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## Navigating Barriers to Vocational Rehabilitation among HIV-positive Persons

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### Abstract

This study documented the outcomes of 108 HIV-positive persons receiving vocational rehabilitation services. Over a 12-month follow-up, participants reported significantly decreased odds of any unstable housing (Adjusted Odds Ratio [AOR] = 0.21; 95% CI = 0.05 – 0.90;  $p < .05$ ) and increased odds of being employed at least part-time (AOR = 10.19; 95% CI = 2.40 – 43.21;  $p < .01$ ). However, reductions in perceived barriers to employment and increases in income were more pronounced among those not receiving disability benefits at baseline. This was consistent with findings from baseline qualitative interviews with 22 participants where those not on disability were subject to bureaucratic hurdles to rapidly accessing benefits and anticipated stigma of being on disability that propelled them to rejoin the workforce. Vocational rehabilitation could address key structural barriers to optimizing HIV treatment as prevention, and novel approaches are needed to improve outcomes among individuals receiving disability benefits.

### Keywords

Disability; HIV/AIDS; Housing; Structural Barriers; Vocational Rehabilitation

### Introduction

HIV-positive persons commonly experience difficulties with employment that are associated with declining physical health, but the direction of this relationship remains unclear. Among HIV positive persons, unemployment is associated with poorer adherence to highly active anti-retroviral therapy (HAART) and decreased quality of life as well as lower T-helper (CD4+) cell count and higher HIV viral load (Blalock et al 2002; Nachega et al., 2015; Rueda et al., 2011). At the same time, individuals with more advanced HIV disease, those with other medical and psychiatric comorbidities, and persons receiving disability benefits

display poorer employment outcomes (Brooks et al, 2004; Dray-Spira et al., 2012; Martin et al., 2006; Rabkin et al., 2004; Rodger, 2010). This suggests that the receipt of disability benefits may be an important marker for functional impairments that limit engagement in the workforce.

Supplemental Security Income (SSI), Social Security Disability Insurance (SSDI), and related health benefits such as Medicare are important for persons experiencing health-related functional impairments. However, HIV-positive persons and low-income HIV-positive persons in particular often have difficulties maintaining benefits, and gaps in benefits lead to poor health outcomes (Riley et al., 2011; Das-Douglas et al., 2009). Individuals currently receiving SSI/SSDI benefits are also less likely to consider returning to work (Brooks et al, 2004) and work significantly fewer hours than those not receiving these benefits (Escovitz et al, 2005; Rabkin et al, 2004). Perceived difficulties with workforce readiness, concerns related to the effects of work-related stress on health, and fear of losing SSI/SSDI benefits are enduring barriers to enhanced workforce participation in this population (Brooks et al., 2004). Consistent with the goals of the National HIV/AIDS Strategy, efforts to address these structural and personal barriers to workforce participation could optimize health outcomes and decrease HIV transmission rates (White House, 2010).

Vocational rehabilitation services are needed to assist HIV-positive persons with acquiring skills necessary to optimize workforce participation, but few studies have documented the outcomes of vocational rehabilitation with this population. Bedell (2008) implemented a seven week pilot intervention to foster self-management skills relevant to vocational rehabilitation among HIV-positive persons. Although participants reported significant increases in perceived ability to work, no concomitant improvements in employment, HAART adherence, or quality of life were observed over a 5-month follow-up. Other studies have found that vocational rehabilitation services lead to better employment outcomes. For example, a recent randomized controlled trial examined the efficacy of a comprehensive vocational rehabilitation program targeting motivation and readiness to return to work (Martin et al., 2012). Compared to control participants receiving a single session of employment counseling, those randomized to comprehensive vocational rehabilitation program increased engagement in job training activities and were more likely to remain employed after obtaining work over the 2-year follow-up. Although findings support the potential benefits of vocational rehabilitation for HIV-positive persons, more research is needed to examine the outcomes of vocational rehabilitation services targeting this population in community-based settings.

This community-based participatory research project documented the outcomes of the Positive Resource Center, a vocational rehabilitation program that assists HIV-positive persons with enhancing workforce participation. Consistent with prior research (Brooks et al, 2004; Dray-Spira et al., 2012; Martin et al., 2006; Rabkin et al., 2004; Rodger, 2010), we hypothesized that those who were not receiving SSI/SSDI benefits at baseline would report greater reductions in perceived barriers to employment as well as more pronounced improvements in employment, income, and housing stability over a 12-month follow-up. These quantitative findings were triangulated with in-depth qualitative interviews conducted at baseline that explored the experiences of participants with navigating SSI/SSDI benefits

and vocational rehabilitation goals. The ultimate goal of these qualitative interviews was to better understand contextual and psychological barriers to successful vocational rehabilitation in this population. Taken together, the combination of quantitative and qualitative analyses provided complementary insights into our study findings, allowing us to achieve a more comprehensive understanding of both processes and outcomes (Weiss, 1998).

