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Healthcare Utilization and Interest in Employment Services among Behavioral Health Home Patients with Mental Health Disorders

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ABSTRACT

Project Number

D-MP-16-07

Title

Healthcare Utilization and Interest in Employment Services among Behavioral Health Home Patients with Mental Health Disorders

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Date

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Key Findings and Policy Implications

The purpose of this study was to explore the extent to which behavioral health homes (i.e., organizations delivering primary care services in mental health treatment settings) provide or have the capacity to provide support for patients' employment, as well as reduce their likelihood of applying for and depending upon public disability benefits. Research participants were clients of a behavioral health home agency located throughout Chicago and its suburbs, serving patients with mental health disorders. This study examined service utilization, non-SSA work and disability program participation, and self-reported health and mental health status of a group of behavioral health home patients who were SSA disability beneficiaries and compared them with non-beneficiaries. We also compared the labor force participation of beneficiaries and non-beneficiaries, and receipt of or interest in receiving career development, employment support, and/or return-to-work services. Results revealed that all participants (N=121) used mental health services: 100% outpatient, 8.3% inpatient, and 6.6% crisis services. Only 33.9% used medical services: 23.1% outpatient, 6.6% inpatient, and 17.4% emergency department. Over half (56.2%) used vocational services. Both employed participants and those who were SSA program beneficiaries used more vocational and less medical services than their non-working and non-beneficiary counterparts. Non-beneficiaries had poorer self-reported health status than beneficiaries, and poor health was associated with unemployment, but poor health status was not associated with employment once use of medical services was taken into account. For all participants, vocational services were strongly related to employment status. Qualitative analysis of barriers to employment success revealed similar factors for working and non-working participants. Our study found that the role of physical poor health and pain as limitations to employment are significant, and the behavioral health home has the potential to deliver necessary medical and wellness services to improve physical health, in concert with vocational services to enhance the likelihood of employment. As a vocational service, benefits counseling has the potential to help participants who want to work but are afraid of losing income or insurance.

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I. INTRODUCTION

The purpose of this study is to explore the extent to which behavioral health homes (i.e., organizations delivering primary care services in mental health treatment settings) provide or have the capacity to provide support for patients' employment, as well as reduce their likelihood of applying for and depending upon public disability benefits. This involves an analysis of the physical and mental health status of behavioral health home patients who are employed and not employed, their current labor force participation, utilization of medical, mental health and vocational services, and SSI/DI beneficiary status and application intentions. Findings are intended to identify the types of assistance that may divert patients from applying for SSI/DI benefits through helping them achieve emotional stability and physical health, as well as vocational and career services and supports associated with continued employment.

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II. REVIEW OF THE LITERATURE

Mental health disability and physical health. Working age adults with serious mental illness who are SSI/DI beneficiaries are usually eligible due to the psychiatric condition that limits their ability to work. However, many people with disabilities experience multiple mental and physical health conditions, which can lead to earlier onset of functional limitations and more extensive impairment, as well as higher medical care expenditures (AHRQ, 2017a). People with serious mental illness have significantly higher rates of many chronic conditions than the general population (Dixon-Ibarra & Horner-Johnson, 2014), and most of these conditions are amenable to health care interventions that have the potential to delay the onset or exacerbation of disability (Cook et al., 2015). Moreover, compared to those with no chronic conditions, increasing combinations of psychiatric disorders and chronic physical conditions are associated with increasing odds of work disability (i.e., total or partial disability days, extra effort days), controlling for sociodemographic characteristics, occupation, and region (Dewa et al., 2007).

Integration of health care and vocational rehabilitation can enhance independence. A small but growing body of research evidence suggests that integrating vocational rehabilitation services into medical treatment can promote the return to employment of patients with multiple chronic conditions, while also enhancing their functioning and independence (Tamminga et al., 2010). A Cochrane review of models that integrated vocational rehabilitation services into cancer treatment (de Boer et al., 2011) found moderate quality evidence that multidisciplinary interventions involving physical, psycho-educational, and vocational components led to higher return to work rates than care as usual. Research on low back pain also has shown the benefits of integrating primary care and support for vocational recovery (Anema et al., 2007). For example, a study of people with chronic low back pain combined work disability prevention with integrated medical and behavioral health care (Lambeek et al., 2010). This approach addressed biomedical, psychological, workplace, and compensation system factors with the goal of restoring functioning in work and private life, rather than reducing pain. The median duration from study entry to return to work was 88 days in the integrated care group compared with 208 days in the usual care group, while there were no significant differences between the two groups in level of pain. In addition, there is some evidence suggesting that having physicians provide return to work "prescriptions" (i.e., estimated dates of their return to work based on sensory and motor recovery) creates expectations early in the course of treatment that positively impact patients' ability to return to their jobs (Monsivais et al., 2010).

Call for integration of return-to-work services in patient-centered medical homes. Medical homes are organizations delivering primary care that is patient-centered, comprehensive, team-based, coordinated, accessible, and focused on quality and safety (AHRQ, 2017b). Based on findings such those described above, as well as evidence from employer sponsored employee wellness programs, McLellan and colleagues (2012) argue that return to work and stay-at-work programs should be integrated into patient-centered medical homes. They note that such integration works best when it includes the government sector as well as the employer community. In addition to superior patient outcomes and reduced health costs for employers, they also note that disability prevention and management programs that are integrated into health homes have the potential to benefit society by reducing the number of people who apply for and rely on social security disability insurance.

Early intervention programs delivered to at-risk individuals with mental health disabilities can forestall disability applications. The Demonstration to Maintain Independence and Employment or DMIE was a multi-state effort that tested interventions for workers with potentially disabling health conditions designed to improve their health and vocational status, thereby allowing them to delay or avoid enrolling in public disability benefits (Ireys & Wehman, 2011). This study found that early intervention services designed to address the problem of health and behavioral health underinsurance could be a cost-effective strategy to help participants maintain their independence (Whalen et al., 2012). Study results suggested that early intervention efforts made available to at-risk groups who were *already* insured might also be beneficial. Importantly, in a combined sample of participants from two states - Minnesota and Texas – results showed that the intervention significantly reduced the likelihood of receiving SSA benefits within a year of enrollment in the DMIE study (Gimm et al., 2014). These states' study populations included vulnerable, low-income adults who were at high risk of applying for disability benefits, most of whom had serious mental illness or co-occurring behavioral health and medical conditions. A recent follow-up study of employment outcomes among the Texas site's DMIE participants (Cook et al., 2017) found that, among the subgroup with serious mental illness, intervention recipients were significantly more likely to be working than controls in the 5 years after study completion. Taken together, these results suggest that individuals with behavioral health disorders, especially those with serious mental illness, may be especially likely to benefit from early intervention efforts.

