Mind the Gap: Developing an Integrated Behavioral Health Home to Address Health Disparities in Serious Mental Illness

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Objective: This study evaluated the impact of an integrated behavioral health home (BHH) pilot on adults with psychotic and bipolar disorders.

Methods: Quasi-experimental methods were used to compare outcomes before (September 2014–August 2015) and after the intervention (September 2015–August 2016) among ambulatory BHH patients and a control group. Electronic health records were compared between 424 BHH patients (N=369, psychotic disorder; N=55, bipolar disorder) and 1,521 individuals from the same urban, safety-net health system who were not enrolled in the BHH. Groups were weighted by propensity score on the basis of sex, age, race-ethnicity, language, 2010 U.S. Census block group characteristics, Medicare and Medicaid enrollment, and diabetes diagnosis.

Results: BHH patients had fewer total psychiatric hospitalizations and fewer total emergency visits compared with the control group, a difference that was predominantly driven by patients with at least one psychiatric hospitalization or ED visit. There were no differences in medical hospitalizations. Although BHH patients were more likely to receive HbA1c screening, there were no differences between the groups in lipid monitoring. Regarding secondary outcomes, there were no significant differences in changes in metabolic monitoring parameters among patients with diabetes.

Conclusions: Participation in a pilot ambulatory BHH program among patients with psychotic and bipolar disorders was associated with significant reductions in ED visits and psychiatric hospitalizations and increased HbA1c monitoring. This evaluation builds on prior research by specifying intervention details and the clinical target population, strengthening the evidence base for care integration to support further program dissemination.

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Millions of adults in the United States experience a schizophrenia-spectrum or bipolar disorder during their lifetime, with estimated prevalence of 1.2% (1) and 2.1% (2), respectively. Individuals with serious mental illness in the United States die 20 to 30 years earlier than the general population (3–5), primarily due to medical conditions such as chronic obstructive pulmonary disease, pneumonia or influenza, lung cancer, diabetes, and cardiovascular disease (6,7). Despite having high rates of chronic conditions (8), nearly 41% of persons with serious mental illness report unmet needs for general medical treatment (9). These physical comorbidities emerge because of multiple factors, including unhealthy behaviors (such as tobacco use, physical inactivity, and poor diet), iatrogenic effects of antipsychotic medications, and social adversity (10–12).

Inadequate primary care utilization may drive poor health outcomes for persons with serious mental illness. In the United States, adults with schizophrenia are 45% less likely and adults with bipolar disorder are 26% less likely to have a primary care physician compared with persons without mental disorders (13). Even when people with serious mental illnesses access primary care, they frequently receive lower-quality care than the general population (14–18). Interventions that incorporate behavioral health services into primary care generally improve health care access for patients with milder mental health needs (19), but they largely do not reach people with serious mental illness, who often view mental health specialists, not primary care providers (PCPs), as their usual source of care (20–22).

Approaches to integrating general medical services into mental health practices (23,24) include the behavioral health home (BHH) model, which provides enhanced access to medical services, care coordination, care transition support, and health promotion (12,25,26). Yet the effectiveness of BHH models remains in question. Studies to date have applied the BHH in unique settings, such as the Veterans Health Administration (20,27), examined varied BHH intervention components (23), included diagnostically heterogeneous

populations (23,28), or focused primarily on general medical outcomes (28). Even evaluations that specified intervention components have yielded mixed findings, such as improvements in quality measures but not clinical outcomes (29). Recent work comparing two integrated care approaches concluded that programs with greater integration were associated with improved self-reported health, increased screening for chronic conditions, and reduced hypertension but also with increased rates of diabetes and prediabetes (30).

This study extends existing literature by evaluating a clearly defined BHH program that was implemented in a safety-net institution for use by adults with schizophrenia spectrum disorders or bipolar disorder. Because the program targeted patients' quality of care and stability in community-based settings, we hypothesized that the BHH would reduce emergency department (ED) visits, reduce general medical and psychiatric inpatient admissions, and increase preventive health screening. Because the motivation to integrate care derives from a belief that mental and general medical health are inextricably linked, we hypothesized that the BHH would improve both general medical and psychiatric service use outcomes. We therefore also evaluated the impact of the BHH on secondary metabolic outcomes, including HbA1c, glucose, and low-density lipoprotein (LDL) levels, for patients with diabetes.