## Methods

### Positive Resource Center Vocational Rehabilitation Model

The Positive Resource Center's Employment Services Program delivers client-centered vocational rehabilitation services across the spectrum of employment readiness, including individuals currently receiving SSI/SSDI benefits who are considering re-joining the workforce. The program has three components: (1) vocational rehabilitation counseling; (2) computer skills training; and (3) job search and follow-up. Clients receive individual and group vocational rehabilitation counseling to support the development of individual vocational rehabilitation plans with realistic goals and milestones. Based upon an assessment of each client's medical, financial, legal, psychosocial, and vocational needs, short-term and long-term goals are identified. Clients may also participate in a 6-week computer skills training program focusing on basic computer skills, increasing self-efficacy for using technology, and providing work adjustment activities in a safe learning environment. Finally, clients engage in job search and follow-up activities that include direct employment preparation, job search assistance, job development, and post-placement services in the six months after obtaining employment. All clients have access to computer lab with a printer, fax, and scanner to support resume preparation and the job application process.

### Procedures

From January of 2011 through January 2012, 108 participants were enrolled within 30 days of initiating vocational rehabilitation services at the Positive Resource Center. After providing informed consent, participants completed a baseline assessment at the vocational rehabilitation program site. In total, 22 participants were purposively sampled to complete a separate, in-depth qualitative interview at baseline to explore the themes relevant to navigating SSI/SSDI benefits and vocational rehabilitation goals. The quantitative assessment was re-administered at 6 and 12 months after baseline to examine changes in outcomes relevant to vocational rehabilitation. Of the 108 participants enrolled in this treatment outcome study, 92 (85%) and 89 (82%) completed follow-up assessments at 6 and 12 months respectively. In total, 96 participants (89%) completed at least one assessment over the 12-month follow-up period. Each participant's utilization of vocational rehabilitation services was extracted from the treatment records of the Positive Resource Center. At each study visit, participants were reimbursed with a \$50 pre-loaded debit card for their time and travel expenses. All study procedures were approved by the University of California, San Francisco Committee on Human Research.

## Quantitative Assessment Measures

**Demographics and Health Status**—Gender, sexual orientation, race/ethnicity, education, age, time since HIV diagnosis, and self-reported HIV disease markers (i.e., CD4+ count and HIV viral load) were assessed by questionnaire.

**Perceived Barriers to Employment**—The Barriers to Employment Success Inventory assessed perceived personal and structural barriers to meeting vocational rehabilitation goals (Liptak, 1996). Participants indicated how much of a concern each item was for them using a 4-point, Likert-type scale from 1 (None) to 4 (Great). Three subscales were examined in this study: (1) Personal and Financial (e.g., “Supporting myself financially while I look for work.”); (2) Career Decision-Making (e.g., “Making career decisions that are right for me.”); and (3) Job-Seeking Knowledge (e.g., “Learning job search skills that work.”). Internal consistency for each of these subscales was adequate (Cronbach's alphas = .77 – .89).

**Employment Status**—At each assessment participants indicated whether they were currently working full-time, working part-time, a student, unemployed, or on disability. Participants were encouraged to check all categories that applied (e.g., on disability and working part-time).

**Income**—A detailed assessment was administered to determine amount of income earned in the past six months. Participants indicated how much they earned from employment, disability benefits, other public aid programs, unemployment benefits, subleasing an apartment, selling used items, sex work, providing massages, a legal settlement, research studies, and temporary employment opportunities.

**Housing Instability**—Participants reported how many nights they slept in their own apartment, a single resident occupancy low-income hotel, shelters, inpatient psychiatric facilities, temporary housing, a relative's or friend's home (“couch surfing”), and on the street in the past six months. Those who reported any nights that were not in their own apartment or single resident occupancy hotel were classified as having unstable housing (1) and compared to those with no self-reported unstable housing (0).

## Quantitative Analyses

For descriptive purposes, we conducted Fisher's exact tests and independent samples t-tests to compare those receiving SSI/SSDI to participants that were not on SSI/SSDI at baseline. Individuals receiving SSI/SSDI were expected to differ from those who were not on SSI/SSDI along a variety of health-related domains (e.g., age, HIV disease markers). As a result, covariates for subsequent outcome analyses were selected from demographic factors (i.e., race/ethnicity) that significantly differed between participants receiving SSI/SSDI and those not on SSI/SSDI.

Group changes over time were modeled using a random intercepts model clustering by participant to account for the non-independence of repeated measurements within subjects over time with robust standard errors. For continuous outcomes (e.g., perceived barriers to

employment), the normal distribution and identity link were employed. For binary outcomes (e.g., any unstable housing), the binomial distribution and logit link were utilized. All models used SAS PROC GLIMMIX with restricted maximum likelihood estimation for continuous outcomes and true maximum likelihood estimation for binary outcomes, both of which include cases with incomplete data. For binary outcomes, adaptive quadrature in GLIMMIX was used for true maximum likelihood estimation.