Behavioral health homes. Behavioral health homes are organizations that serve as patient-centered health homes for people with mental health and substance use disorders by delivering primary care, prevention, and wellness activities in behavioral health care settings (Alexander & Druss, 2012; Parks, 2010). Essentially, these are medical homes located in community-based mental health and substance use treatment facilities. The federal Substance Abuse and Mental Health Services Administration (SAMHSA) recently established criteria for behavioral health homes, referred to as Certified Community Behavioral Health Clinics (CCBHCs). Importantly, SAMHSA included employment services or patient-centered coordination with employment service providers as an important adjunct to co-located medical and behavioral health services (SAMHSA, 2016). This sets the stage for exploring whether behavioral health homes are an appropriate context for delivery of services intended to delay or forestall application for SSA disability benefits, while promoting employment, better health, and quality of life.

Study aims. This project responds to SSA's interest in early intervention as well as its focus on potential state and federal programmatic interactions that promote employment and independence. SSA seeks collaborations with state programs that provide care for people with multiple chronic conditions, such as behavioral health homes, to create partnerships that offer long- term employment services designed by states to help participants remain in the labor market. This study examines service utilization, non-SSA work and disability program participation, and self-reported health and mental health status of a group of behavioral health home patients who are SSA disability beneficiaries and compares them with non-beneficiaries. Also compared is the labor force participation of beneficiaries and non-beneficiaries, and their receipt of or interest in receiving career development, employment support, and/or return-to-work services. Results of this research are intended to provide information about potential clients with SMI, being served in integrated care settings, who might be the targets of early intervention

models, their health and mental health self-perceptions and service utilization, and factors associated with their interest in availing themselves of SSA-funded employment services.

Research questions. This study addresses the following questions.

1. How do behavioral health home participants who are not SSI/DI beneficiaries differ from those who are in terms of demographic and clinical characteristics, and services received?
2. How do behavioral health home participants who are not employed differ from those who are in terms of demographic and clinical characteristics, and services received?
3. Is there a relationship between employment status, SSI/DI status, and behavioral health home services received?
4. Are there patterns of service delivery, including types and intensity of services, which are associated with SSI/DI program participation, and do these vary by employment status?
5. Are there patterns of service delivery, including types and intensity of services, which are associated with employment status, and do these vary by SSI/DI status?
6. Do behavioral health homes differ in organizational or service delivery features, and if so, are there variations that are associated with likelihood of employment or enrollment in SSI/DI?

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III. METHODS

Research participants are clients of a behavioral health home agency with locations throughout the city of Chicago and surrounding suburbs, serving patients with mental health disorders. The behavioral health home operates two primary care clinics at its north side and south side locations, and clients from all locations can choose to receive services at their preferred clinic. Eligible participants were English-speaking clients, aged 18 and older, who were able to access primary health care services. Staff from the mental health center's research department were responsible for identifying eligible participants based on their employment and social security benefit status. Participants were recruited between May 2016 and May 2017, and provided written informed consent using procedures approved by the University of Illinois at Chicago Institutional Review Board.

Study recruitment targeted four groups: clients who were SSI/DI beneficiaries and employed; clients who were SSI/DI beneficiaries and not employed; clients who were not SSI/DI beneficiaries and employed; and clients who were not SSI/DI beneficiaries and not employed. Recruitment for each group continued until achieving the target sample size of 40. Two groups did not reach the target due to difficulty identifying clients who were not receiving benefits and not working (n=29) or not receiving benefits and employed (n=12). Out of the 164 clients who were approached regarding the study, 121 clients completed the interview (73.7%) and received a $30 stipend. Around a quarter of those approached (26.3%, n=43) either passively or actively refused participation (27 and 16, respectively).

Study participation involved completing a one-time 30-minute in-person interview with UIC research interviewers. The interview protocol included questions about self-perceived health status, current and past social security disability program participation, current and recent labor force participation, and sources and amounts of earned and unearned income, and employment and disability status and intentions. Measures included the Patient Health Questionnaire (PHQ) a measure of mental health status (Martin et al., 2006); the Medical Outcomes Study physical health summary item (Ware et al., 1996); and the Visual Analog Self-Anchoring Measure, a measure of pain (Cline et al., 1992). We also collected administrative data from the mental health centers regarding participants' health, behavioral health status, and service utilization.

We used chi-square tests and t-tests to examine differences in participant characteristics, service utilization, perceived health status, interest in receiving vocational services, and benefit application intentions by benefit status and by employment status. We used multivariable logistic regression to examine the relationship of services to disability and employment outcomes among study groups, adjusting for group differences in participant characteristics. In the first step of each model, we tested the association between receiving any medical service or any vocational service and the outcome (use of medical services was not associated with use of vocational services, p=.239). In the second step, we additionally tested the effect of employment on beneficiary status and intent to apply for SSA disability benefits, or the effect of beneficiary status on employment. In the third step participant health status was included, and in the fourth step we added an interaction term of physical health status with receiving medical services to adjust for the relationship between poor physical health and medical treatment. In a fifth step, we replaced the interaction of medical treatment and poor health with a medical treatment by

vocational treatment interaction term, to test for the additional effect of receiving both types of services compared to one or none. We adjusted for gender in each model because of the significant association of gender with beneficiary status. Although it is associated with beneficiary status, we did not adjust for having minor age children because it was confounded with gender. Finally, we coded qualitative data from responses to an open-ended item ask participants what would need to change in order for them work (if not working), or to get a better job and advance their careers (if employed).

IV. RESULTS

Participant characteristics are shown in Table 1, in total and by benefit status and employment status groups. The majority of participants were male (66%), with a significantly higher proportion of males in the beneficiary versus non-beneficiary groups (74% vs 51%, p=.013). Participants were mostly Black/African-American (59%) or White/Caucasian (27%). Twelve percent of the participants were Hispanic/Latino. Race varied significantly by beneficiary status (p=.043), but this difference was driven by the lower proportion of beneficiaries than non-beneficiaries who were Asian (0% vs 12%, p=.001).

Only 12% of all participants reported having children under the age of 18, but 22% of non-beneficiaries had minor children, compared to 6% of beneficiaries (p=.031); employment status also was associated with parental status, with 17% of employed participants having minor children compared to 7% of non-working participants (p=.017). Gender and parental status were significantly associated, with 29% of women having minor age children compared to 10% of males (p=.020) (not shown in table).

