)*

Subsequent program participation	Medical, DI-only (N=53,167)	Medical, concurrent (N=9,865)	Work, DI-only (N=174,668)	Work, concurrent (N=2,837)	All former beneficiaries (N=240,537)
Return to DI	15.8	14.2	32.3	50.2	28.1
DI only	11.7	4.2	30.4	33.1	25.2
Both DI and SSI	4.1	10.0	1.9	17.1	2.9
Return to SSI	5.7	17.2	2.6	25.6	4.2
SSI only	1.6	7.2	0.7	8.5	1.3
Both DI and SSI	4.1	10.0	1.9	17.1	2.9
Neither DI or SSI	82.7	78.7	67.0	41.3	70.6

Note: Covers cases with medical and work termination decisions reached in 2005 through 2014.

Source: Authors' calculations using the 2019 Disability Analysis File.

The likelihood of subsequent SSI participation varied substantially by pre-termination entitlement status. People who previously received SSI before benefit termination were much more likely to successfully apply for SSI than those previously entitled to DI only. Of those who lost eligibility due to medical improvement, 17.2 percent of formerly concurrent beneficiaries successfully reapplied to SSI within five years of termination compared to 5.7 percent of formerly DI only beneficiaries.¹⁶ One-quarter (25.6 percent) of formerly concurrent beneficiaries who lost eligibility due to work returned to SSI, whereas only 2.6 percent of formerly DI-only beneficiaries successfully applied for SSI. We observed a relatively small share, about 1.3 percent of all former beneficiaries in our sample, enter current pay status in SSI within five years of termination but who did not return to DI in that period. Among those concurrently entitled before termination and who returned to SSI, a notable share returned to SSI only (rather than concurrent benefits).

We examined subsequent program participation in a 10-year horizon for the subset of former beneficiaries whose benefits terminated through 2009 (Table 2). The results indicate a notable portion returned to a SSA disability program within 10 years of termination: one- to two-

¹⁶ These results are very similar to those found by Hemmeter and Stegman (2013).

thirds of those terminated. The magnitude of return to disability programs was higher during the longer time period, but the patterns of termination and pre-termination entitlement status were generally the same as for the five-year results.

Table 2. *Subsequent Program Participation within 10 Years of Benefit Termination, by Reason for Termination and Entitlement Status Before Termination (Percentages)*

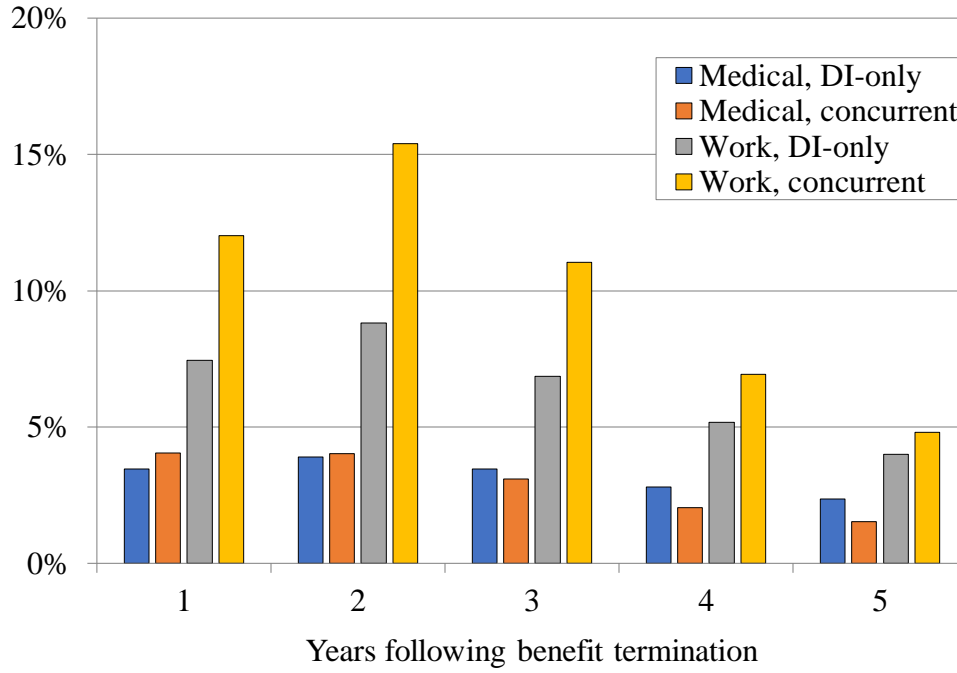
Subsequent program participation	Medical, DI-only (N=21,044)	Medical, concurrent (N=4,076)	Work, DI-only (N=75,447)	Work, concurrent (N=1,045)	All former beneficiaries (N=101,612)
Return to DI	30.9	26.1	47.2	62.9	43.1
DI only	22.3	7.5	43.2	38.7	37.4
Both DI and SSI	8.6	18.6	4	24.2	5.7
Return to SSI	12.7	31.7	5	30.7	7.9
SSI only	4.1	13.1	0.9	6.5	2.1
Both DI and SSI	8.6	18.6	4	24.2	5.7
Neither DI or SSI	65	60.8	51.9	30.6	54.8

Note: Covers cases with medical and work termination decisions reached in 2005 through 2009.
Source: Authors' calculations using the 2019 Disability Analysis File.