METHODS

Data Source and Study Sample

Data were collected from electronic health records (EHRs) in an urban safety-net academic medical system that provides a full continuum of care to over 140,000 patients annually at multiple hospitals and community clinics. The study included individuals receiving treatment between September 2014 and August 2016 for a primary psychotic disorder (schizophrenia, schizoaffective disorder, or other psychotic disorder) (N=1,331) or bipolar disorder (if treatment included antipsychotic medication) (N=614) with one or more visits for mental or general medical care before and after the intervention. Those with bipolar disorder were required to have an antipsychotic prescription to enroll in the BHH to ensure the program served those with greatest psychiatric need and medical risk.

The BHH program was established at the medical system's largest outpatient community-based mental health clinic. On September 1, 2015, patients meeting diagnostic criteria and receiving care at either this mental health clinic or a nearby primary care practice were automatically assigned to the BHH. Subsequent BHH referrals were accepted from throughout the health system on the basis of standard criteria (psychiatric diagnosis, medical risk or comorbidity, and care coordination needs). These criteria were communicated to providers and administrators via mailings and site visits. Eligible referred patients were offered an intake appointment and enrolled voluntarily. Through use of EHRs and communication with existing providers, the BHH program ensured that there was no duplication of services with the referring clinic.

The control group consisted of patients with the same diagnoses who were not assigned to the BHH; instead, they received outpatient mental health and general medical care in other clinics within the health system (usual care). Of 1,865 patients identified as members of the control group before the intervention began, 344 had no postintervention contact within the health system and were removed from analysis to avoid misclassifying those who potentially used care at other health care systems as nonusers. The sample of remaining 1,521 control group participants (962 with psychotic disorder and 559 with bipolar disorder) was weighted to have the same baseline characteristics as the 1,865 patients in the original control group. This additional weighting step for the control group approximates an intent-to-treat analysis. Weighting to account for missingness was not necessary for patients in the BHH intervention, who were fully observed within the health system before and after the intervention.

Outcome Variables

Primary outcomes were chosen a priori and include any use of psychiatric or medical inpatient hospitalizations or ED visits, total number of visits for these services, number of visits for patients with at least one visit, and screening rates for cardiometabolic health (LDL, HbA1c, and glucose). Among diabetic patients, laboratory values for these metabolic tests were assessed as secondary outcomes.

Description of the Intervention

Usual care included an individualized combination of psychopharmacology and individual or group psychotherapy, sporadic use of primary care or specialty services, and little or no use of EHRs to track health care utilization. The Massachusetts Medicaid Section 1115 Waiver purposefully included incentives for establishing a BHH as a safety-net hospital innovation. Clinical services were billed for reimbursement, primarily from Medicare and Medicaid in this population.

The BHH implemented four key general medical and psychiatric service enhancements. First, services expanded to include on-site medical care, health promotion (for example, smoking cessation group, healthy lifestyle groups, and health coaching), support for care coordination and transitions, and peer-to-peer engagement opportunities (such as drop-in milieu space, social gatherings, and health education workshops). Second, EHR functionality was enhanced to include provider alerts for patient transitions through ED or inpatient units, a registry for monitoring individuals' health status and service delivery, acute care discharge reports to facilitate follow-up care, and a performance measurement dashboard. Third, three new positions—a medical nurse practitioner, care manager, and program manager—were established to supplement the existing

team of 2.0 full-time-equivalent (FTE) psychiatrists, 1.75 FTE master's-level therapists, and trainees. Fourth, the BHH shifted clinical practice toward fully integrated, team-based care organized around group therapy modalities, health promotion, chronic disease screening and monitoring, social inclusion, and population management. Reducing social isolation was emphasized because of the endemic isolation in this population and evidence about the role of social networks in facilitating behavior change (31).

Once enrolled, BHH participants were encouraged to utilize available services that aligned with personal goals. Therefore, some participants frequently accessed integrated medical care and health promotion activities, whereas others benefited primarily from population management, health monitoring, and care coordination improvements. Some participants utilized the BHH nurse practitioner as their main source of medical care, although many maintained preexisting relationships with their PCPs.

