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Social Security Administration Payments to State Vocational Rehabilitation Agencies for Beneficiaries Who Work: Evidence from Linked Administrative Data

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ABSTRACT

Project Number

MPR 13-Q2

Title

Social Security Administration Payments to State Vocational Rehabilitation Agencies for Beneficiaries Who Work: Evidence from Linked Administrative Data

Authors

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April 2, 2015

Key Findings and Policy Implications

This paper examines the extent to which Social Security Disability Insurance (SSDI) and Supplemental Security Income (SSI) beneficiaries who receive vocational rehabilitation (VR) services from a State Vocational Rehabilitation Agency (SVRA) go on to earn at a level high enough to forgo cash disability benefits. Work at this level, known as substantial gainful activity (SGA; $1,070 per month or more in 2014), means the SVRAs are eligible for payments from the Social Security Administration,[1] either under the traditional cost reimbursement scheme or through Ticket to Work. We examine how widespread these payments are and compare their value to an estimate of the cash benefits forgone for work (BFW) among beneficiary VR applicants.

The study is based on data from the Social Security Administration's 2012 Disability Analysis File, linked to Rehabilitation Services Administration (RSA) case closure (RSA-911) files from fiscal years 1998 through 2012. We identified all first-time beneficiary applicants for VR services from calendar years 2002 through 2007, and then analyzed how many of these beneficiary VR applicants experienced nonpayment of cash benefits due to suspension or termination for work (NSTW). We also analyze the relationship between BFW and payments made from SSA to SVRAs under the two payment schemes combined. We report findings by beneficiary status, demographic subgroup, the SVRA providing services, and how long the applicant spent waiting for and receiving VR services.

[1] If earnings exceed the SGA level for SSDI beneficiaries, cash benefits are suspended, with the exception of during the nine-month trial work period and three grace period months. SSI benefits are reduced by $1 for every $2 of earnings above a low disregard, without regard to the SGA amount. Specific provisions for the relationship between earnings and benefits for SSI and SSDI are detailed in the report.

We found that:

- Payments from SSA to SVRAs were relatively rare during our period of study. Among all beneficiaries who first applied for VR services from 2002 through 2007 (including those who ultimately have their case closed before receiving services), approximately one in 20 have work activity that triggers a payment from SSA to an SVRA.
- The total BFW accrued among beneficiaries who applied for services from SVRAs dwarfed the payments SSA made to the SVRAs for serving those beneficiaries. Total BFW was nearly seven times higher than the total payments made, even under our most restrictive criteria.
- The extent to which beneficiary VR applicants accrue BFW and generate payments varies by their individual characteristics. Young beneficiaries, those with higher levels of education, and those with sensory impairments generate disproportionate shares of BFW and payments.
- Many beneficiary VR applicants are not served when they initially apply for services, perhaps because fiscal constraints affect SVRAs' ability to serve all applicants. Yet, a share of these beneficiary applicants reapply and receive services later, with some generating BFW and ultimately working at a level to trigger payments from SSA.
- There is wide agency-level variation in the share of beneficiaries for whom SSA makes a payment to an SVRA. Some agencies collect a low share of payments given how many beneficiary applicants they serve while others collect a disproportionately high share of payments. This variation does not seem to be directly tied to BFW among applicants, suggesting that agencies vary in the extent to which they seek payment.

The policy implications and limitations of the findings include the following:

- Successful return to work and reductions in SSA cash benefits is associated with receipt of VR services. The analysis does not prove, however, that the availability of SSA payments to SVRAs serve to increase benefit reductions, because we do not know what the reductions would have been in the absence of the SSA payments.
- The number of beneficiaries who generate a payment on a subsequent VR spell indicate that at least some beneficiaries could be better served by the VR program if they were able to receive services after initial application. We did not assess case closure on the initial spell to know why beneficiaries were not served, but earlier work suggests that agency fiscal constraints may play a role in a meaningful share of cases.
- Processes to ensure uniform payments by SSA to SVRAs (conditional on beneficiary work) may mitigate some SVRA financial constraints and make services more available to beneficiaries. SSA has changed its payment processes since the time period of our study and it may be worth revisiting the effects of those changes.

Synopsis: In "Social Security Administration Payments to State Vocational Rehabilitation Agencies (SVRAs) for Beneficiaries Who Work: Evidence from Linked Administrative Data," we use linked administrative data from SSA and the Rehabilitation Services Administration to examine SSA payments to SVRAs under the traditional cost reimbursement system and Ticket to Work. We compare these payments to the loss of cash disability benefits for work, seeking to better understand how and why payments vary by demographic subgroup, the SVRA providing services, and the provision of VR services.

Abstract: This paper examines federal disability beneficiaries who apply for services from a State Vocational Rehabilitation Agency (SVRA) and work at a level substantial enough to forgo cash disability benefits. When the beneficiary earns above the substantial gainful activity level for a sustained period, SVRAs can generally ask SSA to pay them, either under a traditional cost reimbursement scheme or through Ticket to Work. We compare these payments to estimates of the cash benefits forgone for work (BFW) using linked data from the 2012 Disability Analysis File (DAF12) and Rehabilitation Services Administration (RSA-911) case closure files. For beneficiaries applying for VR from 2002 through 2007, we found that the total BFW they accrued was many times higher than the payments SSA made on their behalf. The ratio of BFW to payments varied by beneficiary characteristics, whether the applicants ultimately received VR services, and the SVRA that provided services.

JEL Classification: H52, H55, J11, J14

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I. INTRODUCTION

Recognizing that many Social Security disability beneficiaries want to work, and knowing that advances in technology, supportive services, and social attitudes have improved opportunities for workers with disabilities, the Social Security Administration (SSA) has emphasized helping beneficiaries return to work and exit the rolls. The Ticket to Work (TTW) program, implemented in phases from 2002 through 2004, offered new financial incentives to expand the network of providers offering return-to-work services to beneficiaries. While many new organizations began to function as employment networks (ENs) under TTW, most beneficiaries still receive employment services through the federal/state vocational rehabilitation (VR) program that already existed prior to TTW. As a result of TTW, however, State VR agencies (SVRAs) that provide VR services to beneficiaries now may do so under one of the TTW payment schemes while operating as an EN, or under the more traditional reimbursement mechanism that existed before TTW.

In this study, we seek a better understanding of the extent to which SSA beneficiaries who apply for VR services work at a substantial enough level to generate payments from SSA to SVRAs. Under both TTW and the traditional system, payments by SSA are tied to the beneficiary's work activity following the receipt of VR services. In our analysis, we first identify the share of beneficiary VR applicants who earn enough to potentially generate a payment, and show differences by beneficiary characteristics, SVRA characteristics, and VR service receipt. We then compare the dollar value of payments made to SVRAs by SSA to the cash benefits forgone for work by beneficiaries after applying for VR services.[2] We consider how these

[2] A now-outdated study based on VR case closures in 1975 made a similar comparison based on the Beneficiary Rehabilitation program, an earlier version of the cost reimbursement system we consider here. That study found that

payments vary across beneficiary subgroups and the SVRA providing services. To do this, we use linked SSA and RSA administrative data; current data allow us to follow beneficiaries for as long as a decade after they apply for VR services.

In the next section of this paper we describe the services SVRAs provide to clients and the schemes under which SVRAs can receive payment from SSA. In Section III, we describe the linked administrative data we used and the subpopulation we included in our analysis. In Section IV, we describe our measurement of cash benefits forgone for work and payments from SSA to SVRAs. Section V contains longitudinal statistics of the likelihood that beneficiaries went without cash benefits due to work. In Section VI, we document payments made from SSA to SVRAs and compare them to the cash value of benefits forgone for work, then turn to subgroup differences in these measures in Section VII. We discuss SVRA-level differences in these measures in Section VIII before concluding and discussing implications for policy in Section IX.

every dollar spent on services resulted in cost savings ranging from $1.39 to $2.72 to the SSDI trust fund (McManus 1981).

II. VR SERVICES AND THE SSA PAYMENT SCHEMES AVAILABLE TO SVRAs

The VR program offers counseling, medical and psychological services, job training, and other individualized assistance to people with disabilities. VR uses a broader definition of disability than the one federal disability benefit programs use, but federal disability beneficiaries often have among the most severe disabilities of those eligible for VR services. The VR program is largely funded by formula-based block grants from the RSA to states, whose funding is based on the size of their general population and per-capita income (Government Accountability Office 2009). Each state has one or two SVRAs,[3] and many agencies cannot keep up with the demand for services under their current federal funding (Honeycutt and Stapleton 2013). As a result, many applicants face long waits for assistance or never receive VR services at all (Honeycutt and Stapleton 2013; Schimmel Hyde, Honeycutt, and Stapleton 2014).

Recognizing the important role VR services play for Social Security Disability Insurance (SSDI) and Supplemental Security Income (SSI) beneficiaries, SSA offers reimbursement to SVRAs when beneficiaries they serve successfully return to gainful employment. This compensation takes one of two forms (SSA 2012). The first is a cost reimbursement system, in place for decades, which reimburses SVRAs for qualifying service costs once a beneficiary served by an SVRA achieves earnings at or above the level of substantial gainful activity (SGA; $1,070 per month in 2014) in 9 of 12 consecutive months.

According to the handbook SSA uses to describe its payments to SVRAs, the conditions for requesting reimbursement include "(1) the individual must be an SSDI or SSI beneficiary at the

[3] When a state has two agencies, one serves all blind individuals while the other provides services to all other types of disabilities (called a "general" SVRA). When a state has a single agency, that SVRA responsible for providing services statewide (called a "combined" SVRA).

time the services are provided; (2) the services must have contributed to the person's going to work and reaching earnings at or above the substantial gainful activity (SGA) amount; (3) the services must be determined to be reasonable and necessary; and (4) savings to the trust or general funds must be achieved as a result of the individual going to work and reducing or eliminating benefit dependency."[4] Once the beneficiary has met these conditions, the SVRA is responsible for properly documenting it and requesting reimbursement, according to the VR provider handbook (SSA 2012). Statistics published annually by SSA show that in fiscal year 2013, SSA paid 9,645 claims with an average value of $14,334 (SSA 2014).

The second way SVRAs can be compensated for services to beneficiaries is through the TTW (SSA 2012), which reimburses SVRAs at the same rate as all other ENs. TTW payments are not tied to the actual cost of serving a beneficiary but are predetermined and accrue in months when beneficiaries achieve specified earnings outcomes. Like other ENs, SVRAs must choose from one of two TTW payment schemes and use that for all beneficiaries they choose to assign under TTW. SVRAs can choose which payment applies on a case by case basis and most SVRAs serve most or all SSA beneficiaries under the cost reimbursement system. Because we aggregate payments from TTW in what follows and because the vast majority of non-cost reimbursement payments are under the milestone-outcome payment system, we will not describe the distinction of those payment systems; they are fully documented in Schimmel et al. (2013).

Studies assessing the TTW program have shown that from 2002 through 2010, approximately half a million beneficiaries assigned their ticket to receive services from SVRAs

[4] Our discussions with SSA staff reveal that this last requirement really means that savings to the trust fund *should* be possible, not that SSA performs a calculation to determine whether they actually accrued. For example, it is unlikely that SSA would reimburse costs for $50,000 for a beneficiary VR client who received services one year before retirement. If it were true that savings "must be achieved," it would imply that SSDI beneficiaries served by an SVRA who achieve 9 months of work only during their Trial Work Period (when benefits are not suspended for earnings) would not be eligible for cost reimbursement, which is not true, as we discuss in what follows.

under the cost reimbursement model, with far fewer assigned under either TTW payment scheme (Schimmel et al. 2013). Use of VR by beneficiaries may be more widespread than this suggests, however, because until recently SVRAs had to manually assign each ticket, and sometimes SVRAs did not consider it necessary to take the step required to do this.[5] Additionally, beneficiaries may not correctly report their disability program status to VR agencies and SVRAs may not know they can assign the ticket in those cases.

[5] As of 2008, all beneficiaries served by SVRAs could have their ticket automatically deemed "in-use," but reports on the TTW program tended to focus on earlier years of the program, when a formal assignment step was required and often not completed by SVRAs. Schimmel et al. (2013) contains a larger description of the inconsistent retroactive application of in-use status before 2008.

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III. DEFINITION AND CHARACTERISTICS OF SSA BENEFICIARIES WHO APPLY FOR VR SERVICES

To conduct this analysis, we combined administrative data from the SSA and RSA. We began with the RSA-911 annual fiscal year closure files from 2002 through 2012; each contains records for all VR cases closed during a given year. These files are collected at the time cases close; we reoriented records to be based on the calendar year of application for VR services. We ultimately focused our analysis on VR applications from disability beneficiaries during calendar years 2002 through 2007. The decision to start in 2002 reflects changes in RSA-911 data between 2001 and 2002 and the rollout of the TTW program in 2002; ending with 2007 applicants allows enough time for almost all cases to close after application. Approximately 92 percent of cases close within four years of application and 98 percent within seven years (Schimmel Hyde et al. 2014), so by including case closures through 2012, we capture the majority of applications during the 2002—2007 period.[6]

We matched these records to data in SSA's 2012 Disability Analysis File (DAF12), a research data set containing SSA administrative data for SSDI and SSI beneficiaries from 1996 onward. We used the DAF12 to identify all VR applicants who could be considered beneficiaries in at least one month between VR application and case closure, consistent with the guidelines established in the VR provider handbook (SSA 2012). We used a measure of beneficiary status that was intentionally broad to account for the range of individuals who might ultimately generate a payment from SSA to VR. Specifically, we included all beneficiaries who were in

[6] The actual number of records in our subpopulation compared to those who applied to VR is likely lower for reasons of data quality and validation of Social Security numbers in the RSA-911 data, which is required to link the records to SSA administrative files. Earlier work by Schimmel Hyde et al. (2014) suggests that about 80 percent of *all* VR records are matched with a selection methodology similar to ours; the actual proportion might be higher or lower for SSA disability beneficiaries.

current pay status, suspended or terminated for work, or suspended or terminated for any other reason in at least one month between VR application and closure, provided the beneficiary was between age 18 and full retirement age (FRA) in the month that he or she met this definition of a beneficiary. To start with the broadest beneficiary measure, we initially included terminated cases to allow for the possibility that these beneficiaries did not appear to the SVRA to be terminated when they sought VR services; we consider the implications of including these records in what follows.