Timing of Subsequent Program Participation

Figures 2 and 3 show the timing of return to DI and return (or new entry) into SSI in the five years following benefit termination by reason for termination and entitlement status before termination. In general, rates of return to DI and return or new eligibility for SSI peaked in the second year following termination and decreased in the subsequent years. The one exception was for people who lost eligibility due to work and who had been concurrently entitled before termination. This group was most likely to return to SSI in the first year after termination.

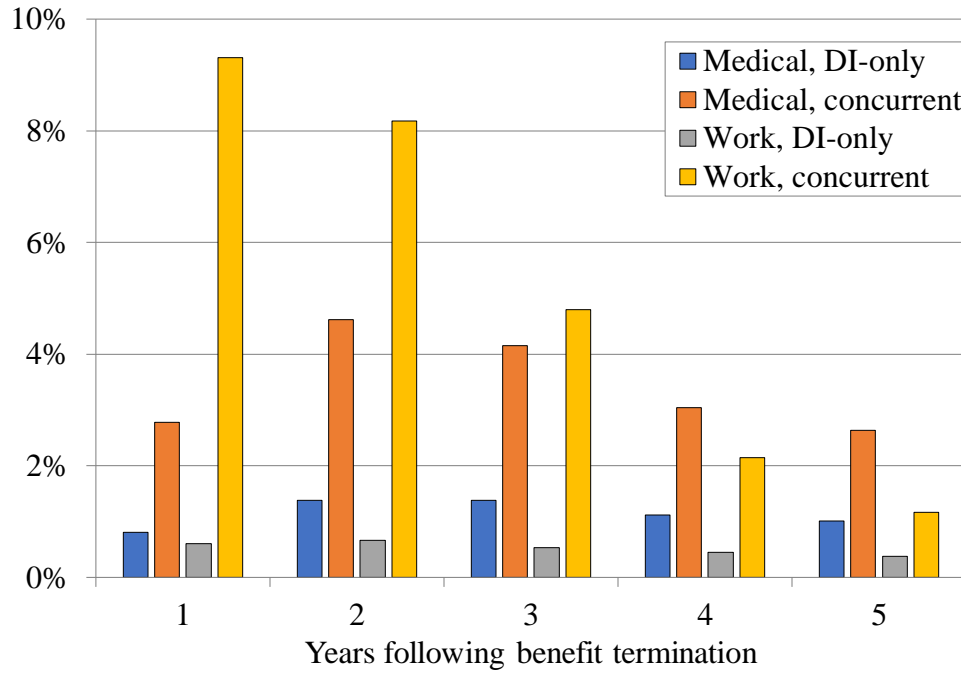
Figure 2. *Percentage Returned to DI in Each Year Following Benefit Termination, by Reason for Termination and Entitlement Status Before Termination*



Note: Covers cases with medical and work termination decisions reached in 2005 through 2014.

Source: Authors' calculations using the 2019 Disability Analysis File.

Figure 3. *Percentage Returned to, or Newly Eligible for, SSI in Each Year Following Benefit Termination, by Reason for Termination and Entitlement Status Before Termination*

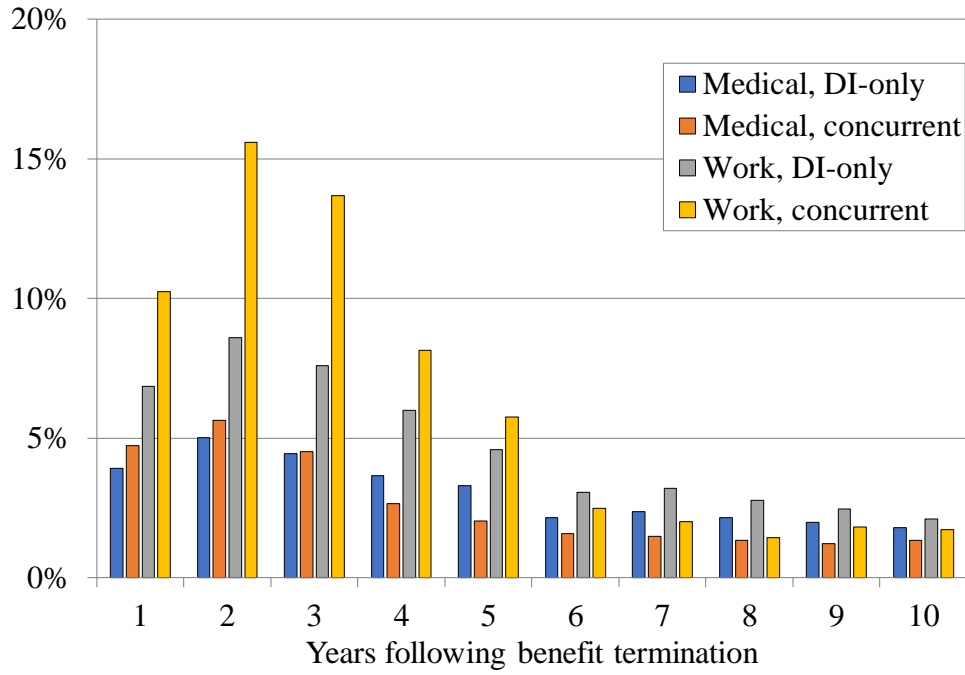


Note: Covers cases with medical and work termination decisions reached in 2005 through 2014.

Source: Authors' calculations using the 2019 Disability Analysis File.