Statistical Methods

Comparison of treatment and control groups at baseline. Baseline characteristics of BHH participants and weighted participants in the control group were compared for the total population and by subgroup of disorder by using chi-square statistics for binary variables and two-sample t tests for continuous variables.

Propensity-score weighted regression analysis of treatment effect. We used propensity score–weighted generalized estimating equations (GEEs) to estimate the BHH treatment effect. Propensity score methods balance the treatment and control groups on preintervention characteristics that influence selection into treatment, so observed outcomes can be attributed more confidently to the BHH (32). Because the propensity score is a scalar representing a prediction from multiple variables, propensity score weighting is not expected to produce a perfect match between treatment and control groups across all covariates simultaneously. In the control group, propensity score weights were multiplied by weights that account for "missing" status among participants who may have obtained treatment elsewhere, as described above. The overall propensity score was then estimated as the probability of assignment to treatment (BHH) conditional on observed covariates measured in the one-year period prior to the start of the BHH intervention.

Propensity scores were estimated by using patient baseline covariates associated with health service utilization that may have influenced selection into the BHH treatment group, including the following: sex, age, race-ethnicity (non-Hispanic white, non-Hispanic black, Asian, and Hispanic), speaker of English as a foreign language, Medicare enrollment, Medicaid enrollment, and diagnosis of diabetes or bipolar disorder. Demographic measures for the 2010 U.S. Census block group linked to the patients' addresses were also entered into the propensity score (percentage of individuals who were foreign born, who were living below federal poverty level, who had a female head of household, and who had not graduated from high school). Conditional on the propensity score, the distributions of observed covariates approximate the random assignment of individuals (33), thus balancing treatment and control groups on baseline demographic characteristics and neighborhood socioeconomic status. In a sensitivity analysis, we included presence of outpatient primary care visits in the propensity score weighting.

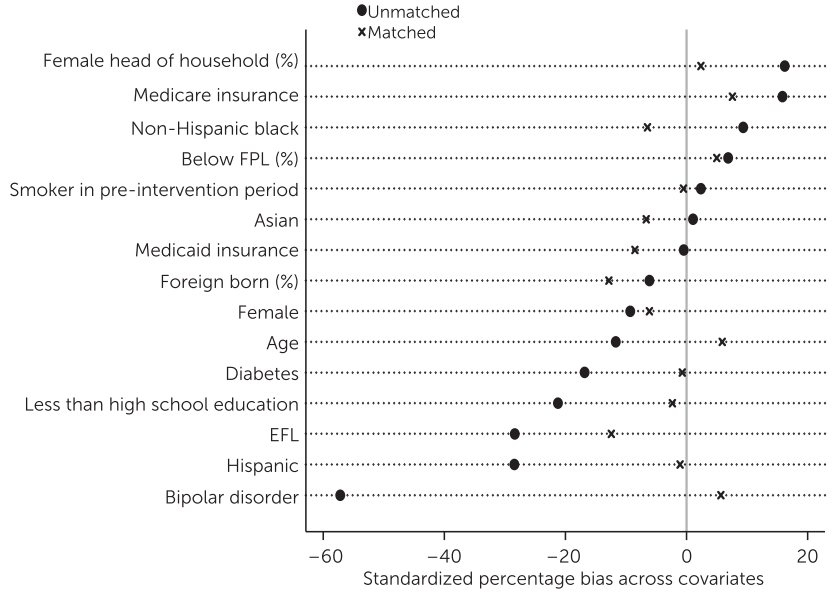
GEEs were estimated by using a population-averaged panel data model (based on the pre- and postintervention data record contributed by each patient) and an exchangeable within-group correlation structure to account for within-patient variation (robust standard errors). GEEs were weighted based on the propensity score (as determined

TABLE 1. Baseline characteristics of patients enrolled in a behavioral health home (BHH) program and a control group, in percentages[a]