Using this definition, we identified the *first* time between 2002 and 2007 that an individual applied for VR services while also a disability beneficiary. We focused on this time period because it coincided with the rollout of the TTW program and allowed a long period following application to capture the work activity of beneficiary VR applicants. Under this definition, a beneficiary who applied in 2003 and 2006 would be counted in the 2003 cohort, but not again in the 2006 cohort. To make the 2002 applicant cohort as comparable to the 2002 cohort as possible, we excluded from our analysis any applicants during the 2002—2007 window who had applied for VR services as a beneficiary between 1998 and 2001. Without this limitation, the later cohorts would exclude cases where the beneficiary applied immediately prior to our selected assignment, while the earlier cohorts would not. Many applicants seek services multiple times, usually if they are not served after first applying. As we describe in what follows, we find that a meaningful share of beneficiary applicants who did not receive VR services the first time they applied from 2002 through 2007 ultimately reapplied and received VR services by 2012.

Using these selection criteria, and limiting the data to applications to SVRAs in the 50 United States and the District of Columbia, we identified 1.28 million "beneficiary VR applicants" between 2002 and 2007 (Table 1), representing about one-quarter to one-third of all applications

to SVRAs during this time. Annual applicant cohorts became smaller over time (Appendix Table 1), in part reflecting the selection criteria identifying the first VR spell during this time window, but also mirroring the overall decrease in applications to SVRAs during this period.[7]

Because our selection criteria were intentionally broad, we sought to understand their impact on our findings. To do this, we removed two groups of beneficiaries from our sample: first, we isolated former SSA beneficiaries that were in termination status at VR application. As described in the VR provider handbook for requesting SSA payments, "an individual is considered to be in benefit status for VR reimbursement purposes even when no cash payments were actually made during a month because of certain benefit suspension, deduction, or reduction events. However, an individual is *not* considered an SSDI beneficiary or SSI recipient for reimbursement claim when the benefit status was terminated during the period in which services were provided" (SSA 2012).[8] Overall, approximately 2 percent of those identified as beneficiary VR applicants were terminated in the application month (Appendix Table 1). Of these, 26 percent were in a non-terminated beneficiary status at some point during their VR spell and therefore might have been eligible for payment. We also wanted to account for the fact that terminations may be retroactively determined and therefore reflected in DAF12, but unknown to the beneficiary or SVRA at the time the individual sought VR services.

We also considered the individuals we counted as beneficiaries because they met the selection criteria in at least one month, but who were not yet beneficiaries in the application month. According to the SSA handbook for VR providers, these beneficiaries would be eligible

[7] The RSA Annual Reports, found at https://rsa.ed.gov/display.cfm?pageid=407, indicate that the number of total new applicants fell from 675,368 in FY 2002 to between 590,000 and 600,000 annually from FY2005 through FY2007.

[8] We considered application month because that is when beneficiary status is reported, and we do not know whether SVRA staff revisit status later.

for a payment, but may be less likely to generate one if SVRAs do not update their information about beneficiary status beyond what was collected at application. These individuals represent approximately 16 percent of each application cohort (Appendix Table 1).

The demographic and health characteristics of beneficiary applicants were remarkably similar from year to year (not shown). We therefore present characteristics of the entire sample (2002–2007) in Table 1 along with more detailed statistics for the 2002 beneficiary VR applicants. We focus on the 2002 applicants because they have the most years of follow-up data available and their SSA records are least likely to be subject to later revisions. If not for the recession that affected results starting in 2007, the applicants' overall similarity would lead us to expect that the work experience of beneficiary applicants in later years would have been like that of the 2002 cohort.[9]

Compared with beneficiaries broadly (Mamun et al. 2011), a higher proportion of beneficiary VR applicants are SSI-only—4 in 10 beneficiary applicants in 2002 (Table 1).[10] VR beneficiary applicants tend to be young, and young adults are more likely to collect SSI than SSDI. SSI-only VR applicants would presumably be eligible for SSDI if they had enough work history; Stapleton and Martin (2012) have suggested these applicants may seek VR so they can work enough to be

[9] One key difference between 2002 and later years is that not all beneficiary applicants in 2002 were eligible for the TTW program, as it had only been rolled out in certain states. In addition, SVRAs in Phase 1 of the TTW rollout pursued ticket assignments for their VR clients more aggressively than they did in later years (Schimmel et al. 2013). Yet ticket assignments among VR applicants are not much different than in later cohorts; just under one-quarter of beneficiary VR applicants in 2002 ever assigned their ticket, and of those, only 6 percent did so under the EN payment systems (either to an SVRA under the MO or OO payment system, or at a different time to an EN) (Schimmel et al. 2013). Moreover, our analysis combines payments under TTW and cost reimbursement, and our analysis did not show large differences in the composition of payments across these payment systems over our period—more than 90 percent of payments were through the traditional payment system.

[10] In contrast to point-in-time program title measures, ours is defined based on status during the VR spell (between application and closure); an ever concurrent beneficiary had at least one month during the VR spell in current pay status or suspended or terminated for work in SSDI and SSI, a beneficiary not categorized as ever concurrent but with at least one month with SSDI is categorized as ever SSDI, and the remaining beneficiaries are categorized as SSI-only. In addition, our beneficiary measure is based on being in current pay status, or having benefits suspended or terminated for work, which is a broader definition than used in other studies.

Table 1. Characteristics of beneficiary VR applicants, 2002–2007 combined and 2002 alone

	Beneficiary VR applicants, 2002–2007		2002 beneficiary VR applicants		
	Number of observations	Percent of total	Number of observations	Percent of total	Percent with IPE
Total	**1,277,197**	**100.0**	**266,039**	**100.0**	**59.8**
Program title					
SSDI	403,429	31.6	87,117	32.7	61.0
SSI-only	508,376	39.8	106,646	40.1	56.8
Concurrent	365,392	28.6	72,276	27.2	62.8
Time as beneficiary at VR application					
Beneficiary after application only	123,081	9.6	28,011	10.5	72.7
0–2 years	264,669	20.7	56,046	21.1	53.4
3–5 years	164,301	12.9	32,838	12.3	57.0
6–10 years	222,639	17.4	54,610	20.5	58.6
More than 10 years	502,507	39.3	94,534	35.5	61.5
Gender					
Male	688,452	53.9	143,449	53.9	59.8
Female	588,745	46.1	122,590	46.1	59.9
Age at VR application					
Under 18	62,494	4.9	10,761	4.0	78.2
18–25	268,418	21.0	53,318	20.0	62.4
26–29	84,527	6.6	18,520	7.0	59.8
30–39	255,099	20.0	61,045	22.9	58.8
40–49	351,419	27.5	76,473	28.7	57.1
50–59	222,211	17.4	40,533	15.2	57.8
60–FRA	33,029	2.6	5,389	2.0	61.8
Race/ethnicity					
White	882,032	69.1	182,370	68.6	61.3
African American	334,001	26.2	66,481	25.0	58.4
Other race	61,164	4.8	17,188	6.5	49.3
Hispanic	97,666	7.6	19,715	7.4	58.6
Non-Hispanic	1,176,698	92.1	245,421	92.3	60.1
Educational attainment at VR application					
No formal education	5,560	0.4	1,405	0.5	54.1
Less than high school	341,356	26.7	70,490	26.5	57.3
High school or equivalent	568,353	44.5	122,006	45.9	61.1
Some post-secondary education	183,217	14.3	37,852	14.2	60.0
Post-secondary education	171,863	13.5	32,685	12.3	63.6
VR primary disability					
Sensory/communicative impairment	130,465	10.2	28,605	10.8	75.1
Physical impairment	405,689	31.8	85,791	32.2	58.3
Mental impairment	681,738	53.4	138,159	51.9	63.4
Unknown	59,305	4.6	13,484	5.1	0.3

TABLE 1 (*continued*)

	Beneficiary VR applicants, 2002–2007		2002 beneficiary VR applicants		
	Number of observations	Percent of total	Number of observations	Percent of total	Percent with IPE
SSA impairment group					
Sensory/communication	81,427	6.4	17,807	6.7	75.4
Musculoskeletal	98,551	7.7	18,392	6.9	50.2
Nervous system	59,590	4.7	12,290	4.6	61.1
Psychiatric	402,488	31.5	80,455	30.2	55.3
Intellectual	182,443	14.3	37,687	14.2	67.8
Other (including missing/unknown)	452,698	35.4	99,408	37.4	59.2
Employment status at VR application					
Not employed	1,129,113	88.4	232,530	87.4	58.7
Employed	136,475	10.7	30,425	11.4	74.1
Weekly hours worked at VR application					
None	1,135,157	88.9	232,569	87.4	59.3
Less than 20 hours	42,292	3.3	9,104	3.4	72.7
20–34 hours	47,527	3.7	10,731	4.0	73.8
35 hours and above	37,165	2.9	8,689	3.3	75.5

Source: Authors' calculations using the DAF12 linked to RSA-911 closure files. Program title, time as a beneficiary, age, and SSA impairment code derived from DAF12, all remaining characteristics drawn from RSA-911. SSA impairment group defined in the first month during the VR spell that an individual met the definition of beneficiary.

Note: Only selected characteristics shown; in a few cases, missing/unknown subgroups that are less than 1 percent of total observations are excluded.

eligible for SSDI and, eventually, Medicare. It may also be that some applicants who are SSDI eligible apply while receiving SSI benefits during the SSDI five-month waiting period and convert to SSDI soon after their VR application. Our analysis population also has a relatively high share of concurrent beneficiaries. We used a definition of concurrent based on status throughout the VR spell, which means we included all those who were in each of the two programs during at least one month of the spell, including some who were never both programs during the same month.

One-quarter of 2002 applicants were under age 25 at the time they applied, while fewer than 3 percent were over age 60.[11] The majority of VR applicants in 2002 had low education levels; 27 percent had not finished high school and another 46 percent had a high school diploma or its equivalent. A small minority of VR applicants were already working when seeking VR services (11.4 percent), and about one-quarter of those reported working full time at application.

Disabling conditions among beneficiary VR applicants can be measured using RSA or SSA administrative data, and the two definitions do not necessarily align. A condition that might qualify a person for SSA disability benefits may not be regarded as the most serious barrier to employment by a VR counselor.[12] For example, 6.7 percent of 2002 applicants have a sensory or communication issue as the primary condition qualifying them for disability benefits, but these conditions represent 10.8 percent of VR primary disabilities (Table 1). Despite these differences, the largest share of applicants on both measures—52 percent using the VR primary disability and 44 percent using the SSA primary disabling condition—had psychiatric conditions, cognitive or psychosocial, or intellectual disabilities.[13] Physical impairments were reported as the primary disability in one-third of cases using the VR measure; these conditions could be found under several of the SSA impairment categories, so a direct comparison is difficult.

[11] We selected our sample to include beneficiaries age 18 and older, but that was based on age in the first month they were observed to be a beneficiary during the VR spell. About 10 percent of our subpopulation were under 18 in the month they applied to VR.

[12] Another issue is that we measured SSA disabling condition in the first month a person was a beneficiary during their VR spell, which could be many months or even years after VR primary disability was recorded at application. The categories of SSA disabling condition used are comparable to those in other studies of beneficiary work; for this reason, the "other" category contains many smaller categories of impairments.

[13] The mental impairment category on the RSA-911 data includes the sum of cognitive and psychosocial impairments. While not a direct correspondence to SSA disabling conditions, this is roughly equivalent to the sum of psychiatric conditions and intellectual disabilities in our categorization using SSA data.

Everyone who goes to a VR agency for assistance does not receive services before their case is closed, meaning the SVRA would not be eligible for payment on behalf of the work activity of those beneficiaries during the spell we analyzed. Using the RSA-911 data, we identified whether a VR applicant signed an individualized plan for employment (IPE) before case closure on the spell selected for our analysis, as the IPE is often thought of as the formal beginning of services. The likelihood of receiving an IPE varies for many different reasons. Some reflect beneficiary characteristics, since services can be prioritized by need. But there are also differences in how SVRAs provide services, either serving relatively few people intensively, or serving more people at a lower intensity. SVRA fiscal constraints play a role as well.

Just under 60 percent of applicants in each year received an IPE before case closure on the observed spell for our analysis (Appendix Table 1), which is consistent with other statistics based on these data (Schimmel et al., 2013). A beneficiary who does not receive an IPE is not precluded from applying for VR services later and may receive an IPE at that time. At least some members of our applicant cohorts who do not receive an IPE on the initial spell go on to do just that (Section IV). The proportion of each subgroup that received an IPE foreshadows some of the differences we see in payment generation. More IPEs were signed by the youngest applicants, those who were not yet beneficiaries, those who were already working at application, and those who had sensory impairments (measured using both VR and SSA definitions of disabling condition) (rightmost column of Table 1).

IV. MEASURING CASH BENEFITS FORGONE FOR WORK AND SSA PAYMENTS TO SVRAs

A. Measuring cash benefits forgone for work

The DAF12 has monthly information on beneficiaries whose cash benefits were suspended or terminated because they worked. Non-payment due to suspension or termination for work (NSTW) is a monthly indicator of whether a beneficiary has no cash benefits due to him or her after suspension or termination of benefits for wage income exceeding the SGA level. Benefits forgone for work, or BFW, provides an inflation-adjusted monthly dollar value of the cash benefits the beneficiaries would have received if their benefits were not suspended or terminated for work.

NSTW and BFW are calculated differently for SSDI and SSI beneficiaries because of differences in each program's rules. For an SSDI beneficiary to accrue BFW, he or she must be in NSTW, having reached the "cash cliff" resulting in complete benefit loss when earnings exceed SGA for an extended period. SSDI benefits are suspended in every month that earnings exceed SGA following a 9-month trial work period (TWP) during a 60-month rolling window, and an additional 3-month "grace period." The TWP and grace period are important in our analysis because beneficiaries may earn enough to trigger payment to an SVRA while they are in either period, but this would not lead to BFW. The period during which SSDI benefits can be suspended for work is called the "extended period of eligibility" (EPE). Starting in the 37th month after the TWP ends, benefits are terminated for work in the first month that earnings exceed SGA. In each month of suspension or termination, an SSDI beneficiary would be in NSTW and the value of BFW would reflect what the benefit due would have been if not in that status. It is important to note that the NSTW indicator only links work activity to the first month of suspense or termination because SSDI beneficiaries are not required to continue reporting

their work once entering that status. As such, NSTW status does not necessarily mean that the beneficiary is engaged in SGA; rather, it means that beneficiaries gave up benefits because of work and have not yet had them reinstated, died, or reached retirement age.