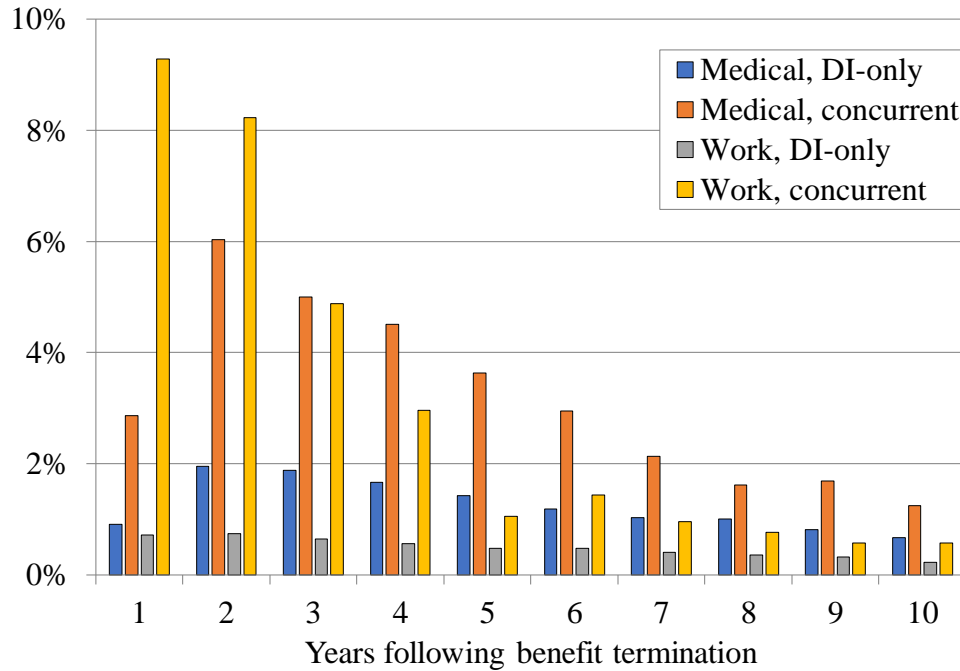
Figures 4 and 5 show the timing of return to DI and return (or new entry) into SSI in the 10 years following termination for the subset of former beneficiaries whose benefits terminated from 2005 to 2009. The profile of return in the first 5 years is almost identical to the full set of former beneficiaries shown in Figures 2 and 3. Starting in the sixth year, especially for return to DI, rates of return leveled out and stayed relatively constant through the tenth year following termination.

Figure 4. *Percentage Returned to DI in Each Year Following Benefit Termination, by Reason for Termination and Entitlement Status Before Termination*



Note: Covers cases with medical and work termination decisions reached in 2005 through 2009.
 Source: Authors' calculations using the 2019 Disability Analysis File.

Figure 5. *Percentage Returned to, or Newly Eligible for, SSI in Each Year Following Benefit Termination, by Reason for Termination and Entitlement Status Before Termination*



Note: Covers cases with medical and work termination decisions reached in 2005 through 2009.

Source: Authors' calculations using the 2019 Disability Analysis File.

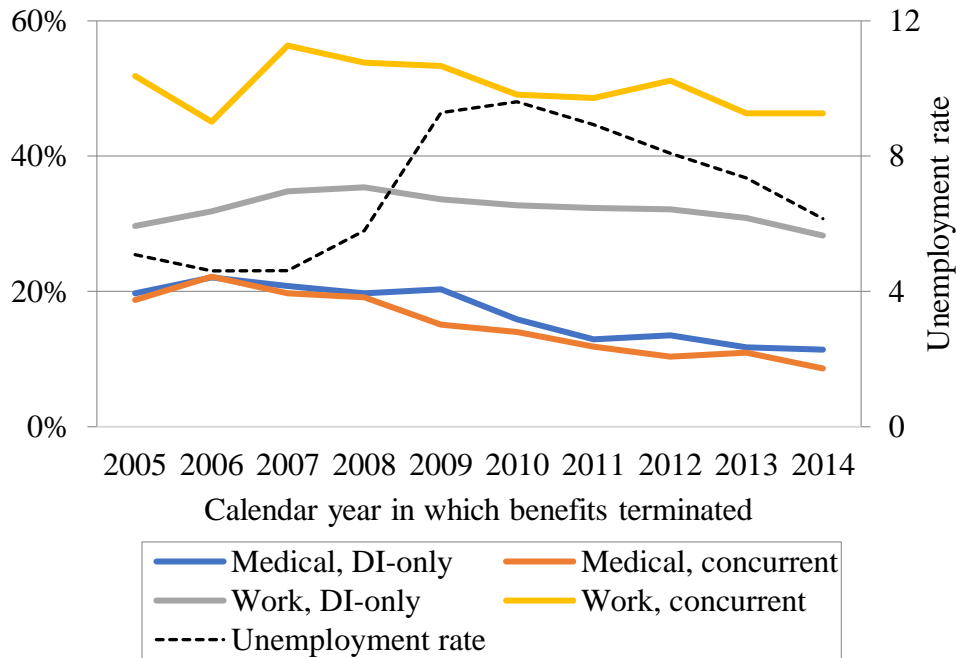
Subsequent DI and SSI Participation by Calendar Year of Termination

We also examined subsequent program participation by calendar year of termination to see if these trends changed over time and how they correlate with the Great Recession. Figure 6 shows the rate of return to DI by calendar year of termination. Among former beneficiaries who lost benefits due to work, DI return rates were highest for cohorts whose benefits terminated during the Great Recession and have declined for more recent cohorts. For example, the cohort of formerly DI-only beneficiaries whose benefits terminated for work with the highest rate of return was the 2008 cohort (35 percent returned to DI within five years). For those whose benefits terminated in 2014, the rate of return was 7 percentage points lower; 28 percent returned within five years.