The majority of clients had Medicaid insurance (81%), and almost half had Medicare (48%). A higher proportion of beneficiaries had Medicare coverage than non-beneficiaries (66% vs 12%, p<.001), presumably related to SSDI status. Very few participants had no insurance at all (3%), and these were all non-beneficiaries. Participant average income from all sources was $1,203, with beneficiaries having higher average income than non-beneficiaries ($1,480 vs $663, p=.001), and employed participants having higher average income than non-working ones ($1,802 vs $752, p<001).

Participants had primary diagnoses of major depression (29%), bipolar disorder (22%), schizophrenia/affective disorders (45%), and anxiety disorder (5%); however, a higher proportion of beneficiaries had diagnoses of schizophrenia/schizoaffective disorders (57%), while major depression was more prevalent among non-beneficiaries (54%) (p<.001). Self-reported mental health was poorer among non-beneficiaries compared to beneficiaries (average 6.9 vs 4.7, p=.010), and poorer among non-working compared to employed participants (average 6.2 vs 4.5, p=.002). Similarly, self-reported physical health was poorer among non-beneficiaries compared to beneficiaries (average 3.8 vs 2.9, p<.001), and poorer among non-working compared to employed participants (average 3.4 vs 3.0, p=.038). Self-reported pain had similar patterns, with more pain reported by non-beneficiaries than beneficiaries (average 6.0 vs 7.4, p<.001), and more pain reported by non-working than employed individuals (average 6.6 vs 7.5, p=.012). Self-reported physical or work disability was not associated with beneficiary status, but both were significantly more prevalent among non-working participants compared to those who were employed (physical disability 59% non-working vs 31% employed, p=.002; work disability 51% non-working vs 17% employed, p=.021).

Table 1. Participant Characteristics for Total Sample and by Beneficiary and Employment Status

Background Characteristics	Total Sample N=121 n (%)	SSA Disability Beneficiary N=80 n (%)	SSA Disability Non-Beneficiary N=41 n (%)	Employed N=52 n (%)	Non-working N=69 n (%)
Gender					
Female	41 (33.9)	21 (26.3)	20 (48.8)[1]	17 (32.6)	24 (34.7)
Male	80 (66.1)	59 (73.7)	21 (51.2)	35 (67.3)	45 (65.2)
Age: mean (SD)	47.7 (9.8)	48.5 (9.1)	46.0 (11.0)	47.1 (9.9)	48.1 (9.8)
Race					
Black/African American	71 (58.7)	47 (58.8)	24 (58.5)[2]	32 (61.5)	39 (56.5)
White	33 (27.3)	25 (31.3)	8 (19.5)	16 (30.8)	17 (24.6)
Asian	5 (4.1)	0	5 (12.2)[3]	0	5 (7.2)
American Indian	2 (1.7)	1 (1.3)	1 (2.4)	1 (1.9)	1 (1.4)
Mixed Race	7 (5.8)	5 (6.3)	2 (4.9)	3 (5.8)	4 (5.8)
Hispanic/Latino	15 (12.4)	10 (12.5)	5 (12.2)	4 (7.7)	11 (15.9)
Parent of child(ren) <18 years old	14 (11.6)	5 (6.25)	9 (21.9)[4]	9 (17.3)	5 (7.2)[5]
Insurance					
Medicaid	98 (81.0)	65 (82.8)	33 (80.5)	43 (82.6)	55 (79.7)
Medicare	58 (47.9)	53 (66.2)	5 (12.2)[6]	29 (55.7)	29 (42.0)
Private	3 (2.5)	2 (2.5)	1 (2.4)	2 (3.8)	1 (1.4)
None	4 (3.3)	0 (0)	4 (9.8)[7]	1 (1.9)	3 (4.3)
Monthly Income including cash benefits: mean (SD)	1,203 (935)	1,480 (865)	663 (834)[8]	1802 (1010)	752 (564)[9]
Diagnosis					
Major Depression	35 (28.9)	13 (16.3)	22 (53.7)[10]	12 (23.1)	23 (33.3)
Bipolar Disorder	26 (21.5)	17 (21.3)	9 (22.0)	12 (23.1)	14 (20.3)
Schizophrenia/Affective	54 (44.6)	47 (56.8)	7 (17.1)	25 (48.1)	29 (42.0)
Anxiety Disorder	6 (5.0)	2 (3.8)	3 (7.3)	3 (5.8)	3 (4.3)
Self-Reported Mental Health: mean (SD) (Lower=better MH)	5.4 (4.3)	4.7 (4.0)	6.9 (4.7)[11]	4.5 (3.8)	6.2 (4.5)[12]
Self-Reported Physical Health: mean (SD) (lower = better health)	3.2 (1.2)	2.9 (1.2)	3.8 (1.1)[13]	3.0 (1.1)	3.4 (1.2)[14]
Pain Measure: mean (SD) (higher=less)	7.0 (1.9)	7.4 (1.7)	6.0 (2.1)[15]	7.5 (1.6)	6.6 (2.1)[16]
Self-Reported Physical Disability or Impairment	57 (47.1)	37 (46.2)	20 (48.8)	16 (30.8)	41 (59.4)[17]
Self-Reported Work Disability or Impairment	44 (36.4)	26 (32.5)	18 (43.9)	9 (17.3)	35 (50.7)[18]

SD=standard deviation

1. Gender/Benefit Status: X^2(df=1, N=121)=.013
2. Race/Benefit Status: X^2(1,N=121)=11.45,p=.043
3. Asian/Benefit Status: X^2(1,N=121)=10.18,p=.001
4. Has Kids/Benefit Status: X^2(1,N=121)=4.64,p=.031
5. Has Kids/Employment Status: X^2(1,N=121)=5.70,p=.017
6. Medicare/Benefit Status: X2(1,N=121)=31.74,p<.001;

Table 1 (*continued*)

7. No Insurance/Benefit Status: X2(1,N=121)=8.07,p=.004
8. Income/ Benefit Status: t(119) = -4.97, p=.001
9. Income/Employment Status: t(119) =5.42, p<.001
10. Diagnosis/Benefit Status: F(3,117)=9.83, p<.001;
11. PHQ/Benefit Status: t(119) =2.61, p=.010;
12. PHQ/Employment Status: t(119)=3.12, p=.002;
13. MOS Phy Health Measure/ Benefit Status: t(119)=3.84, p<.001;
14. MOS Phys Health Measure/Employment Status: t(119)=2.10, p=.038;
15. Visual Analog Self-Anchoring Measure/Benefit Status: t(119)=4.02, p<.001;
16. Visual Analog Self-Anchoring Measure/Employment Status: t(119)=2.56, p=.012;
17. Self-Report Impairment/Employment Status: X2(1,N=121)=9.77,p=.002;
18. Self-report Work Disability or Impairment/Employment Status: X2(1,N=121)=5.31,p=.021