SSI benefits are suspended for work when monthly countable income, including countable earnings from work, exceeds the maximum monthly benefit payment—$698 for an individual in 2012. If the only source of income other than SSI is earnings and only minimum earnings disregards apply, the SSI benefit is positive as long as monthly earnings are below $1,481 dollars—considerably higher than the SGA amount—because only half of earnings above $85 are countable; in other circumstances this threshold may be higher or lower.[14] SSI recipients can have BFW and still receive a benefit during a month. As a result, the calculation of BFW for SSI is considerably more involved than the one for SSDI, because it tries to capture the difference between what a month's benefit *would* have been in the absence of earned income, net of the benefit actually paid in that month (if any).[15]

In our analysis, we combine information from SSDI and SSI to create a single NSTW indicator and a single BFW measure for each beneficiary. For beneficiaries of both SSDI and SSI, the indicator only counts a month as an NSTW month if the beneficiary is suspended or terminated for work in both programs in that month. This is consistent with the outcome payment rules for TTW; outcome payments are not due if the beneficiary receives a benefit from either program. Combined BFW is the sum total of forgone benefits in each program. An SSI-only or

[14] Other sources of countable income, including SSDI benefits, are counted dollar for dollar, and have the effect of reducing this earnings threshold. Allowable earnings disregards, such as impairment-related work expenses, increase it.

[15] In addition to the general complexity of this computation, SSI BFW is known to overcount actual BFW for SSI beneficiaries who are part of a couple, who have deemed income, and in months when benefits are prorated. The extent of this overcount is not known, it applies to only a small share of SSI recipients with countable earnings and is not expected to be large when it does.

concurrent beneficiary may have BFW in a month even if NSTW does not show suspension or termination for work.

We count all NSTW and BFW from the VR application date of the VR spell used in our analysis through December 2012, the last date available in the DAF12. This reflects an assumption that VR services might affect NSTW and BFW in any month after VR application, but there is no way of knowing whether receipt of VR services actually had an impact on NSTW and BFW in any or all of the months counted. While following activity through December of 2012 provides the most complete picture of BFW and payments, for the earlier cohorts especially, it moves quite far away from the initial provision of services. To account for this, we also present findings an alternative, narrower specification in which we only counted BFW accrued by the end of the fourth calendar year following VR case closure. As described below, this time period accounts for most of the payment accrued and is closer to the time in which services were actually provided.

B. Measuring SSA payments to SVRAs

The DAF12 has data on payments from SSA to SVRAs. We aggregated all milestone and outcome payments under TTW, provided they were for work activity between the beneficiary's VR application month and December 2012, and they were processed by the middle of 2013 when the source data were pulled for DAF12. Because these payments are tied to a month of work activity, it is straightforward to link them to a date following the beneficiary's VR application.

Payments from SSA to SVRAs through the cost reimbursement system are recorded in SSA's VR Reimbursement Management System (VRRMS).[16] The DAF-linkable version of the

[16] Though linked to the DAF12, the VRRMS data include payments made well in advance of the beginning of our analysis period through September 2013. We included that information, provided any recorded payments were associated with a spell that ended in or before December 2012.

VRRMS was cleaned to make it simple to merge with the DAF12, and it contains near-complete information on the payments from SSA to SVRAs.[17,18] For each VR spell, the value of reimbursements is aggregated into a single value, even if reimbursement was requested in several increments. The VRRMS data also contains information about the total number of spells and the total dollar value of reimbursements. We combined all payments through the traditional cost reimbursement system and TTW into a single amount for each beneficiary. The former accounted for more than 90 percent of payment dollars, consistent with other evidence that most SVRA ticket assignments are under the cost reimbursement system (Schimmel et al. 2013).

Each VRRMS claim includes the closure date that corresponds to the VR spell of record; we used this to identify all claims for spells corresponding to our selected spell or any later one, provided the case was closed by December 2012. For example, if a 2002 applicant had a case closure in December 2004, we included all payments in or after December 2004. These payments could include those for spells closing after December 2004. The VRRMS data included on the DAF12 were processed in mid-2013, providing information on claims paid through the first half of that year.

[17] Specifically, it only contains data on three VR spells that generated a claim for reimbursement—the most recent, penultimate, and first spell. While the inclusion of only three claims may at first seem like a significant limitation of the DAF-linkable VRRMS, practically speaking, it is not. Claims within a single spell are generally aggregated into a single record, even if payments were made to more than one provider or service. Approximately 95 percent of beneficiary applicants in our subpopulation who filed any claim filed only one. Of the 5 percent who had two or three claims recorded in the DAF-linkable VRRMS during the time period we considered (January 2002 through June 2013), 93 percent had only two claims. Thus, the inability to measure more than three claims leads to very little bias relative to using the full VRRMS, though to the extent that beneficiaries had more than three claims, we would be underestimating total payments from SSA to VR.

[18] For spells earlier than the most recent, the DAF-linkable VRRMS did not contain information on when the payment was made, which we needed to adjust for inflation. Based on statistics from the most recent spell, we assumed that for earlier payments, all were made 18 months after closure. This assumption affected relatively few payments and should not substantively affect our findings.

Because payments from SSA to SVRAs are often processed well after case closure, our data necessarily underestimate the total claims that will ultimately be paid for applicants from 2002 through 2007. This is a bigger concern for later applicants than for earlier ones, but it is still not a significant concern. Most VR cases are closed within three years of application. Among the 2002 applicant cohort, 92 percent of cases closed by 2006 and 97 percent by 2008. Thus, by 2012, virtually every claim tied to the first service spell would have been paid; only claims tied to later service spells might still be pending. But, for the 2007 cohort, 38 percent had case closure after 2008, with 9 percent in 2011 or 2012, so a much higher share might have a claim paid after mid-2013. We can see how this might affect recorded payments by looking at the share of payments in each cohort paid within six years after closure—95.6 percent of payments among applicants in 2002 cohort and 98.6 percent of payments among 2007 applicants. Thus, even if payments for the 2007 cohort are underestimated, it is not by a large amount.

All BFW and payment values are reported in 2012 dollars using SSA's annual cost-of-living adjustment (COLA) (SSA 2015). Payments are adjusted based on the month they were actually made, which can be months or even years after the triggering work activity depending on how quickly a claim is made by the SVRA and processed by SSA.

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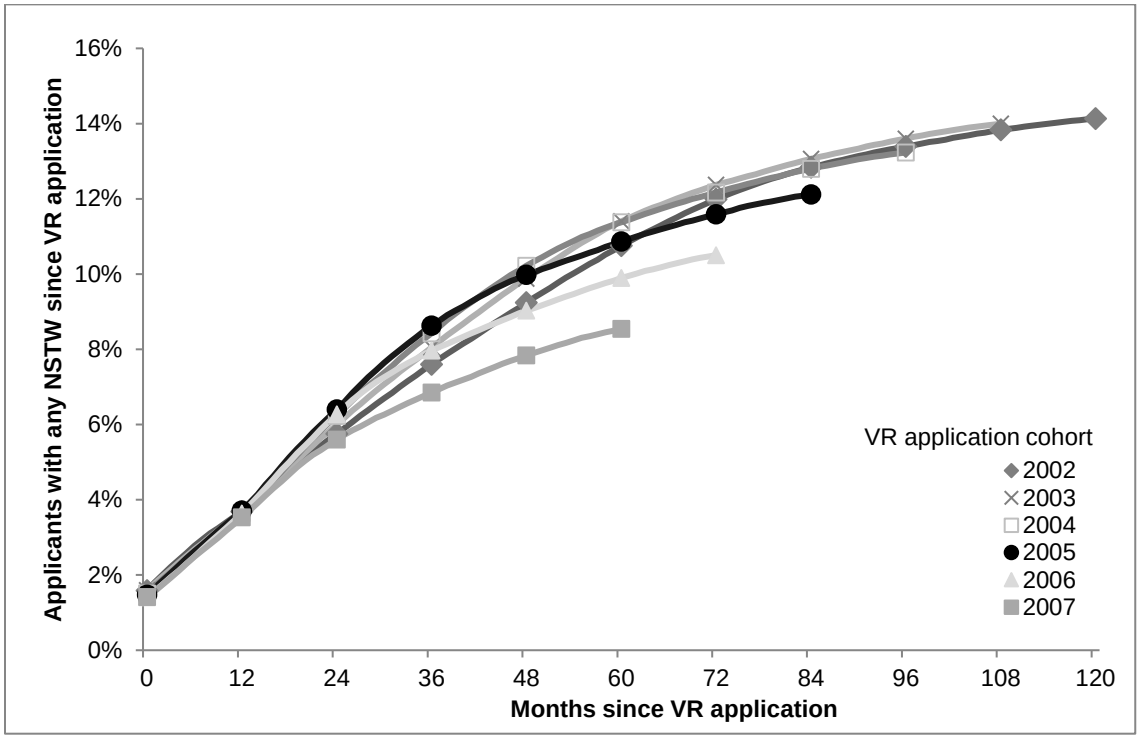
V. NSTW AMONG BENEFICIARY VR APPLICANTS

Among the 2002 cohort, which we were able to follow for 10 years after VR application, just over 14 percent had at least one month of NSTW by December 2012 (Figure 1). Figure 1 shows the cumulative percentage of each beneficiary applicant cohort with at least one month of NSTW, starting from the VR application month. Just under two percent of beneficiaries across all applicant cohorts were in NSTW in the VR application month. Even with those cases removed, the general pattern shows a steady increase in the likelihood of a first NSTW month, which then levels off in the later years. Our findings are qualitatively consistent with a study by the Government Accountability Office (GAO) covering a similar time period, which found that relatively few beneficiaries had their cash benefits suspended or terminated for work following VR service receipt, though a higher share increased their earnings after receiving services (GAO 2007).

Figure 1. Cumulative likelihood of at least one NSTW month after VR application: 2002–2007 first-time beneficiary VR applicants

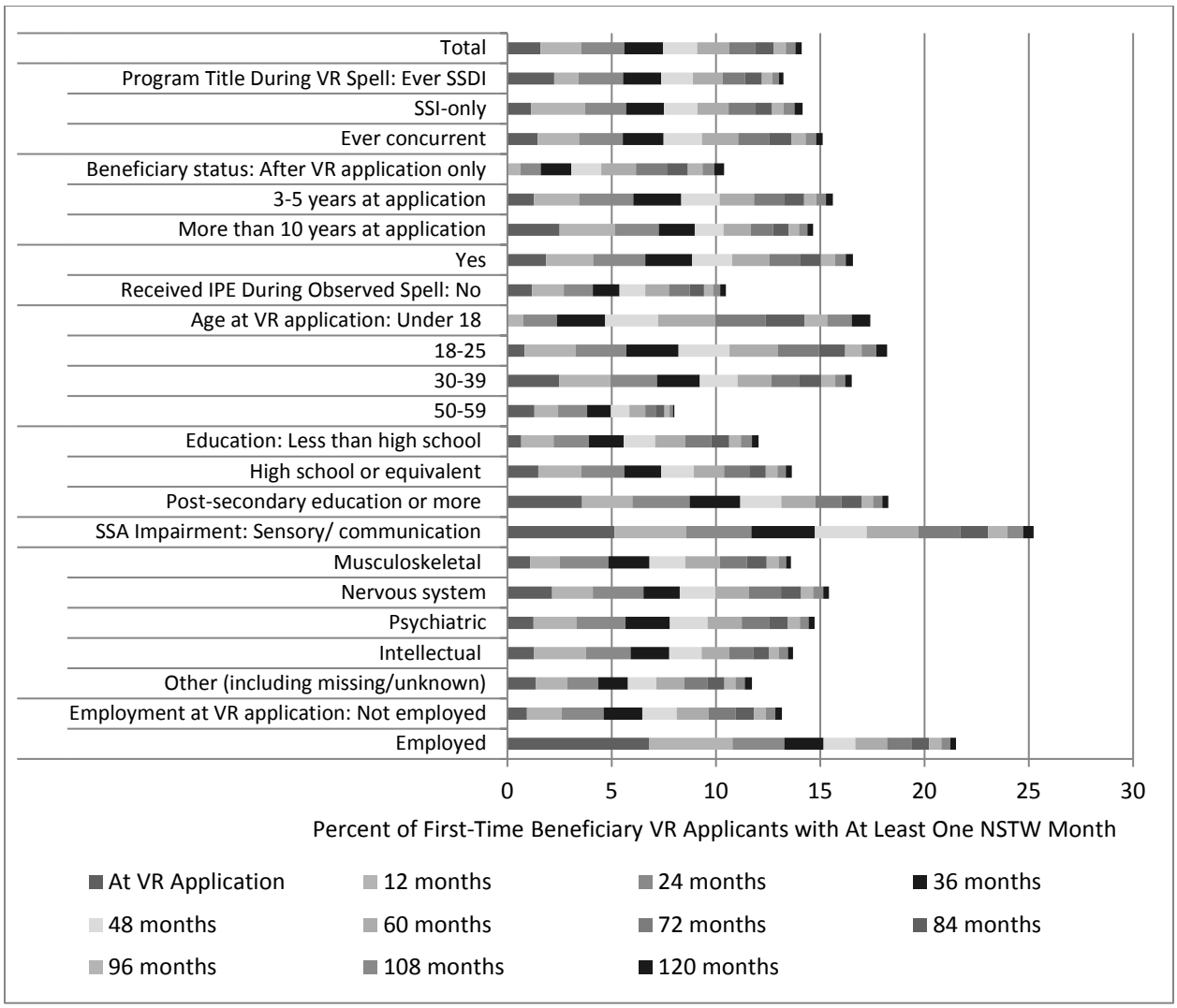


Source: Authors' calculations using the DAF12 linked to RSA-911 closure files.

The recession of 2007 to 2009 seems to have significantly dampened NSTW among later beneficiary VR applicants. As might be expected given their demographic similarity, all the applicant cohorts have an initial pattern of at least one month in suspension or termination for work for the first 12 to 24 months after VR application. After that, the cohorts diverge noticeably, with a 3.5-percentage-point difference between the 2002 and 2003 applicant cohorts and the 2007 applicant cohorts five years after VR application. This finding is consistent with employment declines for beneficiaries overall starting in 2007 and for those in the TTW program (Livermore and Bardos 2014, Schimmel et al. 2013). The recession may also have depressed growth in the cumulative percentage with NSTW for earlier cohorts in the later years. For instance, the recession might have depressed growth in that figure for the 2002 cohort starting around the 60th month after VR application.