Five year return rates to DI for former DI-only beneficiaries who lost benefits due to medical improvement were relatively constant at about 20 percent for those whose benefits terminated from 2005 to 2009 and were lower for successive termination cohorts, falling to about 11 percent for those whose benefits terminated in 2014. Return rates for formerly concurrent

beneficiaries who lost benefits for medical improvement were relatively constant at around 20 percent for the 2005 through 2008 cohorts and declined in subsequent cohorts to 9 percent for people whose benefits terminated in 2014.

Figure 6. *Percentage of Termination Cohort Returned to DI within Five Years of Benefit Termination, by Year of Termination*

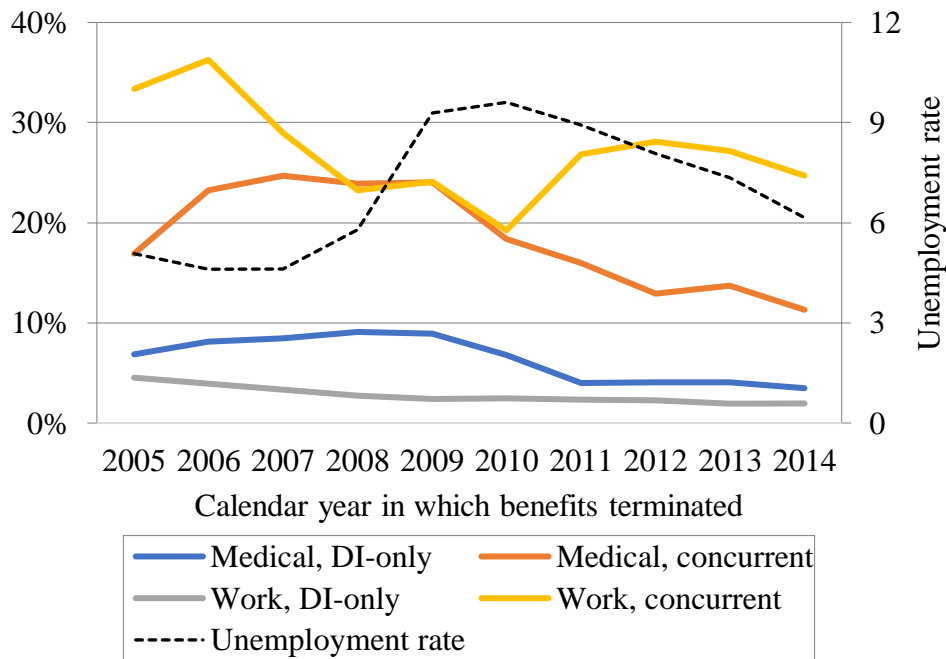


Note: Covers cases with medical and work termination decisions reached in FMRs conducted in 2005 through 2014. The unemployment rate is the civilian unemployment rate from the U.S. Bureau of Labor statistics. Source: Authors' calculations using the 2019 Disability Analysis File.

Trends in subsequent SSI participation were roughly similar to DI participation for people whose benefits terminated due to medical improvement (Figure 7). The highest rates of subsequent SSI participation were for the 2008 cohort of formerly DI-only beneficiaries (9 percent) and the 2007 cohort of formerly concurrent beneficiaries (25 percent). For the 2014 cohorts, the rates of subsequent SSI participation for these two groups had fallen to 4 and 11 percent, respectively. Results for those whose benefits terminated for work did not appear to correlate strongly with the Great Recession or recovery. Rates of subsequent SSI participation for formerly DI-only beneficiaries fell monotonically from 5 percent for the cohort whose benefits terminated in 2005 to 2 percent for the 2014 termination cohort.

Evidence of a relationship between the unemployment rate and DI applications and awards has been documented in prior literature (Stapleton et al. 1998; Cutler et al. 2012; Maestas et al. 2015; Maestas et al. 2021). In addition, Nichols et al. (2017) found a positive association between the unemployment rate and SSI applications. Our results are generally consistent with this literature, especially for those whose benefits terminated due to medical improvement, indicating there might be an association between economic conditions at the time of termination and subsequent participation in DI or SSI.

Figure 7. *Percentage of Termination Cohort with Subsequent SSI Participation within Five Years of Benefit Termination, by Year of Termination*