Table 2 shows the relationship of beneficiary and employment statuses. Two thirds of the total sample were SSI/DI beneficiaries (66%), including 10% who were SSI+SSDI dual beneficiaries, 41% SSI beneficiaries, and 36% SSDI beneficiaries. The prevalence of SSI/DI benefits was significantly higher among employed than non-working participants (77% vs 58%, p=.029). However, this relationship varied by specific disability program, with a higher proportion of non-working than employed currently receiving SSI (46% vs 33%, p=.014), and a higher proportion of employed than non-working currently receiving SSDI (54% vs 22%, p<.001). Among those not receiving benefits, 36% reported having their applications denied, including 24% who had ever been denied SSI and 20% who had ever been denied SSDI. Also among non-beneficiaries, a higher proportion of the employed group had been denied benefits than the non-working group (58% vs. 28%, p=.063). Some non-beneficiaries had formerly received benefits (17% had been on SSI and 5% had been on SSDI in the past), and some current beneficiaries had been denied SSI or SSDI in the past (5% and 3%, respectively).

A higher proportion of beneficiaries were employed than non-beneficiaries (50% vs 29%, p=.029), although among those who were employed, beneficiaries worked less hours per week than non-beneficiaries (average 19 hours vs average 28 hours, p=.019). Mean hourly wage was $11.80 for SSA beneficiaries and $12.40 for non-beneficiaries (p>.05). A higher proportion of employed non-beneficiaries than employed beneficiaries indicated a desire to work more hours per week (88% vs 64%, p>.05) and to earn more income (100% vs 82%, p>.05). Almost all employed participants said they could see themselves continuing to work in the next year, regardless of beneficiary status. Among those who were non-working, a higher proportion of non-beneficiaries than beneficiaries reported currently looking for work (45% vs 28%, p>.05).

Patterns of mental health, medical, and vocational services use among all participants, by beneficiary status, and by employment status are shown in Table 3. All participants had received outpatient mental health services in the past 12 months. Less than 10% of participants had experienced an inpatient psychiatric hospitalization (8%), or received mental health crisis/emergency department services (7%) in the past 12 months, and these did not vary significantly by study group. Less than a quarter of all participants had medical outpatient services in the past year (23%); a higher proportion of non-beneficiaries than beneficiaries had outpatient medical services (32% vs 19%, p>.05), and a higher proportion of non-working than employed had outpatient medical services (29% vs 15%, p>.05). Only 7% of all participants were hospitalized for medical reasons, including 10% of beneficiaries and none of the non-beneficiaries (p=.05), and 9% of the non-working compared to 4% of the employed (p>.05). Almost one fifth of all participants had used medical emergency department services in the past year. Emergency department use did not differ by beneficiary status, but it was used by a higher proportion of non-working than employed participants (23% vs 10%, p>.05). Employment status was significantly associated with higher rates of any medical service use, with 45% of non-working participants using medical services compared to 19% of employed participants (p=.004). More employed participants than non-working participants used vocational services (75% vs 42%, p<.001), and more beneficiaries than non-beneficiaries used vocational services (65% vs 39%, p=.007).

Table 2. Relationships between Beneficiary and Employment Status

Background Characteristics	Total Sample N=121 n (%)	SSA Disability Beneficiary N=80 n (%)	SSA Disability Non-Beneficiary N=41 n (%)	Employed N=52 n (%)	Non-working N=69 n (%)
SSI/SSDI Beneficiary	80 (66.1)	80 (100%)	n/a	40 (76.9)	40 (58.0)[1]
SSI+SSDI Beneficiary	12 (9.9)	12 (15.0)[2]	n/a	5 (9.6)	7 (10.1)
SSI Beneficiary	49 (40.5)	49 (61.3)	n/a	17 (32.7)	32 (46.4)[3]
Ever on SSI	63 (52.1)	56 (70.0)	7 (17.1)	27 (51.9)	36 (52.2)
Ever Denied SSI	14 (11.6)	4 (5.0)	10 (24.4)	8 (15.4)	6 (8.7)
SSDI Beneficiary	43 (35.5)	43 (53.8)	n/a	28 (53.8)	15 (21.7)[4]
Ever on SSDI	47 (38.8)	45 (56.2)	2 (4.9)	30 (57.7)	17 (24.6)[5]
Ever Denied SSDI	10 (8.3)	2 (2.5)	8 (19.5)	4 (7.7)	6 (8.7)
Of those not receiving benefits (n=41), # were denied benefits:	15 (36.6)	n/a	15 (36.6)	7 (58.3)	8 (27.8)
Employed	52 (43.0)	40 (50.0)	12 (29.3)[6]	52 (100%)	n/a
Among those employed:					
# hours employed: [min-max, mean (SD)]	4-50, 21 (11.7)	4-50, 19 (23.8)	4-40, 28 (68.3)[7]	4-50, 21 (11.7)	n/a
Earnings per hour, $ [min-max, mean (SD)]	5-60 11.9 (7.4)	5-60 11.8 (8.2)	8.8-21.3 12.4 (3.6)	11.9 (7.4)	n/a
Interested in working more hours per week	30 (68.2)	23 (63.9)	7 (87.5)	30 (68.2)	n/a
Interested in earning more	45 (86.7)	33 (82.5)	12 (100%)	45 (86.5)	n/a
View self as continuing to work in next year:					
Strongly Agree	33 (63.5)	26 (65.0)	7 (58.3)	33 (63.5)	n/a
Agree	17 (32.7)	13 (16.3)	4 (33.3)	17 (32.7)	
Disagree	1 (1.9)	1 (1.3)	0	1 (1.9)	
Not Sure	1 (1.9)	0	1 (8.3)	1 (1.9)	
Of those non-working (n=69), # looking for work	24 (34.7)	11 (27.5)	13 (44.8)	n/a	24 (34.7)

