

Preliminary Results From a Newly Established Behavioral Health Home: Early Identification of Glucose Metabolism Disorders in Individuals With Serious Mental Illness

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Abstract

Objective: Individuals with serious mental illness (SMI) have higher rates of preventable diseases such as diabetes in comparison to the general population. While multifaceted, these high rates of preventable diseases in the population with SMI may be partially attributed to limited access to primary care. A new program, the Behavioral Health Home (BHH), which allows for the delivery of somatic care coordination and population-based care, may provide this population with the much needed somatic coordination and education it requires.

Methods: The impact of the population-based health management program of the BHH identification and severity rating of glucose metabolism disorders was assessed during the initial 10 months of the BHH.

Results: Multiple patients were identified who either were not having hemoglobin A1c (HbA1c) levels drawn per recommended guidelines for individuals prescribed antipsychotic medications or were within diabetic range but did not have a diagnosis of diabetes. Mixed results occurred in regard to patients' HbA1c levels while engaging in the BHH.

Conclusion: This case study provides some initial evidence for the utility of the BHH in regard to identifying patients who need preventive care.

Keywords

access to care, community health, efficiency, health promotion, prevention

Introduction

It is well established that individuals with serious mental illness (SMI), which include diagnoses like schizophrenia and bipolar disorder, have a much higher rate of morbidity and mortality in comparison to the general population.¹ Specifically, diabetes impacts approximately 25% of individuals with SMI, 2 to 3 times the rate than the general population.² While this increased rate in diabetes is a multifaceted issue, factors such as lower utilization of preventive care³ and use of newer antipsychotic medications⁴ are likely to be associated with higher prevalence of diabetes in this population.

With a growing emphasis on preventive and population-based care set forth by the Affordable Care Act (ACA), new avenues of health care delivery are being promoted.⁵ Through the ACA, under Section 2703, new funding for states has been allotted to create "health home" programs. These health home

programs were designed to provide services to reduce barriers to care for those with chronic conditions.

Given the chronic impairments and difficulties faced by those with SMI, it has been hypothesized that the use of the health home will improve early recognition of developing problems and provide access to much needed preventative somatic care. Furthermore, given the psychiatric nature of the impairments faced by those with SMI, it was hypothesized that placing the health home within the mental health clinic these

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individuals receive the majority of their care would be the ideal setting to maximize exposure to health home services. This case study presents some preliminary results on a new “behavioral health home” (BHH), which focused on the use of population-based care to identify abnormal hemoglobin A1c (HbA1c) levels and clarify the severity of such findings thus permitting enhanced, individualized interventions for individuals with SMI. It was hypothesized that through the use of BHH services, patients would receive better quality of somatic care and that gaps in care would be readily identified.

Methods

Setting

This BHH was embedded in the Division of Community Psychiatry at the University of Maryland School of Medicine. The Division consists of 2 large outpatient mental health clinics, adult and child assertive community treatment (ACT) team, and an adult psychiatric rehabilitation program (PRP). In total, these settings serve 2000 individuals annually. Although efforts to enhance somatic care for patients with SMI had been a top priority of the Division since 2005, it was in 2013 that the State of Maryland approved funding that allowed for the creation of the BHH.

Procedure

Behavioral Health Home referrals were made to patients who were considered to require the most assistance. This was determined by selecting persons with SMI who were enrolled in the more intensive ACT or PRP services of the Division. Individuals in these intensive services were referred to the BHH staff by their mental health provider, and for those who consented, an intake was conducted by BHH initiate services. Once enrolled, the BHH provided a minimum of 2 BHH services per month, coordinated by a nurse case manager. A wide variety of services qualified for BHH services, including care coordination, comprehensive transitional care, and health promotion. One service per month was also allowed to be delivered in a group format. Given this allowance, a population-based health management program was created to target highly prevalent somatic conditions for individuals with SMI (eg, diabetes and hypertension). While initially designed to alternate the somatic condition being tracked every month (eg, May—Diabetes, June—Hypertension), it was quickly realized that the high prevalence of these conditions required more monitoring time for a more comprehensive assessment. It was determined that monitoring a specific health condition for several consecutive months provided a better understanding of the population's care needs and impact of interventions that included additional education about the illness, nutritional guidelines, and value of regular exercise.