Each model controlled for race/ethnicity (i.e., African American, Hispanic/Latino, other ethnic minority, and Caucasian). Receipt of SSI/SSDI benefits at baseline was tested as an effect modifier. Where the group-by-time interaction was significant, separate simple effects of time were examined within each SSI/SSDI group. Unstandardized estimates for continuous outcomes and odds ratios for the two binary outcomes are reported. For outcomes that changed significantly over time, dose-response analyses were conducted to examine the association of degree of engagement in vocational rehabilitation services with these outcomes.

### **In-Depth Qualitative Interview**

Purposive sampling was employed to ensure that there would be sufficient representation of time since HIV diagnosis and perceived community standing. Categories for time since diagnosis included: (1) Recently diagnosed (i.e., within the past two years); (2) Diagnosed post-HAART (i.e., after 1996); and (3) Diagnosed pre-HAART (i.e., before 1996). Participants were also purposively sampled based on perceived community standing using the MacArthur ladder (Adler & Stewart, 2007). Categories included: (1) low perceived community standing (i.e., values 1-5); (2) high perceived community standing (i.e., values 6-10). Interview questions were clustered by thematically-related content, and each section of the guide was introduced with a brief set of instructions to the interviewer regarding the overarching objectives. Probes associated with each set of interview questions provided an opportunity to delve further. This guide was systematically reviewed and revised in an iterative process by the team prior to implementing data collection. The interview guide inquired about each participant's personal background, context, and experiences of living with HIV. The guide also addressed perceptions around disability benefits, past and current work history, vocational goals, and expectations regarding vocational rehabilitation services from Positive Resource Center.

### **Qualitative Analyses**

The codebook for the analysis of the qualitative interview transcripts was created through an iterative process of collaboration, review, and revision. By design, initial discussions about the content of the codebook began shortly after the first several interviews were transcribed and ready for review. Several transcripts were selected for a team reading with the goal of sharing and comparing impressions about categories of salient content. This initial communal reading provided the basis for identification of major domains of interest. Once those major domains were identified, members of the research team conducted successive rounds of in-depth examinations of the text, with an emphasis on identifying “emergent” categories that might form the basis for creating codes. In order to enhance trustworthiness,

rigor, and quality control during this process, team members worked alone and then in pairs to review, challenge, and refine the code definitions and proposed typologies.

Atlas.ti was used as an organizing tool for managing the interview transcripts. Data reports generated by Atlas.ti became the building blocks of the next phase of the qualitative analyses. The selection of topics for Atlas.ti reports stemmed from the specific topics and themes that had been identified as most salient to the research questions. The coded Atlas.ti reports became the foundation for developing models of the potential relationships among concepts identified. Over time, preliminary findings from quantitative analyses informed further exploration of the qualitative data for triangulation. Atlas.ti was used to organize qualitative data to address key aspects of these emerging questions. As the study proceeded, team members from both the qualitative and quantitative domains worked increasingly in concert to triangulate findings. This led our team to focus qualitative analyses on understanding whether and how receipt of SSI/SSDI benefits influences the pursuit of vocational rehabilitation goals.

The qualitative analyses utilized a combination of techniques drawn from both *grounded theory* and *narrative analysis*. An emphasis was placed on “emergent” approaches to analysis, allowing for open-minded evolution in our understandings of these data, as our analysis activities continued to unfold. Throughout the analysis process, we consistently revisited our frameworks, and when appropriate, revised our understandings of concepts and relationships accordingly. By using analysis techniques rooted in several qualitative traditions, we gained a methodological advantage of triangulation across qualitative analysis methods, which helped enhance quality.

### Triangulation

The concept of “triangulation” had powerful implications for many aspects of this study’s mixed methods design and analysis. Triangulation embodies the concept that “multiple methods and a variety of data types can contribute to methodological rigor” (Patton, 1990, p. 61) and can create a “[safe]guard against the accusations that a study’s findings are simply an artifact of a single method, a single source, or a single investigator’s bias”, effectively “reducing systematic bias in the data.” (p. 470). In the context of this study, *methods triangulation* was partially achieved by using a between-case grounded theory examination of data alongside a complementary approach, namely within-case narrative analysis. *Triangulation of data sources* in this study was achieved by integrating qualitative and quantitative findings.

The methodology we employed to triangulate quantitative and qualitative results in this mixed methods study allowed for a rich understanding of the experiences of HIV-positive persons with pursuing vocational rehabilitation goals. When the quantitative data suggested differences in the employment outcomes of participants based on their receiving disability benefits or not, we decided to create two ‘families’ via Atlas.ti, in order to contrast their respective narratives. Careful analysis of the narrative data revealed that the experience of contemplating and receiving disability benefits was a complex issue for many of these participants. As we examined that complexity, we identified concepts and processes that summarized those experiences of navigating disability benefits, drawing upon principles of



qualitative grounded theory and narrative analysis. We triangulated our qualitative findings regarding disability status with the quantitative findings around employment and income to achieve a more nuanced understanding of the social, financial, and logistical context of receiving disability benefits. We used similar procedures of triangulation to examine participants' experiences of stigma related to their disability status as well as experiences of stigma regarding HIV diagnosis and other social markers.