SD=standard deviation

1. Benefit/Employment Status X2(1,N=121)=4.75,p=.029
2. SSI+SSDI/Benefit Status: X2(1,N=121)=6.83, p=.009;
3. Still on SSI/Employment Status: X2(1,N=121)=6.0,p=.014;
4. Currently SSDI/Employment status: X2(1,N=121)=15.4, p<.001
5. Ever on SSDI/Employment Status: X2(1,N=121)=15.2,p<.001;
6. Employment Status/Benefit Status: repeat of 1
7. Hours worked/Benefit Status: : t(119) = 2.43, p=.019

Table 3. Mental Health, Medical, and Vocational Service Utilization in 12 Months Prior to Interview by Beneficiary Status and Employment Status

Service Type	Total (N=121) n (%)	SSA Beneficiary (N=80) n (%)	SSA Non-Beneficiary (N=41) n (%)	Employed (N=52) n (%)	Non-working (N=69) n (%)
Mental Health Outpatient	121 (100)	80 (100)	41 (100)	52 (100)	69 (100)
Mental Health Inpatient	10 (8.3)	8 (10.0)	2 (4.9)	2 (3.8)	8 (11.6)
Mental Health Crisis/ Emergency Department	8 (6.6)	6 (7.5)	2 (4.9)	1 (1.9)	7 (10.1)
Any Mental Health Service	**121 (100)**	**80 (100)**	**41 (100)**	**52 (100)**	**69 (100)**
Medical Outpatient	28 (23.1)	15 (18.8)	13 (31.7)	8 (15.4)	20 (29.0)
Medical Inpatient	8 (6.6)	8 (10.0)	0 (0)[1]	2 (3.8)	6 (8.7)
Medical Emergency Department	21 (17.4)	14 (17.5)	7 (17.1)	5 (9.6)	16 (23.2)
Any Medical Service	**41 (33.9)**	**25 (31.3)**	**16 (39.0)**	**10 (19.2)**	**31 (44.9)[2]**
Any Vocational Service	**68 (56.2)**	**52 (65.0)**	**16 (39.0)[3]**	**39 (75.0)**	**29 (42.0)[4]**

1. X2(1,N=121)=4.39,p=.050
2. X2(1,N=121)=8.74,p=.004
3. X2(1,N=121)=7.43,p=.007
4. X2(1,N=121)=13.10,p<.001

Specifically, SSA beneficiaries were more likely than non-beneficiaries to use job-related transportation assistance (46% vs 20%, p=.004), and less likely to use Veteran's Administration vocational services (0% vs 5%, p=.046) (Table 4). Use of other employment related services and supports did not vary by beneficiary status, and included: supported employment (36%), career development (19%), job skills training (10%), SSA work incentives (5%), state vocational rehabilitation services (4%), Workforce Center (3%), and benefits counseling (26%). Compared to non-working participants, more of the employed participants used supported employment (63% vs 14%, p<.001), career development (37% vs 6%, p<.001), job training skills (23% vs 0%, p<.001), job transportation assistance (75% vs 9%, p<.001), SSA work incentives (12% vs 0%, p=.004), and benefits counseling (50% vs 6%, p<.001). There were no significant differences by employment status in use of Veteran's Administration vocational services (2% of employed vs 1% non-working), state vocational rehabilitation services (8% of employed vs 1% of non-working), or Workforce Center services (6% of employed vs 1% of non-working). No participants used private disability insurance or Worker's Compensation.

Participants were asked about their intention to apply for SSI (if they did not currently have it) and separately their intention to apply for SSDI (if they did not currently have it) (Table 5). Only 12 participants (10%) were dual SSI + SSDI beneficiaries, and therefore not asked either question. Intention to apply for SSI/DI was not associated with participant demographic characteristics (not shown), self-reported physical or mental health status, employment status, or use of any medical or vocational services. However, use of one specific vocational service was associated with participants' intention to apply for benefits. Among participants planning to apply for benefits, 40% had received job related benefits counseling compared to 19% of those not planning to apply for benefits (p=.023).

Table 4. Employment-Related Services and Supports Reported at Time of Interview by Beneficiary Status

Types of Services and Supports	Total Receiving Service N=121 N (%)	SSA Beneficiary n=80 n (%)	Non-SSA Beneficiary n=41 n (%)	Chi-square test, p-value
Supported Employment	43 (35.5)	30 (37.5)	13 (31.7)	NS
Career Development	23 (19.2)	17 (21.2)	6 (14.6)	NS
Job Skills Training	12 (10.0)	8 (10.0)	4 (9.8)	NS
Transportation Assistance	45 (37.2)	37 (46.2)	8 (19.5)	$X^2(1,N=121)=8.30,p=.004$
SSA Work Incentives	6 (5.0)	5 (6.2)	1 (2.4)	NS
Veteran's Administration Employment Services	2 (2.0)	0	2 (4.9)	$X^2(1,N=121)=3.97,p=.046$
State Vocational Rehabilitation Services	5 (4.1)	3 (3.8)	2 (4.9)	NS
Workforce Center	4 (3.3)	2 (2.5)	2 (4.9)	NS
Benefits Counseling	30 (26.1)	23 (28.8)	7 (17.1)	NS
Private Disability Insurance	0 (0)	0 (0)	0 (0)	NS
Workers' Compensation	0 (0)	0 (0)	0 (0)	NS
		Employed (N=52) n (%)	**Not employed (N=69) n (%)**	
Supported Employment	43 (35.5)	33 (63.4)	10 (14.4)	$X^2(1,N=121)=31.04,p<.001$
Career Development	23 (19.2)	19 (36.5)	4 (5.8)	$X^2(1,N=121)=18.73,p<.001$
Job Training Skills	12 (10.0)	12 (23.0)	0 (0)	$X^2(1,N=121)=17.68,p<.001$
Transportation Assistance	45 (37.2)	39 (75.0)	6 (8.7)	$X^2(1,N=121)=55.81,p<.001$
SSA Work Incentives	6 (5.0)	6 (11.5)	0 (0)	$X^2(1,N=121)=8.38,p=.004$
Veteran's Administration Employment Services	2 (2.0)	1 (1.9)	1 (1.4)	NS
State Vocational Rehabilitation Services	5 (4.1)	4 (7.7)	1 (1.4)	NS
Workforce Center	4 (3.3)	3 (5.8)	1 (1.4)	NS
Benefits Counseling	30 (26.1)	26 (50.0)	4 (5.8)	$X^2(1,N=121)=33.69,p<.001$
Private Disability Insurance	0 (0)	0 (0)	0 (0)	NS
Workers' Compensation	0 (0)	0 (0)	0 (0)	NS