Figure 2 presents statistics on the cumulative percentage of the 2002 beneficiary VR applicants with at least one NSTW month after VR application by 12-month intervals, for subgroups defined by various applicant characteristics. Given space constraints, we present results on for characteristics for which we observed meaningful differences subgroups defined by that characteristics; the first panel of Appendix Table 2 shows the full set of subgroup results. In the figure, the full length of each bar is the percent who experienced at least one month with benefits suspended or terminated for work from the VR application month through 10 years later; each 12-month interval shows how many additional beneficiary applicants in each group were in NSTW after VR application.

Figure 2. Cumulative likelihood of at least one NSTW month after VR application: 2002 first-time beneficiary VR applicants by demographic subgroup



Source: Authors' calculations using the DAF12 linked to RSA-911 closure files. Program title, time as a beneficiary, age, and SSA impairment code derived from DAF12, all remaining characteristics drawn from RSA-911. SSA impairment group defined in the first month during the VR spell that an individual met the definition of beneficiary.

The likelihood of at least one NSTW month by the end of the time period is higher among beneficiary applicants with a sensory impairment or those who are younger or more educated at time of application than for other demographic subgroups. Beneficiaries who were already employed when they sought VR services were significantly more likely to be in NSTW at that time than non-working beneficiaries were—6.7 percent and 0.9 percent, respectively. The magnitude of this difference persisted (or grew slightly) in the decade that followed, culminating with 21.5 percent of those who were employed at application having at least one NSTW month after 10 years compared with 13.2 percent of those who were not. At VR application, relatively more of those who received an IPE before case closure on the observed spell (i.e. the first spell as a beneficiary applicant during our observation period) were in NSTW than those who ultimately did not sign an IPE before case closure. Yet the gap widens substantially over the following years, with approximately 60 percent more of those receiving an IPE experiencing at least one NSTW month by 2012 than those who did not. It is notable, however, that approximately 10 percent of those who did not sign an IPE had at least one month of NSTW.

One NSTW month does not mean that a beneficiary will keep working over a long period. Among all 2002 beneficiary VR applicants, those with at least one NSTW month spent an average of 30 months in NSTW in the 120 months after VR application (Appendix Table 2).[19] The second panel in Appendix Table 2 shows the average number of NSTW months in each 12-month interval over the 120 months after VR application, highlighting differences by subgroup. It is important to note that much of this period occurs after beneficiary applicants have either not

[19] By 120 months after VR application, approximately 40,000 beneficiaries in the 2002 VR application cohort of just over 266,000 had either died or reached Full Retirement Age, after which point they can no longer accrue NSTW. The averages shown in Appendix Table 2 use the full subpopulation with any NSTW as the denominator.

received services or have received them and had their cases closed, but is consistent with our approach of following applicants from the month in which they first apply for services.

Although younger applicants were among the most likely to have at least one month of NSTW, they tended to spend less time in NSTW than other age groups did (Appendix Table 2). The average number of NSTW months by the end of the period was higher for those with sensory/communication and musculoskeletal impairments than for groups with other primary disabling conditions, even though these groups were opposite in terms of experiencing NSTW to begin with. This suggests that while relatively few people with musculoskeletal conditions experience NSTW, those who do may have relatively successful employment outcomes.

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VI. COMPARING SSA PAYMENTS TO BFW ACCRUED BY BENEFICIARY VR APPLICANTS

In this section, we present BFW statistics and compare them to the payments SSA made to SVRAs. Although we expect to find a positive relationship, there is no reason to expect a deterministic relationship, for multiple reasons. For example, during the trial work period, payment to SVRAs under the cost reimbursement system could occur without any BFW, since SSDI benefits are not suspended during this period. Similarly, work activity under SGA could result in milestone payments made to SVRAs under TTW without an NSTW month or BFW. Yet, the aggregate statistics provide important insights into the payments made by SSA on behalf of beneficiaries who receive VR services and the BFW accrued by beneficiaries seeking such services.

Table 2 presents our key findings about payments and BFW for the annual applicant cohorts, considering the effect of follow-up duration and having an IPE on the magnitude of both outcomes. Among those who generate a payment, the average payment amount is around $11,000 (roughly consistent with statistics published by SSA during this time period). Median values are lower than the average, in part reflecting high payments to SVRAs serving blind individuals. It shows that SVRAs receive payment from SSA for few beneficiary clients (4 percent or fewer of all applicants, and about 5 to 6 percent for applicants who receive an IPE). Total BFW across all beneficiary applicants is generally about 8 to 10 times higher than what SSA paid SVRAs to serve these beneficiaries. The message of the findings is largely consistent if we modify our selection criteria, though the dollar values vary. For example, excluding beneficiaries in termination status and those not receiving benefits in the month of VR

Table 2. SSA payments to SVRAs and BFW, 2002–2007 first-time beneficiary VR applicants

	Payments from SSA to SVRAs					
	Applicants with a payment (N)	Applicants with a payment (%)	Total ($)	Average ($)	Median ($)	Total BFW across all applicants ($)
All beneficiary VR applicants						
Through December 2012	45,265	3.5	516,874,507	11,419	7,645	5,528,248,026
2002 cohort	9,510	3.6	128,548,059	13,517	8,968	1,481,180,483
2003 cohort	9,655	4.0	116,973,082	12,115	7,865	1,282,755,965
2004 cohort	8,523	3.9	95,760,801	11,236	7,397	1,043,925,630
2005 cohort	6,877	3.6	72,751,884	10,579	6,812	761,979,320
2006 cohort	5,878	3.3	58,858,268	10,013	6,599	555,829,206
2007 cohort	4,822	2.8	43,982,413	9,121	6,049	402,577,422
Through fourth calendar year after closure	41,587	3.3	469,936,943	11,300	7,616	3,912,002,548
2002 cohort	8,000	3.0	109,696,716	13,712	8,891	860,588,117
2003 cohort	8,638	3.6	103,116,393	11,938	7,775	825,423,949
2004 cohort	7,907	3.6	87,743,985	11,097	7,246	745,043,188
2005 cohort	6,541	3.4	68,510,566	10,474	6,738	603,777,551
2006 cohort	5,723	3.2	57,335,067	10,018	6,643	488,879,488
2007 cohort	4,778	2.8	43,534,216	9,111	6,051	388,290,255
Applicants with an IPE before closure						
Through December 2012	39,698	5.4	467,879,125	11,786	7,913	3,929,364,635
2002 cohort	8,167	5.1	115,188,644	14,104	9,287	1,071,791,203
2003 cohort	8,470	5.9	105,637,145	12,472	8,067	924,095,331
2004 cohort	7,453	5.9	85,991,268	11,538	7,559	727,367,480
2005 cohort	6,122	5.5	66,788,472	10,910	6,970	532,593,291
2006 cohort	5,224	5.1	53,796,871	10,298	6,730	391,874,289
2007 cohort	4,262	4.4	40,476,724	9,497	6,250	281,643,040
Total through fourth calendar year after closure	37,768	5.1	441,415,776	11,688	7,877	2,947,562,895
2002 cohort	7,277	4.6	103,583,969	14,234	9,278	675,995,636
2003 cohort	7,919	5.5	97,504,678	12,313	7,967	637,466,726
2004 cohort	7,165	5.7	81,850,994	11,424	7,372	555,361,768
2005 cohort	5,989	5.4	64,941,224	10,843	6,919	443,886,162
2006 cohort	5,161	5.0	53,149,387	10,298	6,719	358,053,970
2007 cohort	4,257	4.4	40,385,525	9,487	6,264	276,798,633

Source: Authors' calculations using DAF12 linked to RSA-911 closure files.

Notes: Payments and BFW adjusted to 2012 dollars using SSA's COLA.

application changed the total dollar values in expected ways, relatively consistent with the size of each subpopulation, but did not change the substance of our findings.[20]

For the 2002 beneficiary VR applicant cohort, BFW accumulated through the end of 2012 is 11.5 times higher than payments made to SVRAs for their services. When limiting follow-up to the end of the fourth calendar year after closure, the ratio of BFW to payments is 7.9:1. At the end of the fourth calendar year following VR case closure, an additional 10 percent of payments are made, but an additional 40 percent of BFW is accrued.

The majority of payments were made for beneficiaries who signed an IPE (Table 2), not surprising since demonstrated provision of services is a key requirement for SVRAs claiming reimbursement. As described below, beneficiaries without an IPE who ultimately generated a payment did so in conjunction with a subsequent VR spell. The substantive pattern of BFW relative to payments presented in Table 2 is similar among those who received an IPE as in the full 2002 beneficiary applicant cohort, with BFW 9.3 times higher than payments through 2012 and 6.5 times higher when limited to the fourth calendar year after closure. Notable, however, is the proportion of payments made on behalf of beneficiaries who did not receive an IPE on their first spell—9 percent of all 2002 beneficiary VR applicants with a payment made by the fourth calendar year after closure (and nearly 15 percent of all with a payment by the end of 2012) were generated by the 40 percent of beneficiaries who were not served during our selected spell. For this to have occurred, these individuals must have applied for VR again, received services, and

[20] The 2.0 percent of applicants who were terminated from SSA benefits in the month they applied for VR services accrued 3.2 percent of total BFW ($122,682,000) and 1.2 percent of payments ($5,876.061) through the fourth calendar year after closure. The 15.8 percent of applicants who were not receiving benefits in the application month accrued 17.5 percent of payments ($79,295,307) and 13.3 percent of BFW ($504,580,919) through the fourth calendar year after closure. When we limited our analysis further to beneficiary applicants who received an IPE, corresponding percentages were 1.6 percent of payments and 3.5 percent of BFW for already-terminated beneficiaries and 18.3 percent of payments and 15.1 percent of BFW for beneficiaries not receiving benefits in the application month.

worked at a level to generate a payment. Beneficiaries without an IPE on the selected VR spell accrued 29 percent of the total BFW through 2012 and 25 percent of BFW through the fourth calendar year after closure. We return to this point below, but note here that a not-inconsequential share of beneficiaries who are not served by VR initially go on to earn above SGA and generate payments, meaning that perhaps they could have generated a payment on this initial spell instead, had they been served.

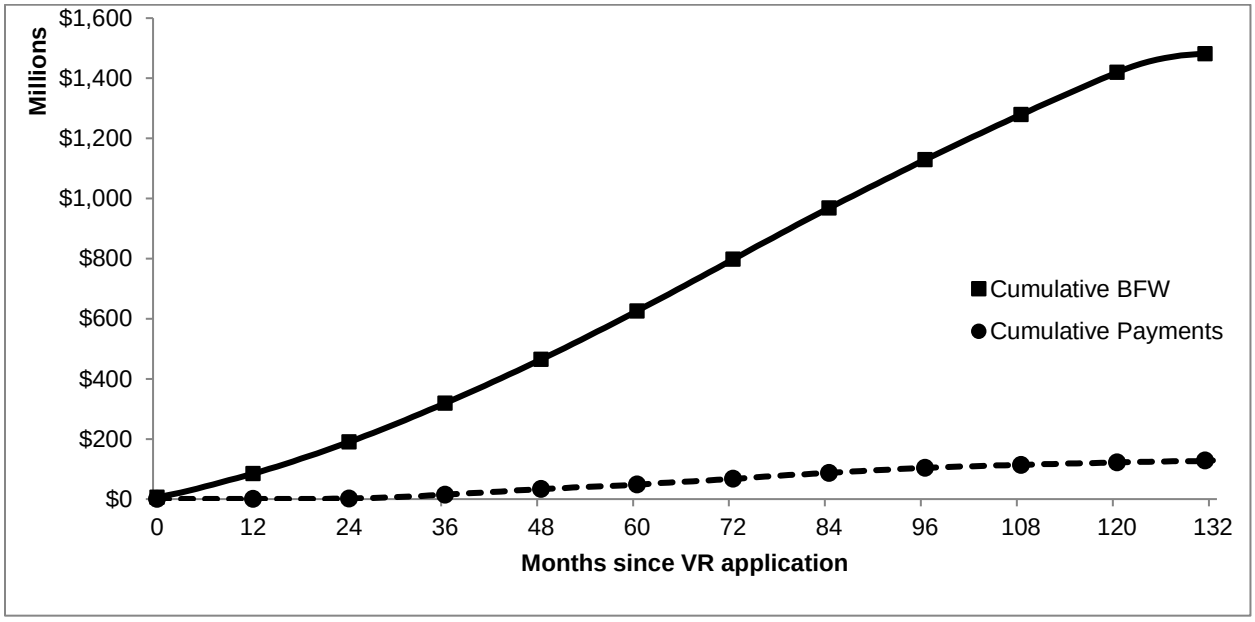
Applicants in later years were less likely to generate a payment than those in earlier years, even when limiting to the same time period after closure. In addition, the total payment amount fell by a larger proportion than did the percent with a payment, resulting in more than a 30 percent decline in average and median payments between the 2002 and 2007 applicant cohorts when limiting to the fourth calendar year after closure. During this period, statistics published by SSA did not show a decrease in average payment amounts, so this is likely not solely driven by the recession. Rather, the pattern we observe likely reflects two artifacts of our ability to follow cohorts: first, because we count payments for the first observed spell in the 2002—2007 window as well as any subsequent spell, earlier cohorts have a higher likelihood of generating payments for more than one spell. This is especially true when we do not limit our time period following closure, but may even be true in our fixed-length version, as the latest cohort may simply have fewer years after closure on the first spell to reapply, receive services, and generate a payment within the fourth calendar year after the first closure.[21] Second, cases that receive particularly intensive services and applied in 2007 might not have closed by 2012 and thus would not be

[21] This point is subtle and relates to the end of the observation period. Say a 2002 and 2007 applicant each had their case open for two years, so we would follow the first until the end of 2008 (four years after 2004). To be analogous for the 2007 applicant, we would follow that case through the end of 2013, but our data ends in December of 2013, so there is effectively less time for the person to have gone back for services and generated a payment during that period.

included in our data. If cases served for a longer period receive a higher level of reimbursement, this would lead to more payments in our 2002 cohort than our 2007 cohort. Unfortunately, it is impossible to distinguish the cause of these declines across cohorts. We focus on 2002 beneficiary VR applicants in our subanalyses below, and because of these cross-cohort differences, we cannot determine definitively that their experience is what we could expect from other cohorts over a similar observation period.

Figure 3 shows the timing of BFW and payments among 2002 beneficiary VR applicants. This corresponds to what Figure 1 showed for NSTW, and proceeds from the month of VR application onward. By the end of 2012, $1.48 billion in BFW and $128 million in payments were accrued. Over this period, BFW initially increases much more rapidly than payments do, reflecting the cost reimbursement model that requires nine months above SGA before a claim can be submitted; many clients have short-term successes that generate BFW without generating a VR payment. Some claims are processed quickly after application, these may reflect payments under TTW, before case closure, especially milestone payments which can occur even if earnings are under SGA. By the end of this observation period, most payments that will be generated have been paid, yet BFW may continue until beneficiaries reach retirement, die, or have their benefits terminated for another reason.