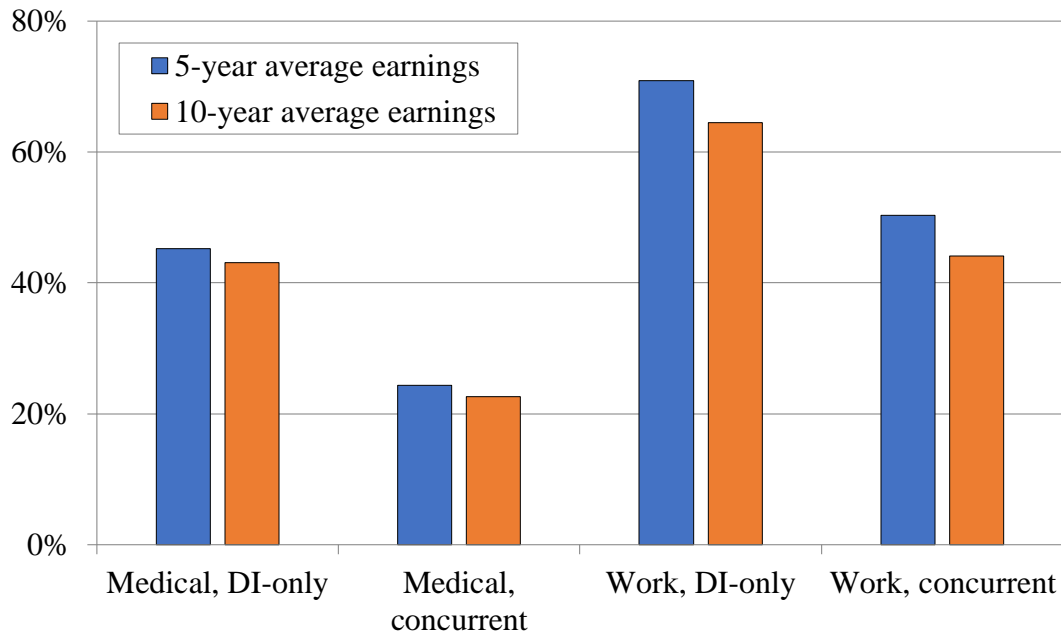
Note: Covers cases with medical and work termination decisions reached in FMRs conducted in 2005 through 2014. The unemployment rate is the civilian unemployment rate from the U.S. Bureau of Labor statistics. Source: Authors' calculations using the 2019 Disability Analysis File.

Earnings in the Years Following Termination

Those whose benefits terminated due to work were more likely to have average earnings above the poverty thresholds than those whose benefits terminated due to medical improvement. Figure 8 shows the percentages of beneficiaries who had average post-termination earnings above the poverty threshold for a single individual. Of former DI-only beneficiaries whose benefits terminated for work, 71 percent had average post-termination earnings above the

poverty threshold during the first five calendar years after termination compared to 45 percent of those who lost benefits for medical improvement. The percentage of formerly concurrent beneficiaries who attained earnings above the poverty threshold was about 20 percentage points lower than formerly DI-only beneficiaries, conditional on reason for termination. Fewer former beneficiaries attained average earnings above the poverty threshold over the 10-year horizon compared to the 5-year horizon.

Figure 8. *Percentage with Average Post-Termination Earnings Above the Poverty Threshold in the Five and Ten Years Following Benefit Termination, by Reason for Termination and Entitlement Status Before Termination*



Note: 5-year percentages are based on cases with medical and work termination decisions reached in 2005 through 2014 and 10-year percentages are based on decisions reached in 2005 through 2009.

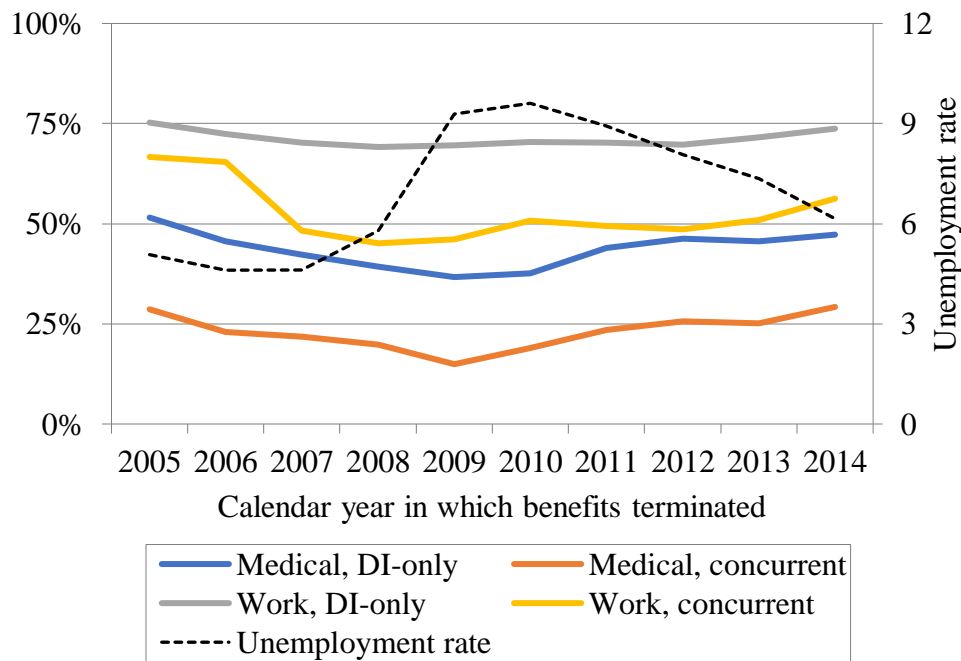
Source: Authors' calculations using the 2019 Disability Analysis File.

Figure 9 shows the percentage of former beneficiaries with average post-termination earnings above the poverty threshold, by calendar year of termination. The percentages with average earnings above the threshold were relatively constant among people whose benefits terminated for work in each year from 2007 through 2014. In contrast, for those whose benefits terminated due to medical improvement, time trends in earnings outcomes change direction just after the Great Recession. Comparing the 2005 and 2009 cohorts, the share of former DI-only

beneficiaries who attained the earnings threshold fell from 52 to 37 percent and the share of former concurrent beneficiaries who attained earnings above the poverty threshold fell from 29 to 15 percent. Starting with the 2010 cohort, the share who attained earnings above the poverty threshold increased from cohort to cohort through 2014 to 47 percent for former DI-only beneficiaries and 29 percent for former concurrent beneficiaries. The increase in recent years coincides with the downturn in rates of return to DI among people whose benefits terminated for medical improvement (Figure 6), suggesting higher earnings coincided with lower returns to DI rolls.