Variable	BHH (N=424)	Control (N=1,521)	p
Female	47	51	.090
Age	48	50	.044
Race-ethnicity			
Non-Hispanic white	64	59	.061
Non-Hispanic black	22	18	.082
Hispanic	2	8	<.001
Asian	2	2	.845
Non-English speaker	11	21	<.001
Insurance type			
Medicare	57	49	.004
Medicaid	33	33	.932
Private	71	71	.954
Uninsured	1	1	.459
U.S. Census block group characteristic			
Female head of household	22	21	.003
Foreign born	29	30	.272
Living below the FPL[b]	12	11	.187
Less than high school graduate	12	14	<.001
Diabetes	10	16	.004
Bipolar disorder	13	37	<.001
Hypertension	26	33	.006
LDL (mg/dL)[c]	113.86	106.33	.010
HbA1c (%)[d]	5.91	6.27	<.001
Fasting glucose (mg/dL)	113.21	121.20	.062
Current smoker	32	31	.663
Outcomes variables prior to the intervention			
Primary care visits	4	4	.23
ED use[e]	38	40	.408
Psychiatric hospitalization	12	8	.014
General medical hospitalizations	17	21	.131
Glucose screen	65	69	.076
HbA1c screen	49	42	.008
LDL screen	48	42	.030

[a] Characteristics are reported before propensity score weighting.
[b] Federal poverty level
[c] LDL, low-density lipoprotein (BHH, N=202; control, N=635)
[d] BHH, N=209; control, N=639
[e] ED, emergency department

FIGURE 1. Covariate balance between the treatment and control groups before and after propensity score weighting[a]



[a] Propensity scores included the following covariates: sex, age, race-ethnicity (non-Hispanic white, non-Hispanic black, Asian, and Hispanic), speaker of English as a foreign language (EFL), Medicare enrollment, Medicaid enrollment, diagnosis of diabetes or bipolar disorder, and area-level variables (percentage foreign born, percentage living below federal poverty level [FPL], percentage with female head of household, and percentage with less than high school education). The data points represent the extent to which individual covariates are balanced before (unmatched) and after (matched) weighting by propensity score.

by the procedures described above), and predictive margins for the treatment and control groups in the periods before and after the intervention was initiated were compared. For each outcome of interest, the appropriate link function was specified (logit link for binary outcomes for any inpatient general medical or mental health care, any ED visit, and any metabolic screen and log link, gamma distribution, for number of visits and lab results). Weighted analyses were performed by using svy commands in Stata 14 (34).

RESULTS

Baseline Characteristics

Prior to propensity score weighting, BHH patients had significantly different demographic and service use characteristics during the period before the intervention compared with patients in the control group (Table 1). BHH patients were slightly younger than the control group (48.4 versus 50.2 years old), and they were less likely than participants in the control group to be Hispanic (2% versus 8%) or non-English speakers (11% versus 21%). The census block groups where BHH patients lived had a lower percentage of high school graduates and a higher percentage of female heads of households compared with census block groups for the control group. BHH patients were less likely than patients in the control group to have diabetes (10% versus 16%), hypertension (26% versus 33%), or bipolar disorder (13% versus 37%). Among the subset of patients with lab results, BHH patients had lower HbA1c values (5.9 versus 6.3) but higher LDL levels (113.9 versus 106.3 mg/dL) at baseline, but the percentage of patients who received HbA1c screenings in the preintervention period was higher among BHH patients than among patients in the control group (49% versus 42%). The percentage of Medicare beneficiaries was higher among BHH patients than among patients in the control group (57% versus 49%). Rates of ED use and medical hospitalizations were similar for both groups, but BHH patients had slightly higher rates of psychiatric hospitalization during the preintervention period (12% versus 8%).

Quasi-Experimental Results

Propensity score weighting successfully balanced BHH and control group patients on selected time-invariant characteristics during the preintervention period (Figure 1). Test statistics confirmed the weighted sample bias was within permissible range, and mean bias was reduced from 15.4% to 5.6%.

After 12 months, there were significant differences between BHH patients and control group patients on several measures of health care service utilization (Table 2) and HbA1c testing (Table 3) and a nonsignificant trend toward improved LDL testing among BHH patients (Table 3).