## Results

### Demographics and Health Status

The majority of participants were middle-aged ( $M = 46.6$ ;  $SD = 9.3$ ) gay or bisexual men (84%). Forty-five percent of participants were Caucasian, 19% Hispanic/Latino, 16% African American, 19% of multicultural or "other" heritage, and 1% Asian/Pacific Islander. Participants had been diagnosed with HIV for 14.6 ( $SD = 8.4$ ) years on average, 55% reported a CD4+ count greater than or equal to 500 cells/ $\mu$ l at baseline, and 80% reported having an undetectable HIV viral load at baseline. The majority of participants (84%) had completed at least some college and 62% were receiving SSI/SSDI benefits at baseline.

As shown in Table 1, participants receiving SSI/SSDI benefits were more likely to be African American, older, and diagnosed with HIV longer. With respect to the outcomes in Table 2, participants receiving SSI/SSDI benefits were significantly less likely to be employed at least part-time at baseline (Fisher's exact  $p < .05$ ) and reported significantly higher income in the past six months at baseline ( $t [106] = -2.03$ ,  $p < .05$ ). Over the 12-month follow-up period, 91% of participants on SSI/SSDI at baseline continued to receive these benefits and 16% of participants who were initially not on SSI/SSDI began receiving these benefits.

### Vocational Rehabilitation Outcomes

As shown in Table 2, significant group-by-time interactions were observed for Career Decision-Making ( $B = 3.16$ ;  $t = 1.98$ ;  $p < .05$ ), Job-Seeking Knowledge ( $B = 3.65$ ;  $t = 2.41$ ;  $p < .05$ ), and income ( $B = -4,035$ ;  $t = -2.13$ ;  $p < .05$ ) over the 12-month follow-up. Participants receiving SSI/SSDI reported reductions in the Career Decision-Making ( $B = -1.93$ ;  $t = -2.69$ ;  $p < .01$ ) as well as Job-Seeking Knowledge ( $B = -1.64$ ;  $t = -2.08$ ;  $p < .05$ ) subscales of perceived barriers to employment. However, these reductions in the Career Decision-Making ( $B = -5.08$ ;  $t = -3.63$ ;  $p < .01$ ) as well as Job-Seeking Knowledge ( $B = -5.17$ ;  $t = -4.18$ ;  $p < .01$ ) subscales of perceived barriers to employment were more pronounced among those who were not on SSI/SSDI at baseline. Participants on SSI/SSDI at baseline reported no significant changes in income ( $B = -270$ ;  $t = -0.53$ ;  $p > .05$ ) while those who were not receiving SSI/SSDI at baseline reported significant increases in income ( $B = 3,765$ ;  $t = 2.13$ ;  $p < .05$ ).

There were no significant group-by-time interactions for perceived Personal and Financial barriers to employment ( $B = 2.21$ ;  $t = 1.90$ ;  $p > .05$ ), being employed at least part-time ( $B = -0.98$ ;  $t = -0.75$ ;  $p > .05$ ), and any unstable housing ( $B = 2.11$ ;  $t = 1.45$ ;  $p > .05$ ) over the 12-month follow-up. Irrespective of baseline SSI/SSDI status, participants reported significant

reductions in perceived Personal and Financial barriers to employment ( $B = -3.11$ ;  $t = -3.05$ ;  $p < .01$ ), increased odds of being employed at least part-time (Adjusted Odds Ratio [AOR] = 10.19; 95% CI = 2.40 – 43.21;  $p < .01$ ), and decreased odds of any unstable housing (AOR = 0.21; 95% CI = 0.05 – 0.90;  $p < .05$ ) over the 12-month follow-up. Dose-response analyses indicated that greater engagement in vocational rehabilitation services was not significantly associated with better outcomes over the 12-month follow-up (all  $p$ 's  $> .05$ ).

### Qualitative Analyses

Sixteen participants were male, five were female, and one was a transgender woman. Eleven were Caucasian, four African American, four Hispanic/Latino, and three were of multicultural heritage. Ten were on SSI/SSDI whereas 12 were not currently receiving SSI/SSDI. The major qualitative findings can be summarized into three broad constructs: (1) structural barriers; (2) social stigma; (3) basic needs and prioritizing. Informed in part by the results of quantitative analyses, we systematically explored whether and how these constructs as well as their inter-relationships varied as a function of current SSI/SSDI status.

**Structural barriers**—Participants described a variety of structural barriers to navigating SSI/SSDI benefits and vocational rehabilitation goals. These often centered on institutions and service providers serving as gatekeepers, which served as a deterrent for accessing social services. Themes around navigating bureaucracy were salient, but also different for those on SSI/SSDI versus participants not on SSI/SSDI. Participants who were not currently receiving SSI/SSDI benefits expressed difficulties with rapidly accessing these benefits as well as a greater sense of urgency to achieve financial stability and often meet basic needs.