Figure 3. Timing of payments and BFW relative to VR application, 2002 beneficiary VR applicant cohort



Source: Authors' calculations using DAF12 linked to RSA-911 closure files.

Note: Month 132 includes all payments made in December 2012 and later (through June 2013), provided the spell closure date was in December 2012 or earlier. Payments and BFW are adjusted to 2012 dollars using the SSA's COLA.

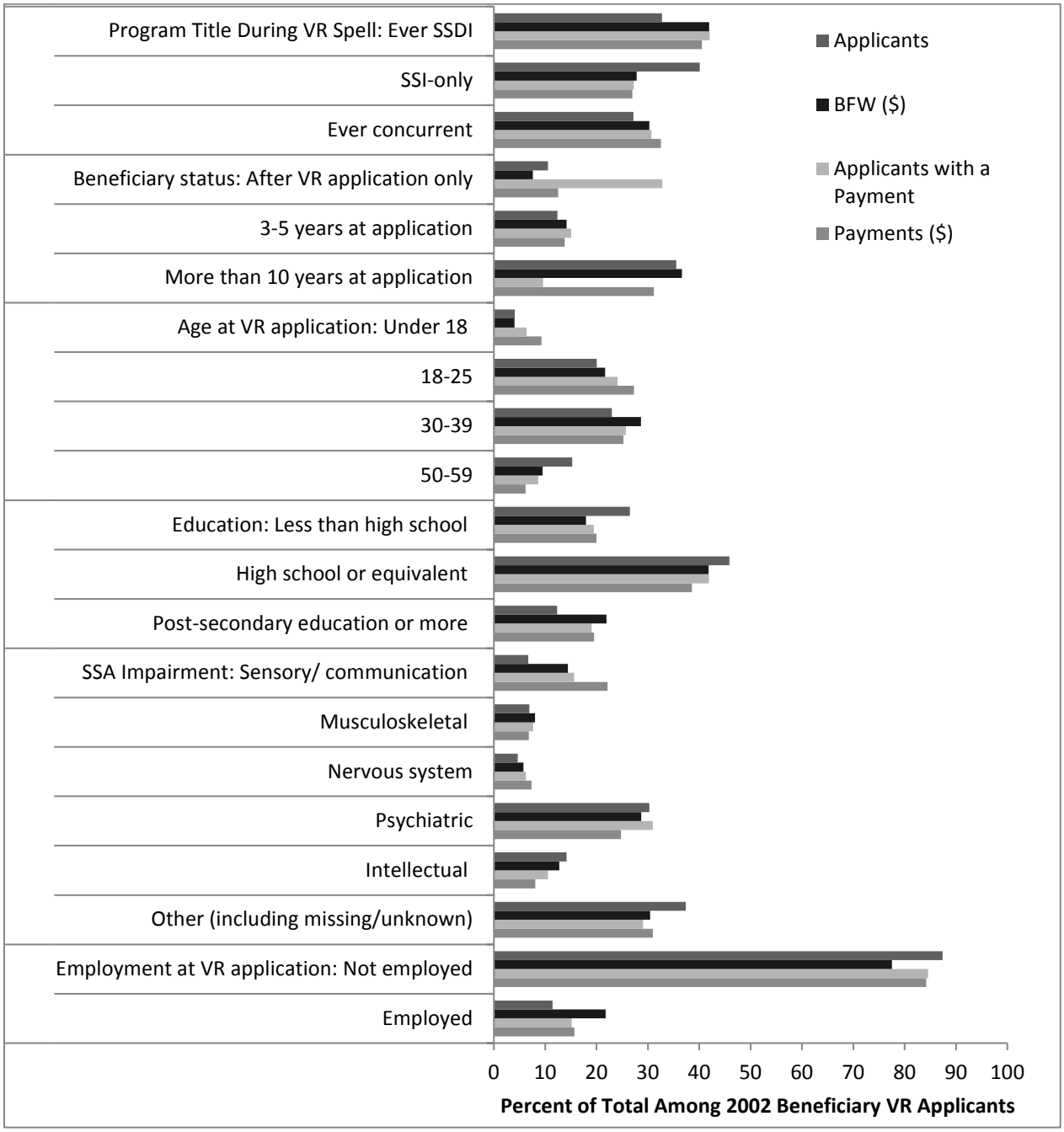
VII. SUBGROUP DIFFERENCES IN BFW AND PAYMENTS

A. Beneficiary characteristics

We next analyze differences in payments and BFW by 2002 beneficiary applicant subgroups, focusing on results through the fourth calendar year after closure. Appendix Table 3 contains information on the number of beneficiaries generating a payment, total payment value, and total BFW, stratified across subgroups. In the following figures, we standardize payment and BFW statistics across various subgroups by taking into account the size of each subgroup relative to the total. For each group, we calculate the share of applicants it represents, as well as the share of the group with a payment, its share of total payment dollars, and its share of total BFW. The share of applicants (top bar for each subgroup) can be compared with the corresponding share for each of the three outcomes. When the applicant share is lower than the share with the relevant outcome, applicants in that subgroup had a disproportionately high outcome. Conversely, when the applicant share is above the share with the relevant outcome, applicants in that subgroup had a disproportionately low outcome. The figures do not show results for every subgroup, but tables in the Appendix do.

In Figure 4, we first highlight differences by beneficiary status—both program title and time as a beneficiary. SSI-only applicants are a large share of all beneficiary applicants, but accumulate relatively little BFW and payments. SSDI-only and concurrent beneficiaries have higher shares of BFW and payments than their share of applicants would suggest. Applicants who became beneficiaries after application necessarily have less time to accrue BFW after application, so it is not surprising they have relatively low levels of BFW. It is notable, however, that they accumulate a disproportionate share of the payments. This could in part reflect work activity above SGA among beneficiaries in their TWP, which would yield payments without BFW. On the other side, those who had been beneficiaries for more than 10 years at VR

Figure 4. Proportions of payments and BFW relative to applications by subgroup: 2002 beneficiary VR applicants



Source: Authors' calculations using DAF12 linked to RSA-911 closure files. Program title, time as a beneficiary, age and SSA impairment code derived from DAF12, all remaining characteristics drawn from RSA-911. SSA impairment group defined in the first month during the VR spell that an individual met the definition of beneficiary.

Note: Payments and BFW are calculated at the end of the fourth calendar year after VR case closure and adjusted to 2012 dollars using the SSA's COLA. A complete set of subgroup statistics is in Appendix Table 3.

application accrue a larger than expected share of BFW but trigger a lower than proportional share of payments.

Figure 4 also highlights differences by age, education, and employment status. The youngest beneficiary applicants, those with higher education levels, and those who are employed when they apply accrue higher BFW and payments than their share of the applicant population would predict. This is particularly the case for those under age 25 at application. Notably, the dollar value of payments for this group is also high; this might be a result of paying for vocational, training, or post-secondary education programs. Because these beneficiaries could accrue BFW for many years, successful returns to work for this group are particularly important and we would likely find that their BFW significantly dwarfs payments to SVRAs if we followed them for longer periods. The well-educated beneficiaries also have higher BFW, reflecting their higher previous earnings (if SSDI beneficiaries), while the fact that a higher proportion generate payments may reflect that their jobs are easier to sustain for the time required. The converse may be true for applicants with lower educational attainment.

The figure also shows that beneficiaries with sensory impairments have disproportionately high payment rate and BFW, highlighting their propensity to work. Additionally, they also have even disproportionately higher payment amounts, perhaps reflecting cost reimbursement to SVRAs for the assistive technology these applicants need in their job. In the next section, we report that SVRAs serving only blind beneficiaries are likely to collect significantly higher payment shares and total dollar value of payments compared with agencies serving a broader client base. In contrast, beneficiary VR applicants with intellectual disabilities tend to have disproportionately low levels of BFW and payments compared with the share they represent in the applicant pool. Because these individuals often work for minimum wage, the NSTW and

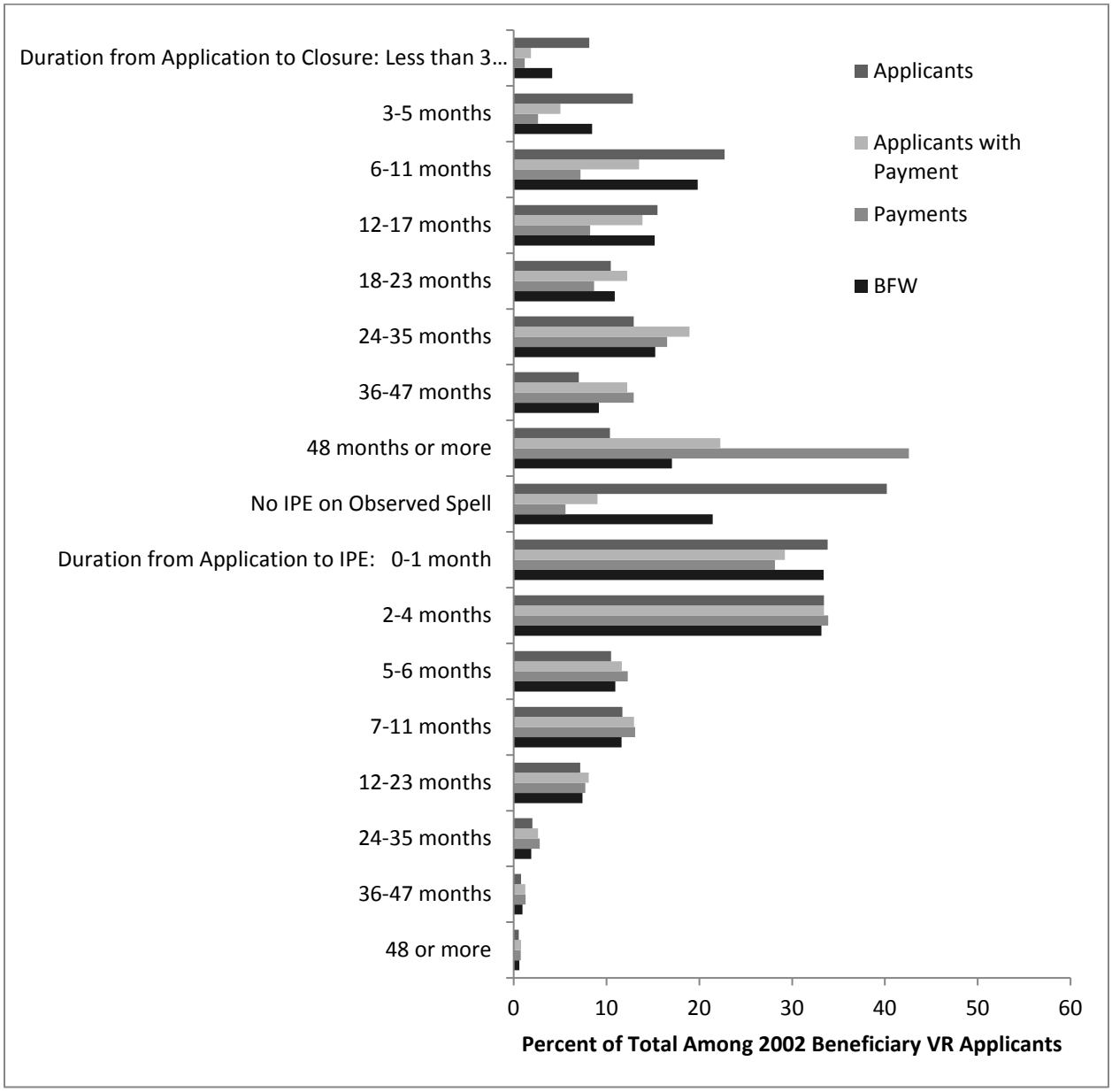
payment statistics may be misleading about the extent to which they work after applying for VR assistance.

B. VR service provision

Figure 5 illustrates two aspects of VR service delivery: the time between application and closure—the length of the spell—and the time between application and IPE, which can be thought of as time spent in conducting assessments and in some cases, waiting for available services. As was the case in the previous section, we are focusing only on payments and BFW accrued through the fourth calendar year after closure. Applicants without an IPE and those with a short spell generate a relatively small share of payments and BFW. Mirroring the findings in Table 2, the 40 percent of beneficiary VR applicants in 2002 who did not receive an IPE by closure of the selected spell include 9 percent of those who generated a payment by the fourth calendar year after closure. This indicates that they received services from an SVRA after our selected spell and their earnings were high enough for a payment. We do not know why these applicants were not served the first time they applied. It is also notable that 21 percent of total BFW accrued during this time period comes from this group (high relative to the group's share). While this group only accumulated 6 percent of total payment dollars, but it is possible that later spells resulting in a payment may have happened beyond the fourth calendar year after closure on the first spell.

The likelihood of generating a payment increased steadily with the length of the VR spell. Beneficiary clients were much more likely to generate a payment if their spell was longer than 18 months, with payment dollars disproportionally high relative to the share of applicants. This could be because the SVRA had a long-term relationship with the client resulting in a successful return-to-work, because the case was left open until the beneficiary had earnings high enough to generate a payment, or because the intensity and high cost of services meant the SVRA deemed

Figure 5. Proportion of payments and BFW relative to applications by characteristics of VR service receipt: 2002 beneficiary VR applicants



Source: Authors' calculations using DAF12 linked to RSA-911 closure files

Note: The percentage in each waiting time category was calculated only among those with a signed IPE. In other words, the amounts accrued to those without an IPE on the observed spell were removed from the denominator for the remaining waiting time categories. Payments and BFW are calculated at the end of the fourth calendar year after VR case closure and adjusted to 2012 dollars using the SSA's COLA. A corresponding complete set of subgroup statistics is contained in Appendix Table 3. VR spell duration is the time between VR application and case closure. Waiting time is the time between VR application and a signed IPE.

it cost-effective to seek payment. Very short spells are likely concentrated among those who applied but did not receive an IPE for reasons related to the availability of services or client interest in continuing with services. Most striking is the payment value for those with a spell length of 48 months or more—this group represents about 10 percent of all applicants but nearly 40 percent of payments. [22] This might reflect cases that remain open to pay for training and education programs or may simply reflect a higher intensity (and cost) of services provided to people who need extra support to return to or remain at work.