There was no significant difference in the pre-post change in any ED visit between the BHH and propensity-weighted control group (Table 2). However, the total number of ED visits per capita decreased significantly among BHH patients (from 1.45 to 1.19 visits) compared with the control group, whose total ED visits rose from .99 to 1.16 (p=.014 for contrast between the groups). The significant difference between the groups in total ED visits was driven by the difference among patients with one or more visits, which declined from 2.69 to 2.32 visits in the BHH group (p=.005 for contrast between the groups). Figure 2 illustrates actual service use rates by group and time.

Total psychiatric hospitalizations per capita declined for BHH patients (from .22 to .10) but remained stable for patients in the control group (.145 and .147) (p=.002 for contrast between the groups). Similar to the reduction in ED visits, the percentage of patients with psychiatric hospitalizations before and after the intervention did not significantly change among BHH patients compared with the control group. However, the number of hospitalizations among

those with at least one hospitalization decreased significantly for BHH patients (from 1.78 to 1.22) compared with controls (from 1.31 to 1.43) (p=.001 for contrast between the groups). Neither rate nor number of general medical hospitalizations (total or among those with at least one hospitalization) differed significantly across treatment and control groups before and after the intervention.

Screening rates for HbA1c increased more among BHH patients (from .49 to .64) than among control group patients (from .40 to .46) (p=.026 for contrast between the groups) (Table 3). LDL testing rates moved in the same direction, although the difference between the two groups was not significant (p=.052). Improvements in metabolic laboratory values for patients with diabetes were not significantly greater for BHH patients than for control group patients. [A comparison of lab results for BHH patients and control group patients with diabetes before and after the intervention is available in the online supplement.]

In an analysis by diagnosis, we found reduced ED visits and psychiatric hospitalizations and increased HbA1c testing among BHH patients with schizophrenia compared with their counterparts in the control group, echoing results for the total BHH population, but found no significant results for patients with bipolar disorder [see online supplement]. In sensitivity analyses incorporating prior-year primary care visits into the propensity score weighting, we observed no difference in the patterns and significance of our results [see online supplement].

TABLE 2. Contrast in service utilization between participants in a behavioral health home (BHH) program and a control group before and after the intervention[a]

Service utilization	Contrast	δ SE	p
Emergency department use			
Percentage of patients with any use	.011	.033	.728
Total visits	−.428	.174	.014
N of visits among patients with ≥1 visit	−.618	.221	.005
Psychiatric hospitalization			
Percentage of patients with any psychiatric hospitalizations	−.030	.021	.148
Total psychiatric hospitalizations	−.125	.040	.002
N of psychiatric hospitalizations among patients with ≥1 psychiatric hospitalization	−.685	.210	.001
General medical hospitalization			
Percentage of patients with any general medical hospitalization	−.005	.025	.826
Total general medical hospitalizations	−.067	.051	.182
N of general medical hospitalizations among patients with ≥1 general medical hospitalization	−.292	.178	.101

[a] Contrast was measured by subtracting the difference in service use between the BHH group and the control group before the intervention from the difference between service use by the two groups after the intervention. Estimated by using generalized estimating equation models (Stata xtgee and margins commands; logit link for binary outcomes and log link and gamma family variance for continuous outcome measures). Models were adjusted for propensity score weights by using the Stata svy command. The propensity score weighting was used to balance the groups on selected baseline characteristics, including the following covariates: sex, age, race-ethnicity (non-Hispanic white, non-Hispanic black, Asian, and Hispanic), speaker of English as a foreign language, Medicare enrollment, Medicaid enrollment, diagnosis of diabetes or bipolar disorder, and area-level variables (percentage foreign born, percentage living below federal poverty level [FPL], percentage with female head of household [HH], and percentage with less than high school [HS] education).

DISCUSSION

Findings from this study indicate that a safety-net BHH program for adults with serious mental illness reduced rates of psychiatric hospitalization and ED utilization and increased HbA1c screening. The BHH had no effect on rates of general medical hospitalization or LDL screening or on values of metabolic parameters for diabetic patients over the 12-month study period.