Our results could indicate the earnings of people whose benefits terminated due to work were less sensitive to economic conditions at the time of termination than those whose benefit terminated due to medical improvement. This first group may have a stronger connection to the labor force, while the second would more likely be new job seekers. If so, this is consistent with literature on the labor market that finds economic recessions make job finding more difficult but do not increase job loss to the same extent (Hall 2005).

Figure 9. *Percentage with Average Post-Termination Earnings Above the Poverty Threshold in the Five Years Following Benefit Termination, by Year of Termination*



Note: Covers cases with medical and work termination decisions reached in 2005 through 2014. The unemployment rate is the civilian unemployment rate from the U.S. Bureau of Labor statistics.

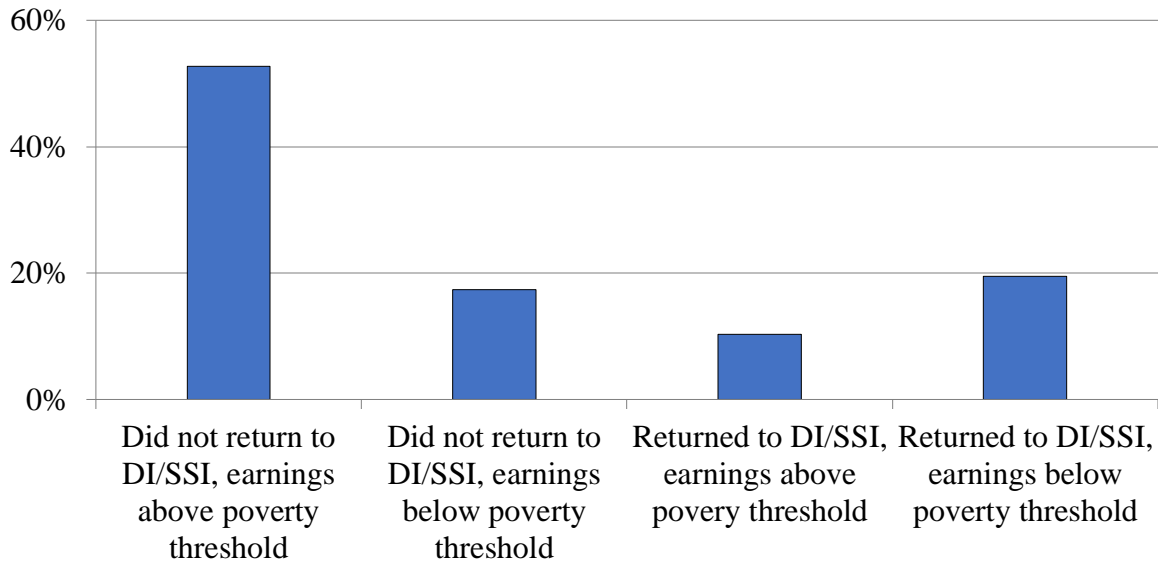
Source: Authors' calculations using the 2019 Disability Analysis File.

Joint Outcomes: Earnings and Subsequent Program Participation

The previous sections presented post-termination program participation and earnings outcomes separately. We categorized former beneficiaries into four groups based on four combinations of program participation and earnings relative to the poverty threshold. We consider those with earnings above the poverty threshold who also remained independent from the DI and SSI programs, which align with the goals of the Beyond Benefits Study, as having achieved economic self-sufficiency.

Figure 10 shows the share of all beneficiaries in our sample in each of the four outcome categories. Overall, about half of former beneficiaries had earnings above the poverty threshold and independence from the DI and SSI programs, in the years after benefit termination. Seventeen percent of former beneficiaries did not have subsequent disability program participation but also did not make average earnings above the poverty threshold. Almost one in five former beneficiaries did not make earnings above the poverty threshold and returned to a disability program. One-in-10 former beneficiaries attained average earnings above the poverty threshold but also returned to a disability program within five years. These former beneficiaries had earnings in some period of time that were sufficient to exceed the poverty threshold when averaged over five years but eventually returned to entitlement.

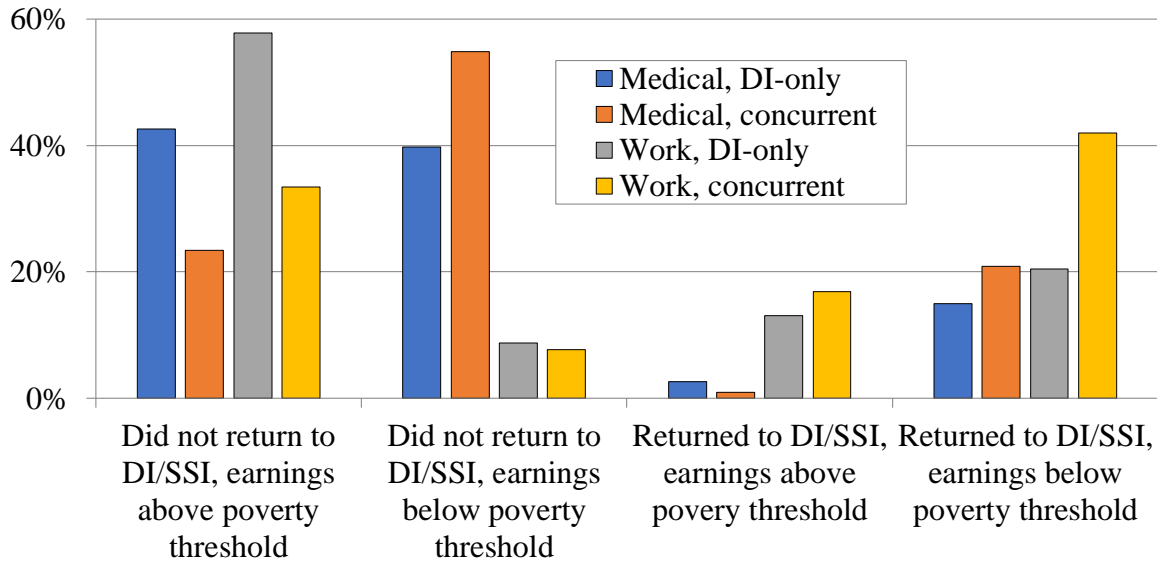
Figure 10. *Percentage in Each of Four Outcome Categories*