One participant, for instance, was told by a mental health care provider treating him that he was not eligible to receive SSI/SSDI benefits and that he should not even consider a claim. This sort of interaction raises the issue of the role of medical and social service providers as gatekeepers who can dramatically influence how HIV-positive persons access or navigate the disability benefits system.

“Oh, well, he just berated me. He said what do you think you are some sort of a slouch? No, you don't deserve disability, no, no, no. You're not going to parlay this into some sort of disability claim. So, and that was the end of it. I never seriously pursued it after that.” (58, Male, Caucasian, not on SSI/SSDI)

Although other participants faced less overt barriers, bureaucratic factors around eligibility for social services remained a key obstacle for those not receiving SSI/SSDI. However, these same barriers to obtaining benefits often translated into motivation for participants not on SSI/SSDI to be focused on their vocational rehabilitation and financial goals.

“The major obstacle that I have faced is the fact that I do work. [...] And their goal is to assist people who cannot work get to work. And the argument that I stated -- I just said, you know, I totally understand that. It makes perfect sense to me and the reason I'm here is because I would like to prevent getting to that point.” (35, Male, Caucasian, not on SSI/SSDI)



Among those on SSI/SSDI, bureaucratic obstacles regarding managing disability benefits were challenging. Often times, the structural barriers presented by coping with the SSI/SSDI system transcended the actual impediments and biomedical circumstances that led them to access the services in the first place.

“It's an oppressive -- it's almost like it's a burden enough to have it, but then you've got the bureaucracy layer on top of it [...] I mean my little inconveniences, personal inconveniences are nothing compared to just all the stuff around it.” (57, Male, Caucasian, on SSI/SSDI)

Participants who were currently on SSI/SSDI and were actively considering a return to the workforce often experienced anxiety related to losing their current benefits. This included not only disability income but also healthcare that was viewed as essential for managing HIV and other chronic medical conditions.

“That's one thing I fear, like, if I get a good enough job to where I can -- I can sustainably support myself then I'm afraid that I might lose my Medi-Cal ” (25, Male, African American, on SSI/SSDI)

**Social Stigma**—Embodying or previewing an identity born out of the societal understanding that an individual receiving disability benefits is “dependent” influenced perceived stigma. However, this experience of social stigma was qualitatively different based upon whether participants were currently receiving SSI/SSDI. Individuals not on SSI/SSDI commonly described anticipated stigma related to being disabled whereas their peers on disability relayed experienced stigma related to their current receipt of SSI/SSDI benefits.

This participant had considered accessing disability benefits, but seemed to have been discouraged by his social network's negative perceptions around the meanings of being labeled as disabled.

“Right now I'm having trouble going for disability because I can still walk around and it doesn't feel right to me, yet it's like I need to kind of know that I need to be on it. It should be okay for me to think about it and it's what people do. And I think because I don't have a lot of exposure in the community with other people and some of the backgrounds that I have, it's just people that really weren't looking at it from I guess a kosher perspective, you know?” (40, Male, Caucasian, not on SSI/SSDI)

This participant reacts to anticipated stigma by attempting to dissociate himself from the disabled label and with other members of the community, a process commonly referred to as “othering.”

“I'm not going to be on long-term disability. [...] You know, I wasn't cracked out, or I wasn't a screaming drag queen -- and nothing against drag queens, or I was in like, some [...], you know, asking for help. [...] You know, and that's embarrassing when, you know, you have to go stand in line and then you get refused for it the whole time. ” (47, Male, Hispanic/Latino, not on SSI/SSDI)

This example of a participant receiving disability benefits deftly conveys the experienced stigma and discrimination attached to people outside of the workforce. Experiences such as

this demoralize individuals receiving disability benefits from considering a return to the workforce.

“[...]Just not being accepted by, you know, the normal working society[...] -- I've definitely heard the put downs and I, you know, I mean, it was very verbal and it was very harsh, like, retarded and crazy and stupid ” (25, Male, African American, on SSI/SSDI)

At the same time, some participants receiving disability benefits described culturally-engrained views of self-sufficiency and discomfort with reliance on social services. This discomfort may also reflect internalized stigma related to viewing disabled persons as dependent.

“Black people don't ask for help, you know. Some black people do, but me my family - my family just always said well, you need to do things on your own. You don't need no - you don't need to ask for no help. You need to be independent. Do it on your own. ” (43, Female, African American, on SSI/SSDI)

**Basics Needs and Prioritizing**—Participants in our sample often organized their needs in a hierarchical fashion, which appeared to influence the perceived value of SSI/SSDI benefits or successfully achieving vocational rehabilitation goals. Often participants described prioritizing health over work. On the other hand, other participants noted that workforce participation could also improve health and well-being.

This participant was transitioning out of short-term disability, and it was unclear whether he would be eligible for SSI/SSDI. This uncertainty led to anxiety about retaining health insurance and his prioritizing health over vocational rehabilitation goals.