This evaluation builds on earlier studies of integrated care for people with serious mental illness in important ways. First, we defined the elements of the BHH intervention. Such specificity is critical to enabling replication of findings and dissemination of complex interventions to diverse settings. Second, although many earlier studies of BHH effectiveness included diagnostically heterogeneous populations and offer limited ability to draw conclusions for specific illness populations, this study described results for a BHH intervention specifically designed for patients with schizophrenia and bipolar disorders who are at greatest medical risk. Participation in BHH was associated with improvements in several primary outcomes for the population with schizophrenia but not among patients with bipolar disorder, although the sample sizes of patients with bipolar disorder were relatively small. Third, we measured general medical and psychiatric hospitalizations separately, enabling more precise understanding of the intervention's impact on acute care utilization. Fourth, the program under investigation, an integrated care model for a safety-net population, actively incorporates health promotion and efforts to catalyze social connectedness.

Our findings add to the mixed literature on the impact of BHHs on acute service utilization (28,35,36). Krupski and colleagues (28) found reduced all-cause hospitalizations in an established BHH program but not in a newer one, and they found no BHH impact on ED use. Evaluation of the health home demonstration in Missouri, which is not strictly a BHH intervention but includes some BHH components, showed reduced hospitalizations and ED use among enrollees. In the study by Krupski et al., service use reductions were measured after only one year of the program, inclusive of a lengthy ramp-up period, suggesting that the program might have a greater impact on service utilization with longer follow-up and program maturation (28). Notably, our findings of reduced utilization were driven not by the number of patients who utilized acute services but by the number of visits among those who used acute services at least once. The BHH, therefore, may have helped stabilize frequent users of acute services, perhaps through care

TABLE 3. Contrast in screening levels and results for various health measures between participants in a behavioral health home (BHH) program and a control group before and after the intervention[a]

Outcome	Control (%)	BHH (%)	Difference	Contrast	δ SE	p
Screening						
LDL[b]				.074	.038	.052
Before	.404	.476	.072			
After	.441	.587	.146			
HbA1c				.082	.037	.026
Before	.400	.493	.093			
After	.461	.636	.175			
Glucose				.017	.034	.624
Before	.676	.644	−.033			
After	.695	.679	−.016			
HbA1c or glucose				.052	.031	.093
Before	.746	.767	.021			
After	.746	.818	.073			
Health measure and lab results						
LDL (mg/dL)[b]				−4.289	3.286	.192
Before	106.231	113.786	7.555			
After	108.178	111.444	3.267			
HbA1c (%)				.037	.078	.633
Before	6.066	585.4	−.212			
After	5.978	580.4	−.175			
Glucose (mg/dL)				3.176	2.905	.274
Before	117.038	111.795	−5.242			
After	113.189	111.123	−2.066			

[a] Contrast was measured by subtracting the difference in the outcomes between the BHH group and the control group before the intervention from the difference between outcomes for the two groups after the intervention. Estimated by using generalized estimating equation models (Stata xtgee and margins commands; logit link for binary outcomes and log link and gamma family variance for continuous outcome measures). Models were adjusted for propensity score weights by using the Stata svy command. The propensity score weighting was used to balance the groups on selected baseline characteristics, including the following covariates: sex, age, race-ethnicity (non-Hispanic white, non-Hispanic black, Asian, and Hispanic), speaker of English as a foreign language, Medicare enrollment, Medicaid enrollment, diagnosis of diabetes or bipolar disorder, and area-level variables (percentage foreign born, percentage living below federal poverty level [FPL], percentage with female head of household [HH], and percentage with less than high school [HS] education).

[b] Low-density lipoprotein

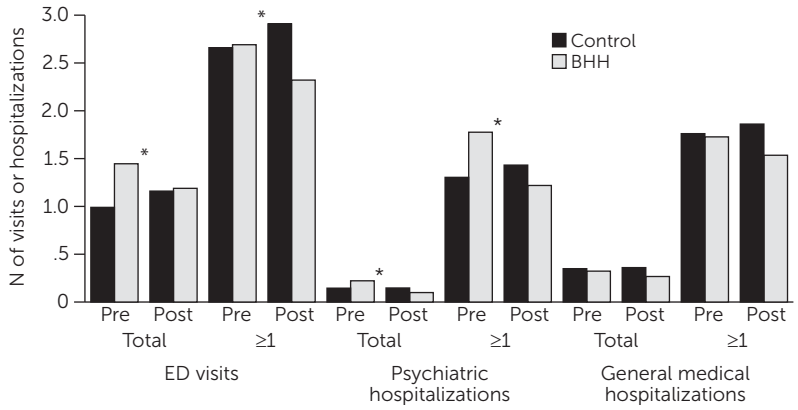
coordination, population management, or patient participation in group and social programming. However, no improvements were seen in metabolic outcomes among diabetic patients. Follow-up at later time points is warranted to assess if the intervention improves these important outcomes.