Figure 5 also shows that duration between application and IPE is not significantly related to the likelihood of payments or the payment and BFW amounts. The time an individual waits for services depends on agency-specific factors in deciding how to provide services, but also reflects beneficiary characteristics. This is especially true if SVRAs are operating in Order of Selection (OOS) status, which indicates significant financial constraints. Such SVRAs must first provide services to those with the most significant disabilities. To consider the role of waiting to receive an IPE, we considered proportions after excluding the no IPE group. After making this adjustment, there was very little difference in applicant, payment, and BFW proportions based on the time spent waiting for services. The only notable difference in the measures is among those who received an IPE almost immediately; for this group, payments are less common than the share of applicants in the group. This may reflect financial considerations of the SVRA providing services—agencies that are able to provide services almost immediately are likely not as financially constrained as those in OOS, which also may make the need for additional funding from SSA less pressing.

[22] Even if beneficiary applicants who did not receive an IPE are excluded from the spell duration measure, the group of beneficiary applicants who had a spell length of 48 months or more generated a disproportionately high share of payments.

Work by Honeycutt and Stapleton (2013) found that the longer an agency's wait time for all applicants in a given month, the worse are the employment outcomes for those SSDI beneficiaries 48 months later. While their waiting time measure was defined at the agency and not the individual level, our findings may at first seem inconsistent with theirs. But instead, the discrepancy may highlight the importance of how long beneficiaries are followed after applying for services. Individuals who face a long delay in receiving services may be slower to attain employment outcomes (for example, when measured at 48 months), but over a long period, may go on to achieve them. To the extent that absence from the labor market further leads to skills deterioration, this delay is important nonetheless.

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VIII. DIFFERENCES IN BFW AND PAYMENTS AMONG SVRAs

SVRAs face different fiscal constraints and operate under different service models. These differences can meaningfully affect whether services are provided at all, the speed with which applicants receive services, the intensity of services, and ultimately the employment outcomes of applicants and the likelihood of SSA paying the SVRA (GAO 2007, Stapleton et al. 2010; Honeycutt and Stapleton 2013; Schimmel Hyde et al. 2014; Honeycutt et al. 2015). It is no surprise, then, that the extent to which beneficiary applicants experience NSTW in the decade following VR application varies at the agency level (Appendix Table 4). We found that, despite relatively large differences between the highest and lowest performing agencies on those metrics, however, the NSTW outcomes are fairly close across many of the SVRAs. In addition, two-thirds of the blind VR agencies reached higher rates of NSTW than the general VR agencies serving a general population in the same state.

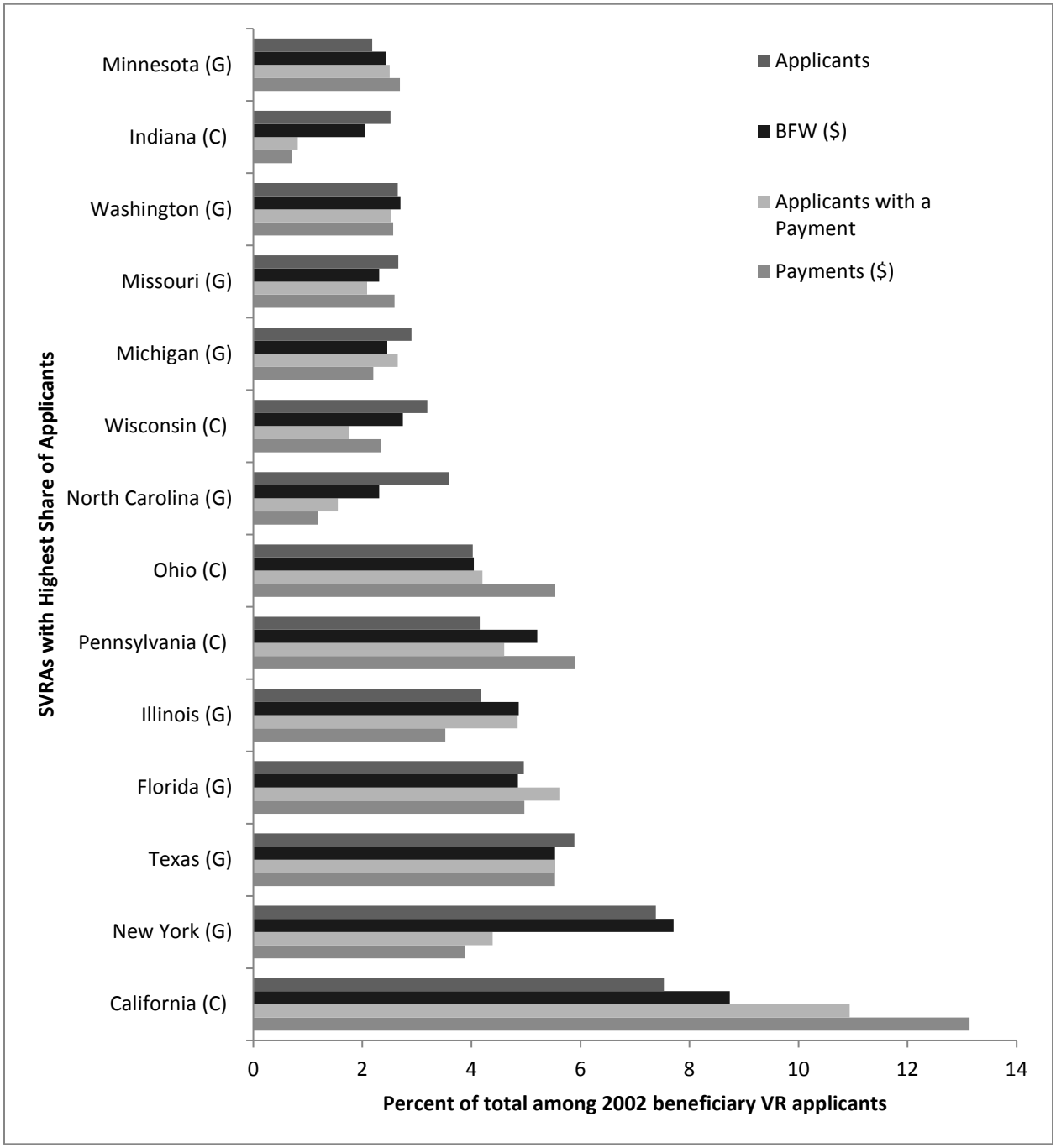
BFW statistics for the 12 combined and non-blind agencies with the highest number of 2002 beneficiary applicants appear in Figure 6. We use metrics like those in the previous section, this time considering each SVRA's share of the total among 2002 beneficiary VR applicants through the fourth calendar year following closure. Statistics for all agencies are in Appendix Table 4.[23]

In some cases, such as for the agencies serving a general population in Minnesota, Washington, Florida, and Texas, the proportion of BFW and payments to the agency fairly closely aligns with the share of 2002 applicants the agency served. Yet in many instances, the payment shares are not in alignment with the share of BFW accrued by applicants served by that agency. The SVRAs in California and New York served a comparable share of beneficiary

[23] The numbers presented are across all beneficiary applicants in the 2002 cohort; the results were generally similar when limited to applicants who received an IPE (not shown).

applicants in 2002. New York's 7.4 percent of all applicants accrued 7.7 percent of BFW, yet only 4.4 percent of beneficiaries generating a payment, and 3.9 percent of payment dollars. In contrast, California's applicants represented 7.5 percent of all beneficiary applicants and accrued 8.7 percent of BFW, but its beneficiaries represented 10.9 percent of those generating a payment and 13.1 percent of payment dollars. Thus, even though both states had a similar share of applicants who worked at a level sufficient for SSA to potentially make a payment, the New York SVRA was significantly less likely to receive a payment than the one in California.

Figure 6. Proportion of payments and BFW relative to applications for selected SVRAs serving the most applicants: 2002 beneficiary VR applicants



Source: Authors' calculations using linked DAF12 and RSA-911 closure files.

Notes: G denotes general (non-blind) SVRA, and C denotes combined SVRA, serving blind and non-blind. Payments and BFW are calculated at the end of the fourth calendar year after VR case closure and adjusted to 2012 dollars using the SSA's COLA. Full set of SVRA results contained in Appendix Table 4.

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IX. CONCLUSIONS AND DISCUSSION

Based on our findings, the total dollar value of BFW is many times larger than the payments SSA made to SVRAs that served its beneficiaries who applied for VR services from 2002 through 2007. This is true within several years of VR application, and the magnitude of the difference grows as beneficiaries keep working and forgoing benefits. Some of this difference reflects the structure of the cost reimbursement system, which requires earnings above SGA to be sustained for 9 out of 12 months. This is a relatively high threshold for beneficiaries, many of whom may engage in SGA and accrue BFW, but for a period of less than 9 months or spread out over a longer time than 9 out of 12 months would capture. Thus, it is possible that many beneficiaries who sought VR services and ultimately accrued BFW did not do so in a way that could have generated a payment from SSA to the SVRA. On the other hand, some SSDI beneficiaries who generated payments likely did not accumulate BFW at the same time because they had not completed the Trial Work Period and grace period. [24]

Important differences between beneficiary subgroups mean that care must be taken when interpreting the ratio of BFW to payments. For example, beneficiaries with sensory impairments have high BFW relative to their share of the beneficiary VR applicant population, but generate an even higher share of payments. Younger beneficiaries also have a higher share of payments than predicted by BFW or their share of the applicant pool, often reflecting the cost of post-secondary education or training. In both cases, high payments may be upfront or one-time expenses that help bring about long-term, successful returns to work. In turn, this could mean BFW accumulates over a longer time horizon than we consider here. We also found that SSA

[24] Recall that earnings under SGA will contribute to BFW for SSI recipients, but do not result in reduced benefits for SSDI and so do not affect BFW for SSDI.

made payments for a relatively high share of those who started to receive benefits after VR application, but these payments represented a relatively low share of payment dollars. We cannot identify the reason for this, but it is possible this group has been in the workforce more recently and it cost less to help them return to work. Another possibility that we did not assess is that this group was referred by SVRAs for SSA benefits after their assessment showed the beneficiaries were unlikely to engage in SGA; these beneficiaries might be likely to generate milestone payments from the Ticket to Work program, resulting in a high share with payments but low payment dollars.

It is important to highlight the implications of our study design in interpreting these findings. Our intent in considering all applicants was to understand the full relationship between VR and payments from SSA. We assume that from the point of seeking VR services onward, BFW generated by beneficiaries is influenced by assistance from VR, for as many as ten years into the future. We do not, however, know the extent to which VR services or the availability of payment by SSA for such services *caused* the measured outcomes (NSTW and BFW), because we do not know what these outcomes would have been had they not received VR services that were eligible for SSA payment. The fact that a substantial share of BFW was accrued by those who did not receive an IPE and generated no SSA payment demonstrates that at least some of the applicants achieved this outcome without SVRA services. Nonetheless, for those who did receive services, BFW still dwarfs payments. On the opposite side of thinking we have followed BFW for too long of a period, some might argue that instead of truncating BFW in 2012 or another time period, we should continue to count BFW until retirement or death, which would make its impact even greater.

Our findings reveal several areas worthy of consideration by SVRAs and SSA. First, about 40 percent of the beneficiary applicants who sought VR services during our observation period did not receive them before their case was closed. This is consistent with other evidence and may not be troubling in itself because beneficiaries may be partially responsible if they don't follow through after application. But earlier evidence suggests that agency financial constraints mean that many SVRAs must turn away applicants or there are long wait times for an IPE, indicating that in some share of the cases, the delays were driven by agency constraints. Indeed, applicants who did not sign an IPE on the selected spell generated 29 percent of the total BFW accrued and represented 10 percent of the total payments generated by the 2002 beneficiary applicant cohort. Of course, our analysis cannot determine whether VR services caused these beneficiaries to engage in work compensated at the SGA level; it may be simply that these individuals were among the most motivated to work even in the absence of VR. But to accrue payments, at least some of these beneficiaries must have been motivated enough to seek services later, and the fact that they ultimately generated a payment suggests they may have been able to work at or above SGA when they initially applied for VR. Letting these beneficiaries fall through the cracks—even if temporarily—seems like a lost opportunity, both in terms of their work activity, wellbeing, and potential cost savings through forgone benefits, and also as an avenue for additional funding for SVRAs if they are able to recoup their costs from SSA. And while we found that the length of time beneficiaries waited for services did not seem to affect the *likelihood* that those services would lead to BFW and payments to VR, the service delays would certainly have delayed *when* BFW and VR payments occurred, which has meaningful implications for beneficiaries, VR, and SSA. These effects might be attenuated for certain

demographic subgroups, as we found significant differences in BFW and payments based on beneficiary characteristics.

We also identified important cross-agency differences in the likelihood of getting reimbursed by SSA for serving its beneficiaries, even in cases where average applicant BFW seemed comparable.[25] This could reflect a number of underlying factors—how well agencies follow clients after they return to work, how well they document costs to request reimbursement, and how difficult they find (or perceive) the process for requesting reimbursement of costs. In addition, agencies who are relatively less financially constrained by the funding they receive from their RSA block grants may see less value in seeking reimbursement from SSA. A 2009 GAO report indicated that SVRA staff often thought the costs of tracking beneficiaries outweighed the benefit of reimbursement. Similarly, ENs in the TTW program noted difficulty tracking applicants; once clients are stabilized in work, they often lose interest in providing current earnings information to the EN, making it challenging and time-consuming for the EN to track client earning, ask SSA for payment, and follow up accordingly (Altshuler et al. 2011). Even in agencies that can effectively track clients over time, the perception or reality may be that the costs and paperwork involved in doing so outweigh the value of the reimbursement.

SSA instituted changes after our analysis period ended that may have reduced these cross-agency payment differences, but more improvement may be possible. Beginning in 2013, SSA started alerting SVRAs when their beneficiary clients had earnings above SGA. This may have made it easier for SVRAs to determine which beneficiaries were most worthy of follow-up. Indeed, since this change was implemented, reimbursement rates have been notably higher (SSA

[25] It is possible, though unlikely, that in two agencies with similar levels of beneficiary applicant BFW, one SVRA would serve a much higher proportion who met the 9 of 12 months above SGA before closure than the other. We do not have reason to believe this is the case and instead assume that conditional on accruing BFW, work activity among beneficiary applicants follows a similar pattern across SVRAs.

2014), but it is too soon to know whether this was because of the new work-alert program or other influences, including an improved economy. Moreover, SVRAs may not have all taken advantage of these changes, meaning that cross-SVRA differences may not have been reduced as a result.