Table 5. Benefit application intentions (n=109, excludes the 12 people with both SSI+SSDI)

	Planning to Apply for SSI or SSDI (N=30)	Not Planning to Apply for SSI or SSDI (N=79)	p-value
	X (SD)	X (SD)	
Self-Reported Physical Pain: mean, SD (higher=better health)	6.6 (2.1)	6.9 (1.8)	p=.485
Self-Reported Physical Health: mean, SD (lower=better health)	3.4 (1.3)	3.2 (1.6)	p=.626
Self-Reported Mental Health: mean, SD (lower=better MH)	5.5 (4.9)	5.7 (4.2)	p=.835
	N (%)	N (%)	
Self-Reported Physical Disability or Impairment	13 (43.3%)	38 (48.1%)	p=.656
Self-Reported Work Disability or Impairment	15 (50.0%)	49 (62.0%)	p=.255
Employed	16 (53.3%)	31 (39.2%)	P=.185
Any Medical Service	9 (30.0%)	29 (36.7%)	p=.512
Any Vocational Service	16 (53.3%)	43 (54.4%)	p=.918
Benefits counseling	12 (40.0%)	15 (19.0%)	p=.023

SD=standard deviation

* no significant associations for any participant characteristics including gender, age, race, insurance status, income, and diagnosis

Among non-working participants (n=69), there were some differences in reported interest in receiving vocational services associated with demographic characteristics and self-reported physical health and disability (Table 6). Non-working participants with an expressed interest in receiving vocational services reported better physical health (3.2 vs 4.1, p=.017). A lower proportion of those who were interested in receiving vocational services reported having a physical disability than those not interested in vocational services (51% vs 88%, p=.009). A higher proportion of non-working participants interested in receiving vocational services were African American than those not interested in vocational services (64% vs 31%, p=.020).

We used multivariable logistic regression in exploratory analyses of the concurrent relationship of participant characteristics and services to the outcomes of beneficiary status, employment status, and intention to apply for SSI/DI benefits (Table 7). In the first step of the models with SSA beneficiary status as the outcome, receipt of vocational services was significantly and positively associated with having SSA disability benefits (OR=2.42, p=.032), but this relationship disappeared in the next step which adjusted for employment status. Use of medical services was not significantly related to benefit status. In the third step, poorer physical health was significantly associated with less likelihood of receiving SSA disability benefits (OR=0.59, p=.006). This relationship remained significant after adjusting for medical need and treatment, and for combined medical and vocational services. Gender had been significantly associated with less likelihood of being an SSA disability beneficiary in steps 1 and 2 but was no longer significant in more specified models.

Table 6. Interest in Receiving Employment Services among Non-working Participants (N=69)

	Interested in Receiving Vocational Services (N=53)	Not Interested in Receiving Vocational Services (N=16)	p-value
	X (SD)	**X (SD)**	
Self-Reported Physical Pain: mean (SD) (higher=better health)	6.8 (1.9)	5.9 (2.5)	p=.127
Self-Reported Physical Health: mean (SD) (lower=better health)	3.2 (1.1)	4.1 (1.4)	p=.017
Self-Reported Mental Health mean (SD) lower=better MH)	6.3 (4.6)	5.8 (4.4)	p=.731
	N (%)	**N (%)**	
Self-Reported Physical Disability or Impairment	27 (50.9)	14 (87.5)	p=.009
Self-Reported Work Disability or Impairment	32 (60.4)	13 (81.3)	p=.124
Any Medical Service	25 (47.2)	6 (37.5)	p=.496
SSA Beneficiary	31 (58.5)	9 (56.3)	p=.874
Black/African American	34 (64.2)	5 (31.3)	p=.020
White	11 (20.8)	6 (37.5)	p=.173
Hispanic	6 (11.3)	5 (31.3)	p=.056
Female	17 (32.1)	7 (13.0)	p=.390

X=mean; SD=standard deviation

* no significant associations for other background characteristics including age, insurance status, income, and diagnosis

Table 7. Multivariable predictors of beneficiary status, employment status, land intention to apply for SSA disability benefits, N=121

		Dependent Variable		
Model	Predictors	SSA Beneficiary OR, p-value	Employed OR, p-value	Planning to Apply for Benefits (n=109) OR, p-value
1.	Any Medical Service	0.58. p=.794	0.30, p=.007	0.76 p=.555
	Any Vocational Service	2.42, p=.032	4.40, p=.001	0.99, p=.995
	Gender	0.46, p=.062	1.40, p=.451	2.10, p=.097
2.	Any Medical Service	0.93, p=.860	0.30, p=.008	0.89, p=.806
	Any Vocational Service	1.99, p=.112	3.98, p=.002	0.66, p=.809
	SSA Beneficiary	n/a	1.94, p=.149	n/a
	Employed	1.97, p=.140	n/a	1.88, p=.185
	Gender	0.43, p=0.47	1.59, p=.316	2.03, p=.117
3.	Any Medical Service	0.95, p=.911	0.31, p=.010	0.78, p=.876
	Any Vocational Service	1.72, p=.230	3.84, p=.002	0.72, p=.838
	SSA Beneficiary	n/a	1.71, p=.262	n/a
	Employed	1.73, p=.246	n/a	2.71, p=.066
	Physical health (MOS)	0.59, p=.006	0.83, p=.309	1.14, p=.498
	Gender	0.47, p=.107	1.67, p=.275	1.93, p=.153
4	Any Medical Service	0.46, p=.597	0.16, p=.168	2.42, p=.534
	Any Vocational Service	1.75, p=.219	3.93, p=.002	0.82, p=.686
	SSA Beneficiary	n/a	1.69, p=.271	n/a
	Employed	1.72, p=.254	n/a	2.00, p=.151
	Physical health (MOS)	0.55, p=.012	0.78, p=.251	1.24, p=.334
	Any Medical Service*Physical Health	1.23, p=.605	1.24, p=.581	0.74, p=.452
	Gender	0.49, p=.108	1.70, p=.261	1.90, p=.161
5	Any Medical Service	1.23, p=.735	0.61, p=.474	1.19, p=.791
	Any Vocational Service	2.12, p=.182	5.27, p=.002	1.04, p=.944
	SSA Beneficiary	n/a	1.66, p=.290	n/a
	Employed	1.67, p=.283	n/a	1.88, p=.196
	Physical health (MOS)	0.59, p=.006	0.82, p=.281	1.13, p=.510
	Any medical x any vocational service	0.57, p=.531	0.34, p=.230	0.51, p=.490
	Gender	0.48, p=.099	1.61, p=.309	1.89, p=.166

In the first step of the models with employment status as the outcome, receiving medical services was associated with significantly lower likelihood of employment (OR = 0.30, p=.007) while vocational services were associated with greater likelihood of employment (OR=4.40, p=.001). These relationships did not change notably in the next step, adjusting for beneficiary status, or in the fourth step, additionally adjusting for physical health status. In the final step, adjusting for the interaction term of receipt of medical services with poor health, receipt of medical services becomes non-significant in relationship to employment, while vocational services are still associated with greater likelihood of employment (OR=3.93, p=.002). Receipt of both medical and vocational services together did not change the relationship between vocational services and employment.