The lack of association between BHH participation and reductions in general medical inpatient utilization was unexpected. One possible explanation is that intervention components emphasize health promotion activities that are designed to improve long-term health rather than stem acute medical service utilization. Additionally, most BHH participants had access to some degree of medical care prior to BHH implementation, so the availability of on-site medical care might therefore have provided only incremental improvement in access to medical care.

The association of BHH participation and reductions in psychiatric hospitalizations and ED utilization is consistent with the theory that program elements may improve utilization outcomes by bolstering social support and connectedness. Although there is an extensive older literature about the importance of social networks among adults with serious mental illness (37–43), this aspect has been largely neglected in modern service design and delivery. This theory was, however, considered in a recent analysis of injectable antipsychotic efficacy, in which authors hypothesized that greater contact with service providers may have driven lower relapse rates (44). Although that study considered patient-provider contact rather than peer-to-peer support, it highlights the impact of treatments' prosocial elements. Further investigation on whether incorporating psychosocial elements may influence outcomes in BHH programs is needed.

Improved rates of metabolic monitoring likely stemmed from use of the patient registry to improve screening rates, which began six months into the intervention. After only six months, significant improvements were found for HbA1c screening and improvements in LDL screening approached significance,

FIGURE 2. Use of health care services by patients in a behavioral health home (BHH) program and a control group before and after the intervention[a]



[a] The bars indicating ≥1 visit or hospitalization include only patients who used at least one service in that category.

* $p<.05$, for differences between the BHH and control groups in change in use of services before and after the intervention

although there were no improvements in glucose screening. These findings likely reflect programmatic emphasis on HbA1c and LDL monitoring. Previous investigations have demonstrated that population-level attention to monitoring improves screening (45), and it is hoped that comprehensive screening will improve health outcomes.

This study had several potential limitations. First, measures of mental health symptoms are currently unavailable in EHRs, precluding assessment of the impact of BHHs on mental health outcomes. Propensity score weighting balanced the BHH and control groups for observable baseline characteristics, ensuring a similar level of acuity among patients in the intervention and control groups. However, the study could not measure unobservable factors that may be associated with acuity. Therefore, because the BHH was designed for high-risk patients, it may have preferentially enrolled patients with higher acuity who were not detectable by observable factors. It remains possible that unobserved factors contributed to differences in outcomes, independent of BHH participation; associations between BHH participation and outcomes, therefore, should not be interpreted causally. Additionally, we did not differentiate whether visits to the ED were driven by general medical or psychiatric needs. Because medical and psychiatric etiologies for ED visits are so closely intertwined, and because of the limited time available for thorough psychiatric diagnosis, we do not feel *ICD-9* codes represent a valid or reliable indicator of reasons for ED visits. We were similarly unable to differentiate visits based on service provider because in our health system, emergency psychiatric services are offered as consultations within medical EDs and are not assigned a distinct provider code. This gap represents an important avenue for future research. Finally, this real-world intervention was implemented incrementally over 12 months. Results may therefore understate the program's potential impact.

CONCLUSIONS

The BHH program was associated with significant reductions in ED visits and psychiatric hospitalizations and increased HbA1c monitoring among adults with psychotic and bipolar disorders. This study adds to prior evaluations of BHH initiatives by specifying program elements and psychiatric diagnoses and distinguishing between general medical and psychiatric hospitalizations. Better understanding of BHH implementation and outcomes can provide insights for health systems looking to incentivize care models capable of improving health care quality, costs, and outcomes for this population with complex health needs (46).

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