“So, but I basically knew I had to take of my health first, and my back is more important right now than a job. [...] So, but the biggest thing is keeping insurance or some kind of health provider is the biggest issue for me right now. ” (47, Male, Hispanic/Latino, not on SSI/SSDI)

Some participants not on SSI/SSDI described prioritizing perceived independence over meeting other more basic needs. This continues the salient narrative of remaining independent, even at great personal cost.

“You know, the idea that I will be supported by some government agency at least for a while is not exciting. [...]And it terrifies me, too, and that's an understatement to think that I'm that way or that I'm headed in that direction when, you know, I should have had, yeah, yeah. It's really scary.” (50, Male, Hispanic/Latino, not on SSI/SSDI)

At the same time, participants on SSI/SSDI described difficulties with meeting basic needs. A number of participants sought other social services such as rent subsidies and hoped to return to work as a means of augmenting their disability income. This participant strongly highlights the way in which bureaucratic limitations on earned income contribute to structural poverty.

“I need to supplement my income because SSI is taking out money every other month and [...] and my rent is too high and I have a kid that I need still to support. And the cost of living here is too expensive. [...]But I need to get a job.” (43, Female, African American, on SSI/SSDI)

Many participants on SSI/SSDI found themselves having to defend their decisions not to work and justify their circumstances.

“I have to respect my limitations. My limitations tell me I can't hold down a full time job. And I have to respect that, but a lot of people think I'm just being lazy. And so that's one of the drawbacks of being on disability.” (43, Transgender Woman, African American, on SSI/SSDI)

On the other hand, other participants receiving disability benefits felt that while these benefits provided with a sort of safety net, they needed to figure out ways in which the system could allow them to achieve other social, medical and vocational goals.

“It was such a relief to have that safety net. Was huge. It just doesn't serve me as well in the life that I'm in now. I just need to be more engaged in the world.”(57, Male, Caucasian, on SSI/SSDI)

## Discussion

This mixed methods study highlights that structural barriers and social stigma may partially account for poorer vocational rehabilitation outcomes observed among HIV-positive persons receiving SSI/SSDI benefits. Although participants receiving SSI/SSDI at baseline reported significant reductions in housing instability and increases in being employed at least part time, those who were not on SSI/SSDI displayed greater reductions in perceived barriers to employment and increases in income. Findings from in-depth qualitative interviews provide important insights into structural and social factors that may partially explain these differential vocational rehabilitation outcomes. Participants on SSI/SSDI described concerns with losing benefits (e.g., healthcare) coupled with experienced stigma related to receiving these benefits that may have led to greater difficulties with successfully pursuing vocational rehabilitation goals. On the other hand, those who were not receiving disability benefits described gatekeeping and other structural barriers to accessing benefits as well as the anticipated stigma related to being labeled as disabled that may have led to a greater sense of urgency to rejoin the workforce.

The importance of vocational rehabilitation services is partially supported by reductions in the odds of any unstable housing and increased odds of being employed at least part-time that were observed that were observed irrespective of baseline SSI/SSDI status. Vocational rehabilitation services could assist HIV-positive persons with addressing structural barriers such as unstable housing and unemployment, which are associated with poorer HAART adherence and elevated HIV viral load (Kidder, 2007). The clinical relevance of these structural barriers is reflected in the goals of the National HIV/AIDS Strategy (White House, 2010) as well as a recent Institute of Medicine report on HIV care indicators (2012) where poverty and unemployment are identified as key drivers of HIV-related health disparities. Further research is needed to examine if vocational rehabilitation services can optimize the

effectiveness of HIV treatment as prevention by assisting individuals with surmounting structural barriers.

Compared to participants receiving SSI/SSDI, those who were not receiving SSI/SSDI benefits at baseline reported greater reductions in other perceived barriers to employment and significant increases in income. This is consistent with prior research where HIV-positive persons receiving SSI/SSDI benefits were less likely to consider returning to work (Brooks et al, 2004) and worked significantly fewer hours (Escovitz et al, 2005; Rabkin et al, 2004). As described by participants in our study, fears of losing benefits for individuals on SSI/SSDI and experienced stigma represent key barriers to rejoining the workforce. Innovative strategies such as rapid reinstatement of benefits could support individuals on SSI/SSDI with pursuing vocational rehabilitation by providing assurances that they will be able to meet basic subsistence needs should they be unable to successfully rejoin the workforce. It is also noteworthy that participants receiving SSI/SSDI are a heterogeneous population with varying levels of workforce readiness and health-related functional impairment. Further research is needed to identify subgroups of individuals receiving SSI/SSDI that are more likely to benefit from vocational rehabilitation services.

Informed by quantitative findings highlighting that SSI/SSDI status moderated vocational rehabilitation outcomes, the qualitative analyses elucidated key structural and social factors that may partially explain these differential vocational rehabilitation outcomes. As shown in Figure 1, individuals on SSI/SSDI described bureaucratic limitations such as retaining healthcare benefits as well as greater social stigma related to being disabled. These factors appear to have influenced decision making processes towards valuing current SSI/SSDI benefits as a safer albeit imperfect solution. This may partially account for poorer vocational rehabilitation outcomes among those on SSI/SSDI. On the other hand, participants who were not receiving SSI/SSDI benefits experienced bureaucratic gatekeeping to accessing disability benefits and anticipated stigma of being disabled. These factors may have led to a greater sense of urgency to rejoin the workforce, which could partially account for better vocational rehabilitation outcomes. Further research is needed to examine these distinct, emergent pathways whereby bureaucratic factors and social stigma influence vocational rehabilitation outcomes in HIV-positive persons.