In the third set of multivariable logistic regressions, there were no significant predictors of intent to apply for SSI/DI among participants who did not have both SSI and SSDI (n=109). There were two factors that approached statistical significance: in the first step, being female had an elevated likelihood of planning to apply (OR=2.10,p=.097) and in the third step, being employed had an elevated likelihood of planning to apply (OR=2.71, p=.066).

Finally, we examined responses to one open-ended item, "What would need to change in order for you to work?" (among non-working participants, n=69) or, "What needs to change in order for you to have a better job or career?" (among employed respondents, n=52). Among the non-working group, 14 responded that they didn't know, that they didn't want to work, or that nothing would need to change. Others described receipt of supported employment and other employment services (n=13); help with disclosure or workplace accommodations (n=12); need for supported education and skills training (n=8); or assistance with housing (n=4), as necessary for them to work. However, the most common responses involved mental and/or physical health needs (n=25). Some of these respondents indicated that their mental health symptoms were a barrier to looking for work:

> *My anxiety. It gets in the way of succeeding in life. I get in my own way. I need to have the anxiety better under control to move forward with work.*
>
> *Learn to be nice to people and keep control so I won't get upset... Help people as much as I can…Try to cope with my illness to stop seeing things that aren't there.*
>
> *A new brain. My mental illness would make working very difficult. I can't concentrate for very long, and that makes working hard.*

For some respondents, improving mental health meant changing or adjusting psychiatric medications, or staying sober. For others, psychiatric medications were part of the problem:

> *I need to be able to withstand work for 8 hours. I am very lackadaisical and it makes it difficult for me to work a full shift. My medication can make me very sleepy.*
>
> *I would have do a lot to work at the gym… exercise (sit ups, squats, push-ups). That would take me off some medications, and that would help me focus better and would not restrict me from [a job] working on the L train [public transportation].*

Physical health conditions were also commonly mentioned as barriers to work:

> *A miracle healing and extraordinary advancement in elbow reconstruction, better pain management, [and] just being able to get through the day without pain…I have been in unbearable pain most of my life and as I have gotten older it has gotten worse and is making my health deteriorate.*
>
> *Get my health together and find a part time job where I would not sit or stand for long times. It's all about the type of job so that I'm not in pain while working.*
>
> *If I could get rid of this asthma I could be alright again. That's the only thing that's been stopping me from working. The cold weather and when it's too hot - I can't do that.*
>
> *The only I can think of is my health improving. At the moment I am receiving excellent health services. Once it's under control, then maybe I can work.*

Improving physical health was also seen as means of improving mental health and enhancing work motivation:

> *Well I already quit drinking and doing drugs. I'm exercising already. I jot everything down. I need to maybe start working more closely with the supported employment specialists.*
>
> *I want to address these health issues and get my depression under control.*
>
> *The pain in my knees, hands, and back make it difficult to work. But I get used to it. I just have to take time to exercise my legs to prevent getting sore.*
>
> *The doctor would see. If I continue exercising they might slowly take me off something, because the medication may become more potent when you exercise since I'm getting healthier (would not need as much medication).*

Among the employed participants, the most commonly mentioned need in order to get a better job or advance their careers was more education or job training (n=17). Ten individuals said there was nothing to change, either because they were satisfied with where they were at, or they had health problems that were not remediable. Compared to the non-working group, fewer employed participants named issues related to mental health, psychiatric medication, and physical health as barriers to getting better jobs (n=8). Many employed participants expressed satisfaction with their jobs and employment:

> *I don't think so. I like what I'm doing. I like serving people but would maybe like to go back to school for business.*
>
> *No I like my job I work at the grocery store and I like it. It's a good job for me.*
>
> *I love to work. I would rather work than sitting at home waiting on a check.*
>
> *My goal is to not live on SSI so I want another job and make more money because of my kids.*
>
> *No, I just started a new job at the movie theater a few days ago and I want to continue part time and keep my benefits.*
>
> *I'm proud of the work I do and would like to continue.*

V. DISCUSSION

In this research, we sought to address a series of questions with the aim of better understanding the nature of behavioral health homes and their potential to influence employment and disability beneficiary status among patients. These questions are listed below along with relevant study findings.

A. How do behavioral health home participants who are not SSI/DI beneficiaries differ from those who are in terms of demographic and clinical characteristics, and services received?

Women were less likely than men to have SSA disability benefits in our sample, as were parents of minor age children, although these also were primarily women. A higher proportion of beneficiaries had Medicare coverage than non-beneficiaries, presumably related to SSDI status. The large majority of both SSA beneficiaries and non-beneficiaries had Medicaid insurance, perhaps due to Medicaid expansion in Illinois under the Affordable Care Act. A small number of non-SSA beneficiaries had no health insurance at all. In terms of clinical characteristics, a higher proportion of beneficiaries had diagnoses of schizophrenia/schizoaffective disorders, while major depression was more frequent among non-beneficiaries. Self-reported mental health was better among beneficiaries than non-beneficiaries. Similarly, self-reported physical health and pain level were better among beneficiaries compared to non-beneficiaries. A higher proportion of SSA beneficiaries than non-beneficiaries were employed, although non-beneficiaries worked more hours per week than beneficiaries did. Finally, SSA beneficiaries had higher monthly income than non-beneficiaries.

Beneficiaries did not differ from non-beneficiaries in use of any mental health services, but a lower proportion of beneficiaries used any medical services compared to non-beneficiaries. Beneficiaries and non-beneficiaries did not differ in use of any vocational services or interest in receiving vocational services. In multivariable analyses adjusting for gender, service use and employment status, only poor self-reported physical health was significantly associated with lesser likelihood of being an SSA disability beneficiary.

B. How do behavioral health home participants who are not employed differ from those who are in terms of demographic and clinical characteristics, and services received?