Measures

Patient's electronic health records were assessed to examine for HbA1c levels. Patients who did not have their HbA1c level

Table 1. Results After 10 Months of Behavioral Health Home Services.^a

Patients without HbA1c level per recommended guideline within total BHH population	54 (45.0%)
Patients with type 2 diabetes diagnosis within total BHH population	33 (27.5%)
Patients with type 2 diabetes at HbA1c goal	16 (48.5%)
Patient with prediabetes within total BHH population	39 (32.5%)

Abbreviations: BHH, Behavioral Health Home; HbA1c, hemoglobin A1c.

^aN = 120.

drawn within 6 months of the monthly chart review were identified to be not in compliance with clinic recommendations for individuals prescribed atypical antipsychotics. Changes in, as well as severity of, HbA1c levels (eg, normal, prediabetes, or type 2 diabetes) were assessed during monthly chart reviews.

Results

A total of 120 (73 males and 47 females) patients with SMI were enrolled and receiving population-based health management services within 10 months of starting the BHH. The average age of the population was 50 years (standard deviation = 12.75 years). Of the 120 patients, 54 (45%) were identified who did not have HbA1c levels drawn per the clinic's recommended guideline of having HbA1c drawn every 6 months for those prescribed antipsychotic medications. Thirty-three patients had a diagnosis of type 2 diabetes, 4 of which were newly diagnosed as a result of the population-based health management (PHM) initiative. Another 39 patients were identified as having prediabetes (HbA1c levels between 5.7 and 6.4; Table 1).⁶

Of the 33 patients identified as having type 2 diabetes, 16 were within their target goal of HbA1c less than 7%. of the 16 patients, 4 within their target goal achieved this range after initiating in BHH services. Two patients who were originally in the prediabetes range when starting BHH services had higher HbA1c levels and were in the type 2 diabetes after 10 months. Another 7 patients had improvements in HbA1c but remained above their target goal, and 4 patients had elevated HbA1c since initiating BHH services.

Discussion

Behavioral Health Home services were able to identify 54 individuals who did not have their HbA1c levels checked according to the program's recommended guidelines for individuals being prescribed antipsychotic medications. This screening is particularly important for individuals with SMI because, consistent with the literature, approximately 27% of this sample had a diagnosis of diabetes. Also, another 4 patients were identified to be within diabetic range but did not have any diagnosis of diabetes. Preliminary data indicate that the use of BHH services may be particularly useful in identifying gaps in care such as laboratory monitoring or

missed diagnoses and allow for the delivery of preventative and individualized proactive care.

In regard to health improvements, the data for the 33 patients who were within the type 2 diabetes range are mixed. Slightly over 12% ($n = 4$) of patients improved to be within the recommended guidelines for HbA1c levels. Another 21% ($n = 7$) showed improvements in their HbA1c levels, albeit still above the target goal. However, 6% ($n = 2$) of individuals who were originally considered to be in the prediabetes range moved within the diabetic range, and another 12% ($n = 7$) had higher HbA1c levels in comparison to when they started receiving services.

Conclusion

Difficulties accessing and receiving consistent somatic care are significant issues for individuals with SMI. Given identified problems with traditional primary care settings for this population,⁷ new models of care that can deliver “patient-centered” primary care within the mental health setting are needed to decrease the high rates of mortality and morbidity.⁸ While more empirical data are needed, preliminary results indicate that the use of a BHH may be particularly useful in understanding the unique characteristics of a specific population. This allows for earlier recognition of common medical disorders through more careful monitoring according to program guidelines and promotes proactive preventative care to prevent advancement of disease. As a result of these findings, a Center for Disease Control and Prevention Diabetes Prevention Program group has been started within the mental health clinic and closer monitoring of clinician practice with regard to monitoring and referral to specific services is being done.

It is important to note that the current report is limited by the fact that not all patients received equal amounts of PHM services, given that enrollment occurred throughout the entirety of the 10 months. Also, given the lack of a comparison group, meaningful statistical tests could not be conducted. Future research examining the utility of BHH services would benefit from investigating both a clinical and a control sample. Furthermore, given that these services are designed to provide more patient-centered care for individuals with SMI, an examination of patient satisfaction with BHH and PHM services is warranted. While the current data are mixed, the BHH may provide a cost-effective way to provide patient-centered care that helps identify gaps in somatic care for individuals with SMI and provide this population with much need interventions.

Declaration of Conflicting Interests

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