Findings from this mixed methods study should be interpreted in context of some important limitations. This was a community-based participatory research project where our team sought to document the outcomes of vocational rehabilitation services for HIV-positive persons. Because it was not feasible to conduct a randomized controlled trial, we cannot rule out that changes in outcomes examined in this study are not attributable to a pattern of regression to the mean. Another limitation is that participants were only followed for 12 months after initiating vocational rehabilitation services. Especially given the socioeconomic context at the time of data collection, longer term follow-up may be necessary to document more robust improvements in vocational rehabilitation outcomes among those receiving SSI/SSDI benefits at baseline.

The Affordable Care Act (ACA) also has important implications for interpretations of the findings from this study. Although ACA has improved access to health insurance in the

United States, it cannot be seen as a silver bullet that will eradicate health disparities. This underscores the continued relevance of the concerns expressed by participants around access to and quality of care. Recent studies also suggest the need to broaden our healthcare delivery systems to target social and structural drivers of health disparities. For example, Minnesota's experience implementing residential health monitoring and long-term follow-up with the poor and underserved highlights the potential benefits of targeting structural determinants of health (Blewett & Owen, 2015). Providing affordable housing is increasingly seen as a crucial intervention to optimize health outcomes and reduce healthcare costs (Doran, Misa & Shah, 2013). It remains clear that continued efforts to integrate social and medical services are needed to optimize the effectiveness of HIV treatment as prevention in the era of the ACA.

Findings from this study highlight that more comprehensive approaches may be needed to address structural and social barriers to optimizing vocational rehabilitation outcomes, particularly among those receiving SSI/SSDI. Because the current social service system is fragmented, strengths-based and solution-focused approaches like benefits counseling could assist HIV-positive persons with meeting basic needs that if left unaddressed can lead to poorer health outcomes. Social work interventions that employ de-stigmatizing frameworks and practices focused on coordination of care could assist with better integrating social and medical services for HIV-positive persons.

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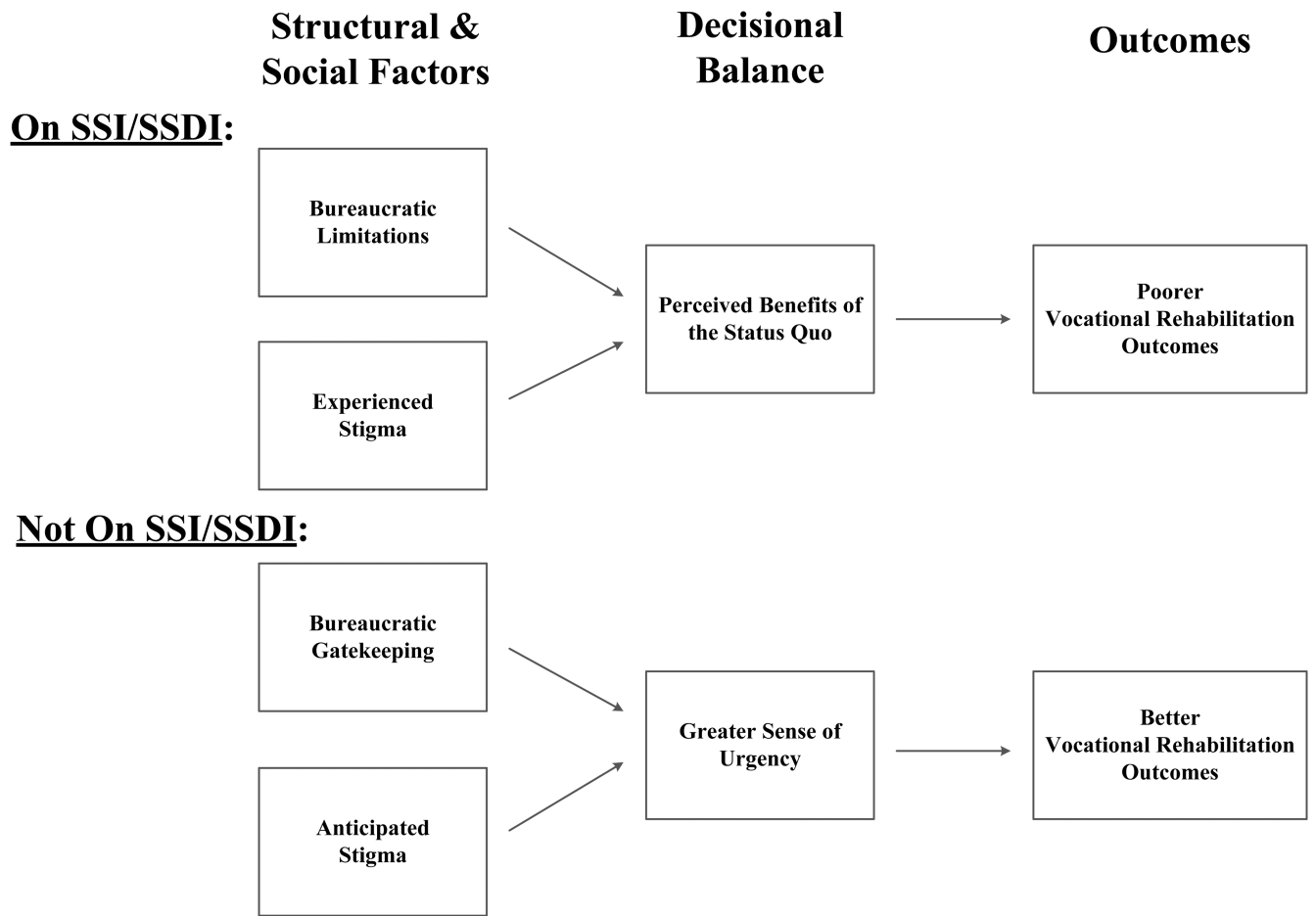