Recent changes under the Workforce Innovation and Opportunity Act (WIOA) in 2014 may lead to more claims for reimbursement as well. Under WIOA, SVRAs are required to partner with any state agencies operating as an EN to coordinate services for beneficiaries.[26] This will likely be under the already-established Partnership Plus model, under which beneficiaries receive initial services from an SVRA under cost reimbursement, but receive follow-up support from an EN. Under this model, beneficiaries receive ongoing support from an EN that also allows for longer tracking; SVRAs are still eligible for cost reimbursement, while ENs can receive more limited payments under TTW for these cases. This may provide a promising avenue to increase reimbursement among SVRAs that appeared to be significantly lagging in this respect during our analysis period.

[26] See https://yourticketowork.com/web/ttw/en-partnership-plus, accessed on November 26, 2014.

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APPENDIX A

SUPPORTING TABLES

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Table A1. Effect of selection criteria on subpopulation size, by VR application cohort

		VR application cohort					
	Total	2002	2003	2004	2005	2006	2007
Total number of beneficiary applicants meeting selection criteria	1,277,197	266,039	242,514	221,299	193,448	180,489	173,408
Applicants in termination status during application month	26,147	5,790	5,702	4,683	3,720	3,299	2,953
Applicants not receiving benefits in the application month	201,896	42,456	37,771	34,065	30,713	29,026	27,865
Total number of beneficiary applicants meeting selection criteria who received an IPE	740,695	159,126	143,558	126,315	110,818	103,390	97,488
Percent of total applicants with IPE	58.0	59.8	59.2	57.1	57.3	57.3	56.2
Applicants in termination status during both the VR application month and IPE month	19,752	4,671	4,426	3,347	2,740	2,441	2,127
Applicants not receiving benefits in the application or IPE month	148,644	31,726	28,110	24,700	22,505	21,318	20,285

Source: Authors' calculations using linked DAF12 and RSA-911 closure files.

Notes: Total number of applicants meeting the selection criteria includes all beneficiaries who spent at least one month between VR application and case closure in current pay status or with SSDI or SSI benefits suspended or terminated for work or another reason. Applicants in termination status defined using the NSTW measure in DAF12 (defined below) and include those who were terminated for work or another reason. Applicants not receiving benefits defined based on a missing NSTW indicator, largely reflecting those not yet receiving benefits. The two rows following the total applicant counts in each case are subsets of the identified subpopulation and are mutually exclusive.

Table A2. Cumulative percent of 2002 beneficiary VR applicants ever in NSTW and average number of months in NSTW in intervals after VR application by subgroup

	Number of applicants	Percent of 2002 beneficiary VR applicants ever in NSTW from VR application month onward, in month X after application:										
		0	12	24	36	48	60	72	84	96	108	120
Total	266,039	1.6	3.5	5.6	7.5	9.1	10.6	11.9	12.8	13.4	13.8	14.1
Received IPE												
Yes	159,126	1.9	4.1	6.6	8.9	10.8	12.6	14.0	15.0	15.7	16.2	16.6
No	106,913	1.2	2.7	4.1	5.4	6.6	7.7	8.7	9.4	9.9	10.2	10.5
Program title during VR spell												
Ever SSDI	87,117	2.2	3.4	5.5	7.4	8.9	10.3	11.4	12.2	12.7	13.0	13.2
SSI-only	106,646	1.1	3.7	5.7	7.5	9.1	10.6	11.9	12.7	13.2	13.8	14.2
Ever concurrent	72,276	1.5	3.4	5.5	7.5	9.3	11.1	12.6	13.6	14.3	14.8	15.1
Time as beneficiary at VR application												
Beneficiary after application only	28,011	0.0	0.6	1.6	3.1	4.5	6.2	7.6	8.7	9.4	9.9	10.4
0–2 years	56,046	0.4	1.3	3.3	5.1	7.0	8.7	10.1	11.1	11.7	12.1	12.4
3–5 years	32,838	1.3	3.4	6.0	8.3	10.2	11.8	13.3	14.2	14.8	15.3	15.6
6–10 years	54,610	2.2	4.7	6.9	8.9	10.8	12.4	13.7	14.6	15.1	15.7	15.9
More than 10 years	94,534	2.5	5.1	7.3	9.0	10.4	11.7	12.7	13.5	14.0	14.4	14.7
Gender												
Male	143,449	1.7	3.7	5.8	7.7	9.4	10.9	12.2	13.0	13.5	14.0	14.3
Female	122,590	1.5	3.4	5.4	7.2	8.8	10.3	11.6	12.5	13.1	13.6	13.9
Age												
Under 18	10,761	0.0	0.8	2.4	4.7	7.2	10.0	12.4	14.2	15.3	16.5	17.4
18–25	53,318	0.8	3.3	5.7	8.2	10.6	13.0	14.9	16.2	17.0	17.7	18.2
26–29	18,520	2.8	5.8	8.5	11.0	13.0	14.9	16.6	17.8	18.5	19.2	19.6
30–39	61,045	2.5	4.9	7.2	9.2	11.0	12.7	14.0	15.1	15.7	16.2	16.5
40–49	76,473	1.5	3.1	5.1	6.6	7.8	9.0	9.9	10.5	10.9	11.2	11.4
50–59	40,533	1.3	2.4	3.8	5.0	5.8	6.6	7.1	7.5	7.8	7.9	8.0
60–FRA	5,389	1.2	2.3	3.7	4.5	4.8	5.0	5.0	5.0	5.0	5.0	5.0
Race/ethnicity												
White	182,370	1.6	3.5	5.4	7.2	8.8	10.3	11.5	12.4	12.9	13.3	13.6
African American	66,481	1.4	3.6	5.9	7.9	9.6	11.3	12.6	13.7	14.3	14.8	15.1
Other race	17,188	1.5	3.8	6.3	8.2	9.9	11.5	12.9	13.7	14.4	15.0	15.4
Hispanic	19,715	1.4	3.5	6.1	8.1	10.0	11.8	13.3	14.3	15.0	15.6	15.9
Non-Hispanic	245,421	1.6	3.5	5.6	7.4	9.0	10.5	11.8	12.7	13.2	13.7	14.0
Educational attainment												
No formal education	1,405	0.9	2.8	3.8	4.8	5.9	6.2	7.0	7.5	8.0	8.3	8.3
Less than high school	70,490	0.7	2.2	3.9	5.6	7.1	8.5	9.8	10.6	11.2	11.7	12.0
High school or equivalent	122,006	1.5	3.6	5.6	7.4	8.9	10.4	11.6	12.4	12.9	13.3	13.6

TABLE A2 (*continued*)

	Number of applicants	Percent of 2002 beneficiary VR applicants ever in NSTW from VR application month onward, in month X after application:										
		0	12	24	36	48	60	72	84	96	108	120
Some post-secondary education	37,852	1.9	3.8	6.1	8.1	10.0	12.0	13.5	14.6	15.3	15.8	16.2
Post-secondary education or more	32,685	3.6	6.0	8.7	11.2	13.1	14.8	16.0	17.0	17.5	18.0	18.3
VR primary disability												
Sensory/communicative impairment	28,605	4.2	7.1	9.6	12.0	14.1	16.2	17.9	19.0	19.8	20.5	21.0
Physical impairment	85,791	1.6	3.3	5.4	7.1	8.8	10.3	11.6	12.5	13.1	13.5	13.8
Mental impairment	138,159	1.0	3.0	5.0	6.9	8.5	9.9	11.2	12.0	12.5	12.9	13.2
Unknown	13,484	1.6	3.1	4.5	5.8	7.0	8.1	9.0	9.6	9.9	10.3	10.5
SSA impairment group												
Psychiatric	80,455	1.3	3.3	5.7	7.8	9.6	11.2	12.5	13.4	14.0	14.4	14.7
Musculoskeletal	18,392	1.1	2.5	4.8	6.8	8.5	10.2	11.5	12.4	13.0	13.4	13.6
Intellectual	37,687	1.3	3.8	5.9	7.8	9.3	10.6	11.8	12.5	13.0	13.4	13.7
Sensory/ communication	17,807	5.1	8.6	11.7	14.7	17.2	19.7	21.7	23.0	24.0	24.7	25.2
Other nervous system	12,290	2.1	4.1	6.5	8.3	10.0	11.6	13.1	14.1	14.7	15.1	15.4
Other (including missing/unknown)	99,408	1.4	2.9	4.4	5.8	7.1	8.5	9.6	10.4	10.9	11.4	11.7
Employment status at VR application												
Employed	30,425	6.8	10.8	13.3	15.2	16.7	18.2	19.4	20.2	20.8	21.2	21.5
Not employed	232,530	0.9	2.6	4.6	6.5	8.1	9.7	10.9	11.8	12.4	12.8	13.2
Weekly hours worked at VR application												
None	232,569	0.9	2.6	4.6	6.4	8.1	9.6	10.9	11.8	12.4	12.8	13.1
Less than 20 hours	9,104	2.2	5.4	8.0	10.1	11.9	13.7	14.9	15.9	16.6	17.1	17.4
20–34 hours	10,731	5.4	10.3	13.2	15.4	16.9	18.5	19.8	20.5	21.1	21.6	21.9
35 hours and above	8,689	14.9	19.6	21.8	23.4	24.8	26.1	27.3	28.0	28.6	29.0	29.3

TABLE A2 (*continued*)

	Number of applicants	Average number of NSTW months for those with at least one NSTW month accrued from VR application month onward, in month X after application:										
		0	12	24	36	48	60	72	84	96	108	120
Total	**266,039**	**1.0**	**6.1**	**9.1**	**11.8**	**14.4**	**16.9**	**19.5**	**22.3**	**25.1**	**27.7**	**30.2**
Received IPE												
Yes	159,126	1.0	6.2	9.1	11.8	14.6	17.2	20.0	22.9	25.7	28.4	31.0
No	106,913	1.0	6.0	9.0	11.6	13.9	16.2	18.5	21.1	23.7	26.0	28.3
Program title during VR spell												
Ever SSDI	87,117	1.0	8.4	12.2	16.2	20.1	23.7	27.6	31.6	35.8	39.9	43.9
SSI-only	106,646	1.0	5.1	7.7	9.5	11.3	13.0	14.7	16.5	18.2	19.5	20.7
Ever concurrent	72,276	1.0	5.2	7.4	9.9	12.3	14.8	17.4	20.3	23.2	26.0	28.8
Time as beneficiary at VR application												
Beneficiary after application only	28,011	1.0	2.8	4.4	6.6	9.2	11.5	14.1	17.1	20.1	23.0	25.8
0–2 years	56,046	1.0	4.5	6.4	9.4	12.2	15.1	18.3	21.7	25.2	28.7	31.9
3–5 years	32,838	1.0	5.7	8.5	11.6	14.7	17.7	20.6	23.9	27.1	30.1	33.1
6–10 years	54,610	1.0	6.6	9.9	12.8	15.3	17.9	20.5	23.2	26.0	28.3	30.8
More than 10 years	94,534	1.0	6.4	9.7	12.6	15.3	17.7	20.0	22.5	24.8	26.8	28.8
Gender												
Male	143,449	1.0	6.3	9.2	12.0	14.7	17.3	20.1	23.0	26.0	28.8	31.4
Female	122,590	1.0	6.0	8.8	11.5	14.0	16.4	18.8	21.4	24.0	26.4	28.8
Age												
Under 18	10,761	1.0	2.3	3.2	4.4	6.1	7.7	9.7	11.6	13.6	15.3	17.2
18–25	53,318	1.0	4.4	6.5	8.5	10.5	12.7	15.1	17.7	20.4	22.9	25.3
26–29	18,520	1.0	6.3	9.6	12.6	15.6	18.4	21.3	24.3	27.4	30.2	33.0
30–39	61,045	1.0	6.6	10.2	13.3	16.4	19.2	22.1	25.1	28.1	31.1	33.9
40–49	76,473	1.0	6.6	9.6	12.8	15.8	18.7	21.6	24.8	27.8	30.7	33.4
50–59	40,533	1.0	6.8	9.8	13.0	16.1	19.0	21.8	24.4	26.6	28.5	30.2
60–FRA	5,389	1.0	6.4	9.2	11.9	14.3	15.4	15.8	15.8	15.8	15.8	15.8
Race/ethnicity												
White	182,370	1.0	6.4	9.5	12.3	15.0	17.6	20.3	23.2	26.2	29.0	31.6
African American	66,481	1.0	5.7	8.2	10.6	13.0	15.3	17.8	20.2	22.7	24.9	27.0
Other race	17,188	1.0	5.7	8.5	11.5	14.1	16.5	18.9	21.6	24.2	26.6	29.0
Hispanic	19,715	1.0	5.8	8.4	11.3	13.8	16.2	18.6	21.3	24.0	26.5	29.1
Non-Hispanic	245,421	1.0	6.2	9.1	11.8	14.4	17.0	19.6	22.4	25.2	27.8	30.3
Educational attainment												
No formal education	1,405	1.0	4.5	8.1	11.1	13.2	17.0	19.7	22.8	25.1	27.8	31.0
Less than high school	70,490	1.0	4.9	6.9	8.7	10.5	12.3	14.1	16.1	18.1	19.8	21.6
High school or equivalent	122,006	1.0	5.8	8.6	11.3	13.8	16.2	18.7	21.3	23.9	26.3	28.6
Some post-secondary education	37,852	1.0	6.6	9.6	12.5	15.4	18.0	21.1	24.2	27.5	30.8	33.8

TABLE A2 (*continued*)

	Number of applicants	Average number of NSTW months for those with at least one NSTW month accrued from VR application month onward, in month X after application:										
		0	12	24	36	48	60	72	84	96	108	120
Post-secondary education or more	32,685	1.0	7.5	11.7	15.6	19.5	23.4	27.4	31.4	35.6	39.4	43.0
VR primary disability												
Sensory/communicative impairment	28,605	1.0	7.4	11.7	15.1	18.3	21.2	24.2	27.4	30.6	33.6	36.6
Physical impairment	85,791	1.0	6.5	9.6	12.8	15.7	18.6	21.6	24.8	28.0	31.1	34.1
Mental impairment	138,159	1.0	5.2	7.5	9.8	12.2	14.3	16.6	19.0	21.4	23.5	25.6
Unknown	13,484	1.0	6.7	10.3	12.9	15.4	17.6	20.1	22.5	25.1	27.3	29.5
SSA impairment group												
Psychiatric	80,455	1.0	7.4	11.7	15.1	18.4	21.4	24.6	28.0	31.3	34.4	37.6
Musculoskeletal	18,392	1.0	6.3	8.9	12.4	15.9	19.2	22.8	26.5	30.2	33.8	37.2
Intellectual	37,687	1.0	6.8	9.9	13.3	16.3	19.0	21.7	24.9	28.1	31.1	34.1
Sensory/ communication	17,807	1.0	5.5	7.9	10.5	13.0	15.4	17.9	20.6	23.3	25.9	28.3
Other nervous system	12,290	1.0	5.0	7.4	9.6	11.8	13.9	15.9	18.0	19.9	21.6	23.3
Other (including missing/unknown)	99,408	1.0	6.5	9.7	12.4	14.8	17.2	19.8	22.5	25.2	27.8	30.1
Employment status at VR application												
Employed	30,425	1.0	7.5	12.4	16.5	20.3	23.6	26.9	30.2	33.4	36.5	39.5
Not employed	232,530	1.0	5.5	7.9	10.5	13.0	15.5	18.1	20.8	23.6	26.2	28.6
Weekly hours worked at VR application												
None	232,569	1.0	5.3	7.7	10.2	12.7	15.2	17.8	20.5	23.2	25.7	28.1
Less than 20 hours	9,104	1.0	5.6	8.6	11.5	14.3	16.6	19.3	21.8	24.3	26.7	29.1
20-34 hours	10,731	1.0	6.3	10.3	13.6	16.9	19.8	22.6	25.5	28.3	30.8	33.4
35 hours and above	8,689	1.0	8.9	15.5	21.3	26.4	31.1	35.6	40.1	44.3	48.4	52.2

Source: Authors' calculations using linked DAF12 and RSA-911 closure files. Program title, time as a beneficiary, age, and SSA impairment code derived from DAF12; all remaining characteristics drawn from RSA-911. SSA impairment group defined in the first month during the VR spell that an individual met the definition of beneficiary.