Note: Covers cases with medical and work termination decisions reached in 2005 through 2014.
Source: Authors' calculations using the 2019 Disability Analysis File.

Two findings stand out when looking at the distribution of former beneficiaries across the four outcome categories by reason for termination and entitlement status before termination (Figure 11). First, conditional on reason for termination, formerly DI-only beneficiaries were at least 20 percentage points more likely to have had earnings above the poverty threshold and maintain independence from the DI and SSI programs than formerly concurrent beneficiaries. Second, individuals whose benefits terminated due to medical improvement were much more likely than those whose benefits terminated due to work to not return to entitlement and to have average earnings below the poverty threshold.

Figure 11. *Percentage in Each of Four Outcome Categories, by Reason for Termination and Entitlement Status Before Termination*



Note: Covers cases with medical and work termination decisions reached in 2005 through 2014.

Source: Authors' calculations using the 2019 Disability Analysis File.

Characteristics Associated with Economic Self-Sufficiency

Thus far, we have presented results separately for four groups of former beneficiaries defined by reason for benefit termination and prior entitlement status. It is possible the beneficiaries in each of these groups differ from one another in other ways that could affect their outcomes after termination. For example, if those whose benefits terminated due to work were younger on average than those whose benefits terminated for medical improvement, it could be age that drove the differences in outcomes we observed. To account for any such cross-group differences, we estimated a regression model in which we controlled for a set of demographic, programmatic, and economic characteristics. Table 3 shows the results of a multinomial logistic regression of the four outcome group categories with the referent group being those who had earnings above the poverty threshold and did not return to current pay status in DI or SSI in the five years following termination.

The regression results are consistent with the results shown throughout this paper: outcomes differed based on reason for termination and pre-termination entitlement status. The

results indicate those whose benefits terminated for work were both more likely to return to DI or SSI and more likely to make earnings above the poverty threshold than those whose benefits terminated for medical improvement. Likewise, formerly concurrent beneficiaries were more likely to return to DI or SSI and less likely to make earnings above the poverty threshold than those entitled to DI-only before termination of benefits.

Beyond reason for termination and pre-termination entitlement status, the regression results indicate age is associated with outcomes following termination. Former beneficiaries who earned above the threshold and maintained independence from the DI program were younger than those who did not, especially compared to those who returned to DI or SSI. This is not surprising given that younger age corresponds with better work outcomes and SSA explicitly considers age in the determination process for disability benefits.

Certain diagnoses associated strongly with not attaining economic self-sufficiency, especially schizophrenia and other psychotic disorders, and intellectual disabilities. Notably, those who returned to DI or SSI and did not make earnings above the poverty threshold were more than four times as likely to have been diagnosed with schizophrenia and other psychotic disorders than those who attained economic self-sufficiency. There were more, and larger, differences in diagnoses relative to the referent group among the two groups that returned to DI or SSI than the group that did not return to DI or SSI and did not make earnings above the threshold. Those who returned to DI or SSI were much more likely to have been diagnosed with congenital anomalies; blood and blood-forming organs diseases; and endocrine, nutritional, and metabolic diseases.

People who returned to DI or SSI, both those with earnings above the poverty threshold and those who did not have earnings above the threshold, were less likely to have been classified as medical improvement expected or possible than those who attained economic self-sufficiency. For example, the relative risk ratio of returning to DI or SSI and making earnings above the threshold compared to attaining economic self-sufficiency was 0.60 for those whose medical improvement was classified as expected.

We also found longer duration of entitlement (before termination) and the local unemployment rate were both associated with a lower likelihood of attaining earnings above the poverty threshold in the years following termination. Beneficiaries who did not return to DI or

SSI and did not make earnings above the poverty threshold were less likely to have participated in the Ticket to Work program than those who attained economic self-sufficiency.

Expectation for medical improvement									
Expected	1.06	1.01	1.12	0.60	0.56	0.64	0.66	0.63	0.69
Possible	1.10	1.05	1.14	0.75	0.72	0.77	0.83	0.81	0.86
No information	1.09	1.03	1.16	0.78	0.73	0.83	0.92	0.88	0.97
Not expected (reference)									
Duration of DI entitlement (years)									
Fewer than 2	0.46	0.42	0.52	1.22	1.00	1.49	0.56	0.49	0.65
2 to 3	0.65	0.62	0.68	1.08	1.01	1.15	0.70	0.66	0.73
4 to 5	0.76	0.74	0.78	1.07	1.04	1.11	0.77	0.75	0.80
6 or more (reference)									
Past participation in Ticket to Work	0.78	0.70	0.87	1.08	0.98	1.19	0.95	0.88	1.03
County unemployment rate in month of termination	1.03	1.03	1.04	0.99	0.98	1.00	1.02	1.01	1.02
Reason for termination									
Work	0.14	0.13	0.14	3.10	2.92	3.29	0.73	0.71	0.76
Medical improvement (reference)									
Pre-termination entitlement status									
Concurrent DI and SSI	2.33	2.22	2.45	1.84	1.67	2.02	2.90	2.74	3.06
DI-only (reference)									