A higher proportion of employed participants had minor age children than participants who were not employed. Employed participants also had higher average income than those who were not employed. Self-reported mental health was better among employed participants compared to non-working participants. Similarly, self-reported physical health and pain level were also better among employed than non-working participants. A lower proportion of employed participants reported having a physical or work disability compared to non-working participants. A higher proportion of employed participants were SSA beneficiaries than non-working participants, although this differed by benefit program: SSI beneficiary status was more common among non-working participants whereas SSDI benefit receipt was more common among working beneficiaries.

Use of mental health services did not differ by employment status, but use of any medical services was more common among non-working than employed participants. Use of any vocational services was more common among employed than non-working participants, in particular: supported employment, career development, job training skills, transportation assistance, SSA work incentives, and benefits counseling.

C. Is there a relationship between employment status, SSI/DI status, and behavioral health home services received?

All participants received outpatient mental health services in the prior 12 months, which would be expected given that mental health centers were the setting for the two primary care clinics. SSA beneficiaries had more medical inpatient hospitalizations than non-beneficiaries. Employment status was significantly associated with higher rates of any medical service use, with 45% of non-working participants using medical services compared to 19% of employed participants. More employed participants than non-working participants used vocational services (75% vs 42%, $p<.001$), and more beneficiaries than non-beneficiaries used vocational services (65% vs 39%, $p=.007$). Use of medical services was not associated with use of vocational services.

1. Are there patterns of service delivery, including types and intensity of services, which are associated with SSI/DI program participation, and do these vary by employment status?
2. Are there patterns of service delivery, including types and intensity of services, which are associated with employment status, and do these vary by SSI/DI status?

Overall, SSI/DI beneficiaries more often used vocational services than non-beneficiaries (65% vs 39%). In particular, SSI/DI beneficiaries were more likely than non-beneficiaries to report use of job related transportation assistance (46% vs 20%), which may reflect access to para-transit services. SSI/DI beneficiaries also were less likely to report use of Veteran's Administration employment services, but the number of individuals who used this service at all was very low (n=2). However, multivariable analysis found that use of any vocational or medical services were not associated with SSI/DI program participation, after adjusting for other factors.

Use of medical services was negatively associated with employment until controlling for need for medical services (e.g., poor physical health) among medical services users. Vocational services were associated with employment regardless of SSI/DI status or physical health status. Notably, supported employment, career development, job training skills, transportation assistance and benefits counseling were associated with greater likelihood of employment. Benefits counseling also was associated with greater likelihood of participants' stated intention to apply for SSI/DI benefits.

D. Do the behavioral health homes differ in organizational or service delivery features, and if so, are there variations that are associated with likelihood of employment or enrollment in SSI/DI?

The large mental health agency that operates as a behavioral health home offers services at multiple locations throughout the city, and clients can choose the location for different services, or choose to use one location for all services. Vocational and mental health service delivery is

client-centered and integrated within the organizational structure, using the Individual Placement and Support model of supported employment (Drake et al., 2012). The provision of medical and wellness services in the behavioral health home setting is an additional level of integration, although clients can receive medical services elsewhere.

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VI. LIMITATIONS

Our study was exploratory in nature and selectively recruited participants by benefit and employment status; consequently, prevalence results are not generalizable. Small sample size may have limited statistical power for some analyses. It is possible that participants received medical care outside of the behavioral health home, especially given that the majority had Medicaid coverage regardless of SSA beneficiary status.

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VII. CONCLUSIONS

The purpose of this study was to explore the extent to which behavioral health homes provide or have the capacity to provide support for patients' employment, as well as reduce their likelihood of applying for and depending upon public disability benefits. We found that behavioral health home patients have high levels of physical health needs, including the need for medical care and wellness programs, and that poor physical health was a barrier to employment. In addition, participant physical health and mental health are interrelated, for example, when physical pain aggravates mental health symptoms, or when psychiatric medications inhibit physical well-being. Our analysis suggests that when treated, poor physical health was no longer a significant barrier to employment status, and that vocational services are essential to obtaining and maintaining employment independent of other factors. The results of this study add to the literature on the effectiveness of integrating vocational and medical services on employment outcomes for people with multiple chronic conditions in patient-centered medical homes (McLellan et al., 2012; Tamminga et al., 2010).

The potential of behavioral health homes to provide services needed to prevent enrollment in, or reliance on, SSA disability lies in their ability to treat physical health needs as a necessary precursor to both employment and avoidance of work disability. The high prevalence of co-occurring physical health conditions with serious mental illness is well-documented (Cook et al., 2015), and people with serious mental illness combined with chronic medical conditions are at greater risk for work disability than others (Dewa et al., 2007). In this study, both SSA non-beneficiaries and non-working participants had poorer self-reported mental health than beneficiaries and those who were employed, but were equally likely as all participants to receive mental health services. However, non-beneficiaries were more frequent users of medical services than SSA beneficiaries, and poor physical health was not associated with greater likelihood of planning to apply for benefits. The behavioral health home program's focus is on helping patients improve their physical health while they are concurrently receiving supported employment services. However, in some cases, patients may prefer to address their medical problems prior to receiving supported employment because they feel that their medical condition will ultimately be a barrier to successful employment. For example, individuals with diabetes and related medical issues may want to spend several months getting their diabetes under control prior to pursuing employment; they then may be more likely to get a job and keep it longer rather than having to end the job due to their diabetes.

Benefits counseling was a vocational service that was associated with greater likelihood of employment; however, it also was associated with participants' greater intention to apply for SSA disability benefits. In this study, participants with SSDI were more likely to work than those without SSDI, whereas participants with SSI were less likely to be employed than those without SSI. Disability benefits and employment both contribute to economic well-being in terms of income and health insurance coverage. Prior research has shown that, among people with serious mental illness receiving supported employment services, those who have the highest income are those who are both working and receiving SSA disability benefits (Cook, 2000). In our sample, employed participants had higher average monthly income ($1,802) than beneficiaries ($1,480), but both groups had significantly higher income than non-working participants ($752) or non-beneficiaries ($663). Although many worked, SSA beneficiaries who were employed worked fewer hours per week than non-beneficiaries, and they may have been

limiting their earnings to protect their benefits. Specialized benefits counseling could help participants who want to work but are afraid of losing income or insurance.

In conclusion, our study found that the role of physical poor health and pain as limitations to employment are significant, and that the behavioral health home program has the potential to deliver necessary medical and wellness services to improve physical health, in concert with vocational services to enhance the likelihood of employment.

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