Appendix Table 3. SSA payments to SVRAs and BFW in the 2002 beneficiary VR applicant cohort by demographic characteristic and VR service provision

	Number of applicants	Number with a payment	Total dollar value of payments	Total BFW
Total	266,039	8,000	109,696,716	860,588,117
Received IPE				
Yes	159,126	7,277	103,583,969	675,995,636
No	106,913	723	6,112,747	184,592,481
Program title during VR spell				
Ever SSDI	87,117	3,364	44,438,497	360,715,025
SSI-only	106,646	2,181	29,552,589	239,407,032
Ever concurrent	72,276	2,455	35,705,629	260,466,060
Time as beneficiary at VR application				
Beneficiary after application only	28,011	764	13,746,877	65,293,368
0–2 years	56,046	1,633	24,514,964	166,291,479
3–5 years	32,838	1,202	15,137,826	121,956,561
6–10 years	54,610	1,774	22,123,046	192,130,622
More than 10 years	94,534	2,627	34,174,001	314,916,088
Gender				
Male	143,449	4,489	60,219,641	495,656,478
Female	122,590	3,511	49,477,074	364,931,639
Age				
Under 18	10,761	511	10,167,846	34,551,118
18–25	53,318	1,926	29,918,215	186,373,197
26–29	18,520	703	10,016,112	79,578,547
30–39	61,045	2,057	27,691,239	246,351,269
40–49	76,473	2,040	24,716,097	227,959,624
50–59	40,533	690	6,754,476	81,360,581
60–FRA	5,389	73	432,730	4,413,782
Race/ethnicity				
White	182,370	5,695	81,309,642	597,234,515
African American	66,481	1,826	22,244,872	210,396,562
Other race	17,188	479	4,941,007	5,301,040
Non-Hispanic	19,715	7,302	100,440,528	791,864,974
Hispanic	245,421	690	9,190,568	66,912,042
Educational attainment				
Less than high school	71,895	1,555	21,908,555	154,123,964
High school or equivalent	122,006	3,350	42,298,792	359,683,028
Some post-secondary education	37,852	1,534	23,735,469	152,238,343
Post-secondary education or more	32,685	1,523	21,410,946	188,428,540
VR primary disability				
Sensory/communicative impairment	28,605	1,600	31,383,488	162,396,892
Physical impairment	85,791	2,798	39,444,573	298,536,520
Mental impairment	138,159	3,521	38,227,808	378,426,135
SSA impairment group				
Psychiatric	80,455	2,476	27,125,582	246,839,255
Musculoskeletal	18,392	610	7,445,112	68,858,409
Intellectual	37,687	841	8,857,031	109,678,024
Sensory/ communication	17,807	1,250	24,272,715	123,898,857
Other nervous system	12,290	497	8,026,110	49,416,246
Other (including missing/unknown)	99,408	2,326	33,970,165	261,897,325

TABLE 3A (*continued*)

	Number of applicants	Number with a payment	Total dollar value of payments	Total BFW
Employment status at VR application				
Employed	30,425	1,212	17,177,967	187,232,696
Not employed	232,530	6,765	92,349,991	666,915,556
Weekly hours worked at VR application				
None	232,569	6,780	324,184	666,038,156
Less than 20 hours	9,104	366	3,832,052	37,696,370
20–34 hours	10,731	448	23,395,963	59,834,229
35 hours and above	8,689	368	64,957,796	88,383,222
Months Between app and closure				
Less than 3	21,708	150	1,315,635	35,828,199
3–5	34,153	403	2,893,195	72,591,932
6–11	60,436	1,082	7,898,280	170,684,199
12–17	41,231	1,111	9,048,141	130,634,422
18–23	27,845	978	9,510,957	93,651,483
24–35	34,425	1,516	18,124,504	131,348,153
36–47	18,679	979	14,190,065	79,114,857
48 or more	27,562	1,781	46,715,938	146,734,871
Months Between app and IPE1				
No IPE	106,913	723	6,112,747	184,592,481
0–1 month	53,816	2,127	29,147,561	225,702,987
2-4 months	53,213	2,433	35,101,250	224,198,785
5–6 months	16,679	848	12,725,070	74,094,226
7–11 months	18,635	943	13,563,195	78,533,582
12–23 months	11,427	588	7,997,454	50,206,910
24–35 months	3,200	191	2,915,004	12,836,489
36–47 months	1,278	90	1,330,164	6,321,747
48 or more	878	57	804,272	4,100,910

Source: Authors' calculations using linked DAF12 and RSA-911 closure files. Program title, time as a beneficiary, age, and SSA impairment code derived from DAF12; all remaining characteristics drawn from RSA-911. SSA impairment group defined in the first month during the VR spell that an individual met the definition of beneficiary.

Notes: Payments and BFW adjusted to 2012 dollars using SSA's COLA. Payments and BFW calculated at the end of the fourth calendar year after VR case closure.

[1] Only among applicants who received an IPE before closure.

Table **A**4. BFW and payments among 2002 beneficiary VR applicants, by SVRA

SVRA[1]	Applicants	Percent of applicants with at least one NSTW month[2]	Average months in NSTW[2,3]	BFW ($)[4]	Applicants with a payment[4]	Percent of applicants with a payment[4]	Total payments ($)[4]	Average payment ($)[4]
AK-C	634	16.2	28.1	1,966,175	19	3.0	492,907	25,942
AL-C	5,350	12.3	26.9	14,313,256	107	2.0	1,822,281	17,031
AR-B	252	11.5	33.2	776,486	5	2.0	200,354	40,071
AR-G	2,829	12.4	29.2	8,059,387	47	1.7	588,890	12,530
AS-C	3,510	18.1	34.1	16,046,411	108	3.1	1,220,784	11,304
CA-C	20,039	15.4	27.4	75,187,212	875	4.4	14,409,587	16,468
CO-C	3,908	13.7	31.5	13,024,969	146	3.7	1,565,714	10,724
CT-B	162	14.2	30.6	633,363	5	3.1	69,520	13,904
CT-G	2,027	19.4	34.6	9,591,355	138	6.8	1,671,482	12,112
DC-C	997	19.2	33.0	4,046,920	21	2.1	325,038	15,478
DE-B	42	11.9	34.4	180,553	0	0.0	0	0
DE-G	967	17.3	33.0	3,771,051	22	2.3	219,509	9,978
FL-B	1,028	14.0	37.5	3,834,988	31	3.0	962,558	31,050
FL-G	13,194	14.4	31.3	41,750,612	449	3.4	5,452,587	12,144
GA-C	5,594	13.2	30.4	18,160,878	186	3.3	2,729,690	14,676
HI-C	903	17.1	29.1	3,435,591	16	1.8	183,057	11,441
IA-B	128	14.8	42.4	602,544	9	7.0	366,297	40,700
IA-C	3,780	13.3	27.7	11,421,479	80	2.1	755,841	9,448
ID-B	90	11.1	24.1	284,498	2	2.2	34,814	17,407
ID-G	2,046	12.3	26.1	5,059,712	58	2.8	488,003	8,414
IL-G	11,127	16.9	32.2	41,878,222	388	3.5	3,865,572	9,963
IN-C	6,692	11.5	31.5	17,663,025	65	1.0	779,526	11,993
KS-C	2,717	15.4	28.4	8,513,600	54	2.0	735,817	13,626
KY-B	254	10.6	39.0	643,420	11	4.3	257,424	23,402
KY-G	4,992	11.5	29.3	12,195,989	148	3.0	1,955,604	13,214
LA-C	3,206	17.1	28.4	12,480,239	95	3.0	1,212,805	12,766
MA-B	241	11.6	44.1	1,130,279	6	2.5	110,833	18,472
MA-G	5,149	17.6	31.8	22,511,465	312	6.1	2,172,108	6,962
MD-C	4,706	16.5	33.6	19,087,949	158	3.4	2,532,369	16,028
ME-B	96	7.3	50.0	248,080	5	5.2	85,842	17,168
ME-G	2,089	12.5	25.7	5,886,372	92	4.4	1,209,693	13,149
MI-B	379	11.3	28.2	1,196,901	7	1.8	157,074	22,439
MI-G	7,716	12.1	29.3	21,138,182	212	2.7	2,415,506	11,394
MN-B	241	9.5	46.5	695,083	6	2.5	297,358	49,560
MN-G	5,797	15.4	31.7	20,892,194	200	3.5	2,948,103	14,741
MO -B	329	13.1	34.9	1,241,044	23	7.0	579,393	25,191
MO-G	7,075	13.1	30.1	19,858,497	167	2.4	2,838,766	16,999
MS-C	2,880	13.0	26.3	6,960,496	52	1.8	947,465	18,220
MT-C	1,623	11.6	22.0	3,377,967	52	3.2	666,822	12,824

TABLE A4 (*continued*)

SVRA[1]	Applicants	Percent of applicants with at least one NSTW month[2]	Average months in NSTW[2,3]	BFW ($)[4]	Applicants with a payment[4]	Percent of applicants with a payment[4]	Total payments ($)[4]	Average payment ($)[4]
NC-B	458	10.3	25.7	868,235	8	1.7	209,435	26,179
NC-G	9,572	10.3	27.5	19,865,860	124	1.3	1,295,207	10,445
ND-C	774	12.9	27.1	1,949,359	13	1.7	139,050	10,696
NE -B	85	15.3	29.0	306,812	8	9.4	272,403	34,050
NE -G	1,464	15.1	31.9	4,721,609	9	0.6	117,817	13,091
NH-C	1,437	18.6	32.6	6,351,077	76	5.3	545,340	7,176
NJ-B	357	11.2	48.1	1,336,327	10	2.8	305,003	30,500
NJ-G	4,886	15.2	32.9	18,546,525	76	1.6	562,846	7,406
NM-B	75	8.0	26.7	201,908	3	4.0	166,366	55,455
NM-G	2,237	13.3	30.0	6,234,295	102	4.6	971,805	9,527
NV-C	1,497	19.0	31.5	5,567,701	57	3.8	766,355	13,445
NY-B	952	13.0	40.3	4,903,540	37	3.9	1,051,949	28,431
NY-G	19,646	14.8	30.5	66,342,966	351	1.8	4,262,472	12,144
OH-C	10,704	14.0	31.6	34,812,879	336	3.1	6,073,705	18,077
OK-C	4,257	13.2	28.5	12,927,867	234	5.5	2,074,557	8,866
OR-B	143	10.5	23.0	257,971	4	2.8	90,830	22,707
OR-G	3,837	12.5	28.6	9,557,242	267	7.0	2,637,381	9,878
PA-C	11,052	15.8	31.8	44,830,445	368	3.3	6,472,974	17,590
RI-C	975	12.4	27.8	2,918,081	15	1.5	137,844	9,190
SC-B	237	8.4	37.5	497,882	1	0.4	3,387	3,387
SC-G	4,773	10.1	29.0	10,742,441	137	2.9	1,230,602	8,982
SD-B	78	15.4	35.1	186,162	2	2.6	58,932	29,466
SD-G	1,183	16.7	29.9	4,088,290	40	3.4	433,293	10,832
TN-C	5,437	10.0	27.7	13,513,621	85	1.6	1,414,436	16,640
TX-B	1,638	11.9	33.4	4,768,999	83	5.1	2,454,011	29,566
TX-G	15,663	14.0	30.3	47,629,343	443	2.8	6,069,121	13,700
UT-C	2,339	14.4	35.1	8,723,171	93	4.0	858,865	9,235
VA-B	299	15.4	30.6	993,670	15	5.0	536,643	35,776
VA-G	5,058	15.3	27.7	16,577,878	135	2.7	2,404,477	17,811
VT-B	52	13.5	25.6	126,501	2	3.8	19,396	9,698
VT-G	1,671	15.6	27.6	5,117,065	107	6.4	811,900	7,588
WA-B	226	12.4	34.8	907,549	3	1.3	68,303	22,768
WA-G	7,045	15.6	29.3	23,232,982	202	2.9	2,811,926	13,920
WI-C	8,497	12.2	27.4	23,587,382	140	1.6	2,558,100	18,272
WV-C	1,958	11.7	29.8	5,257,775	27	1.4	432,923	16,034
WY-C	688	15.8	30.9	2,390,260	10	1.5	50,070	5,007

Source: Authors' calculations using linked DAF12 and RSA-911 closure files.

[1] B denotes SVRA serving blind clients, G denotes SVRA serving general (non-blind) population, and C denotes combined SVRA serving blind and non-blind clients.

[2] NSTW statistics calculated in the 120th month after VR application.

TABLE A4 (*continued*)

[3] Limited only to those with at least one month in NSTW

[4] BFW and payments calculated at the end of the fourth calendar year after VR case closure.

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