Notes: Covers cases with medical and work termination decisions reached in 2005 through 2014. The relative risk ratio (RRR) indicates how the ratio of the likelihood of the outcome in the main group compares to the likelihood of the outcome in the reference group changes with a one unit increase of the variable. For example, the coefficient 0.80 on the 18–29 age group in the first column indicates that being in the youngest age group decreases the relative risk of being in the “Did not return, did not make earnings above SGA” to “Did not return, made earnings above SGA” by a factor of 0.80. More generally, an increase in the likelihood of being in the youngest age group increases the likelihood of being in the “Did not return, made earnings above SGA” group compared to “Did not return, did not make earnings above SGA.” If the confidence interval of the relative risk coefficient does not span one, the change in the relative risk is significant. For example, the 95 percent confidence interval on the 18–29 RRR coefficient is 0.76 to 0.84, indicating the decrease in relative risk of being in the “Did not return, did not make earnings above SGA” to “Did not return, made earnings above SGA” is significant.

Source: Authors’ calculations using the 2019 Disability Analysis File.

Conclusion

Our findings suggest that former DI beneficiaries whose benefits terminated for work were both more likely to have substantial post-termination earnings and more likely to return to DI than individuals whose benefits terminated for medical improvement. Several factors could drive these findings. First, beneficiaries whose benefits terminated due to work almost certainly have stronger connections to the labor force than those whose benefits terminated for other reasons, given that work was the reason for termination. Second, expedited reinstatement provides individuals whose benefits terminated for work an easier path back to entitlement compared to those whose benefits terminated for medical improvement.

We found certain characteristics common to beneficiaries terminated for both reasons that correlated with return to work and benefit independence. Specifically, former beneficiaries who were younger, entitled to DI for fewer than six years, and who lived in an area with a lower unemployment rate were more likely to return to work, regardless of the reason for termination.

There is evidence the Great Recession might have affected subsequent participation in DI and SSI, particularly for beneficiaries terminated for medical improvement. Return rates tended to be highest for the cohorts whose benefits terminated in 2007 and 2008 and then decreased for later cohorts. Similarly, among those DI-only beneficiaries whose benefits terminated for medical improvement, the share who consistently earned above the poverty threshold increased after 2009 and continued on this upward trend through the end of the analysis period. Among those whose benefits terminated for work, this share remained relatively stable from 2007 through 2014. Our findings suggest economic conditions affected earnings and subsequent program participation in the years following termination.

In 2019, SSA convened a Technical Expert Panel to consider a potential demonstration that would seek to provide beneficiaries whose entitlement is ending due to medical improvement with assistance to promote self-sufficiency and reduce return to entitlement (Gubits et. al 2019). Our findings suggest that it is appropriate to target employment supports to former beneficiaries whose entitlement ended due to medical improvement. However, we found much higher rates of subsequent entitlement amongst people whose benefits terminated due to work compared to those who medically improved. This suggests there may be a benefit to expanding the target population of the demonstration to include former beneficiaries whose benefits terminated due to work. The nature of the intervention would likely differ based on the reason

for termination given that those whose benefits terminated due to work had already transitioned to employment so the focus would be helping that population stay at work.

The average earnings measure that we used in this analysis offers a simple way to account for earnings over a relatively long period following termination: five or 10 years. However, there are limitations to this approach. First, this measure does not account for income beyond an individual's earnings, such as family support or other cash transfers, nor does it account for other financial resources such as savings or the value of assets. Second, the binary outcome indicating average earnings were above or below the threshold does not give information on the distribution of earnings either across the set of former beneficiaries or across the set of years included in the average for a given individual. Despite these limitations, we feel that the use of average earnings relative to the poverty threshold is a simple and informative way to gain understanding of economic self-sufficiency in the years following termination of benefits.

Our study suggests several potential avenues for further research. From 2010 to 2014, almost all cohorts of beneficiaries terminated for medical improvement were more likely to earn more than the poverty threshold and less likely to return to DI than previous cohorts. This was likely at least in part to due to the economic recovery following the Great Recession; however, further research is needed to better understand the factors behind this upward trend and whether it continues beyond 2014. In addition, we found certain demographic characteristics—such as age, certain diagnoses, and whether medical improvement is expected—correlate with achieving SGA. Nevertheless, some beneficiaries whose demographics make them at risk of not achieving do successfully achieve SGA and remain independent of the DI program. Research into how this at-risk group attains and maintains earnings could provide helpful lessons for promoting self-sufficiency for all beneficiaries whose benefits terminate. SSA is currently conducting a study (the Beyond Benefits Study) to gather information on the needs of beneficiaries whose entitlement is ending due to medical improvement and to make recommendations for policy changes or a demonstration that would promote substantive and sustainable employment.

Finally, we examined the earnings trajectories and program participation rates of beneficiaries whose benefits terminated. Although these are helpful broad markers of beneficiaries' economic outcomes, further research will help to better understand the impact of benefit terminations on beneficiaries' financial resources, health, and employment activity and more granular measures of economic well-being.

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