Figure 1. Pathways whereby structural and social factors may influence vocational rehabilitation

**Table 1**  
**Baseline differences as a function of SSI/SSDI status (N = 108)**

	SSI/SSDI (N = 67)	No SSI/SSDI (N = 41)	Significance
	N (%)	N (%)	
<b>Gender</b>			
Male	57 (85%)	40 (98%)	
Female	8 (12%)	1 (2%)	
Female to Male Transgender	2 (3%)	0 (0%)	
<b>Sexual Orientation × Gender</b>			
Gay Men	45 (67%)	30 (73%)	
Bisexual Men	7 (10%)	9 (22%)	
Heterosexual Men	4 (6%)	1 (2%)	
Lesbian Women	1 (1%)	0	
Bisexual Women	2 (3%)	0	
Heterosexual Women	5 (7%)	1 (2%)	
Lesbian transgender women	1(1%)	0	
Bisexual transgender women	1(1%)	0	
<b>Race/Ethnicity</b>			*
African American	16 (24%)	1 (2%)	
Hispanic/Latino	13 (19%)	8 (20%)	
Caucasian	28 (42%)	21 (51%)	
Asian/Pacific Islander	0 (0%)	1 (2%)	
Multicultural/Other	10 (15%)	10 (25%)	
<b>Education</b>			
Did not graduate high school	2 (3%)	4 (10%)	
High school graduate	7 (10%)	1 (2%)	
Trade school	1 (2%)	2 (5%)	
Some college	24 (36%)	16 (39%)	
College graduate	24 (36%)	16 (39%)	
Graduate degree	9 (13%)	2 (5%)	
<b>CD4+ Count (Self-Report)</b>			
500	31 (50%)	24 (63%)	
351-499	17 (27%)	6 (16%)	
201-350	9 (15%)	6 (16%)	
< 200	5 (8%)	2 (5%)	
<b>Undetectable HIV Viral Load (Self-Report)</b>	52 (80%)	28 (80%)	
	M (SD)	M (SD)	
<b>Age</b>	48.0 (8.1)	44.4 (10.8)	*
<b>Time Since HIV Diagnosis (Years)</b>	16.60(7.37)	11.31 (8.99)	*

\* p < .05

Table 2

## Outcomes as a function of baseline SSI/SSDI status (N = 108)

	Baseline (N = 108)		6 Months (N = 92)		12 Months (N = 89)		Time	Group × Time
	SSI/SSDI	No SSI/SSDI	SSI/SSDI	No SSI/SSDI	SSI/SSDI	No SSI/SSDI		
<b>Perceived Barriers</b>	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)		
Personal and Financial	22.9 (5.3)	23.0 (6.7)	22.7 (5.2)	20.8 (6.4)	21.7 (5.6)	19.6 (5.7)	**	
Career Decision Making	27.1 (6.9)	26.8 (7.6)	25.5 (6.6)	22.9 (7.6)	24.9 (6.4)	21.2 (7.2)	**	*
Job-Seeking Knowledge	26.7 (7.3)	26.5 (8.0)	25.3 (6.9)	22.1 (8.7)	24.9 (7.3)	20.4 (7.1)	**	*
<b>Income (Past 6 Months)</b>	8,426(4,309)	6,576(5,021)	8,097(4,268)	10,036(13,977)	8,314(4,249)	10,506(10,246)	*	*
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)		
<b>Employed at Least Part-Time</b>	4 (6%)	9 (22%)	10 (17%)	15 (46%)	11 (19%)	17 (53%)	**	
<b>Unstable Housing (Past 6 Months)</b>	11 (16%)	11 (27%)	7 (12%)	2 (6%)	8 (14%)	1 (3%)	*	

\* p &lt; .05;

\*\* p &lt; .01