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Diabetes and the Serious Mentally Ill: A Case Study

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Abstract

The physical health disparities of people experiencing severe and persistent mental illness have increasingly become a concern. This population not only shares a higher level of morbidity but also has a life span between 10 to 20 less than the general population. The main contributor to early death is metabolic syndrome, not suicide or injury (Fiorillo and Sartorius:2021). Various pilot programs have been developed over the last decade to address this disparity. These include the Substance Abuse Mental Health Service Administration's (SAMHSA) funding of primary care sites at mental health centers and Certified Community Behavioral Health Centers (CCBHC). Despite these programs' importance, individuals enrolled in programs for assertive community treatment (PACT or ACT teams) continue to face difficulties engaging in consistent medical care. This article will describe the efforts of a PACT team to implement a population health approach to diabetes management.

Introduction

In launching this project, we aimed to determine the impact a PACT team can have in assisting people with severe mental illness to better manage their diabetes. Bridgeway developed this project as part of its participation in the General Health Integration learning collaborative sponsored by the National Council's Center for Excellence. The purpose of the collaboration was to assist mental health organizations to better integrate health care interventions.

Diabetes disproportionality affects the SMI population due to several factors, including first- and second-generation antipsychotics, poor diet, lack of exercise, smoking, and poor access to medical care. Fifteen percent (15%) of the SMI population has type 2 diabetes, double the age-matched sample in the general population (Mangurian:2018). It is important to note that the data on the prevalence of prediabetes is much more limited for the SMI population. Given the high rate of diabetes, the lack of data on prediabetes, and the fact that these conditions are often not diagnosed, we decided to select diabetes screening for people with schizophrenia or bipolar disorder enrolled in one of our PACT teams. These diagnoses were selected to maintain fidelity to the collaborative's criteria.

PACT teams were developed to serve individuals with serious mental illness who have demonstrated a lack of benefit from or refusal to participate in intensive outpatient care or residential mental health care. In New Jersey, other requirements include a serious mental health

diagnosis and two or more state, county, or involuntary hospitalizations in 18 months. PACT services are provided in the community by an interdisciplinary team comprised of a psychiatrist, nurses, social workers, wellness and peer counselors, and substance use clinicians. Providers usually deliver services in the client's homes.

Method

For this study, we selected a Pact Team from Union County, New Jersey, a diverse urban county. The team included the team leader, two nurses, a quality improvement manager, and the director of integrated care. The majority of persons served live in apartments with family members. However, approximately 22% live in boarding homes. The demographic characteristics of the participants are as follows:

Demographic Characteristics	
Male	64%
Female	36%
African American	63%
Hispanic	29%
White	8%
Average Age	53

The first task was identifying people on the caseload who had a diagnosis of schizophrenia, schizoaffective disorder, or bipolar disorder. Next, our team nurses collected blood samples from that cohort to measure HgbA1c levels. Once the HgbA1c results were available, the team grouped individuals as normal, prediabetic, or diabetic. The team used CDC guidelines to determine risk levels: below 5.7 normal, 5.7 to 6.4 prediabetic, 6.5 or above diabetic. The team then developed a diabetes registry spreadsheet that included basic demographic data, blood sample collection dates, HgbA1C results, and any needed follow-up steps. Other data collected incorporated primary care linkage status, medication use, date of the last visit, awareness of prediabetic or diabetic status, and level of knowledge of the risk and protective factors.

Results

Of a caseload of 67, 41 people (61%) met the diagnostic criteria for participation.
The nurses obtained HgbA1c results for 32 individuals, representing 78% of the target population. The chart below summarizes the results.

Condition	Number	Percentage
Prediabetes	7	22%
Diabetes	11	35%
Total at Risk	18	56%

Only three of the seven people identified as prediabetic were aware of their medical status. All the diabetic individuals were aware of their diagnosis. However, few individuals in both groups were aware of the causes, signs, risks, and protective factors of diabetes. They did not recall receiving health information or education related to diabetes management, such as diet management, the importance of exercise, glucose monitoring, smoking cessation, weight loss, or medication adherence. Goldberg et. Al (207:536) has also reported similar findings for the SMI population. "Although participants with serious mental illness received some services that are indicated in quality-of-care standards for diabetes, they were less likely to receive the full complement of recommended services and care support…"

Based on our screening results, the PACT team focused on providing persons served with the education and resources necessary to either better manage their diabetes or reduce the risk for prediabetic individuals. Educational resources from the American Diabetes Association (ADA) were beneficial as they included well-designed and easy-to-use tools to assist people in implementing healthy eating strategies and exercise regimes. Information and educational material from the ADA was also helpful in explaining how diabetes functions, the types of diabetes, and the warning signs. An important area that the nurses needed to focus on was assisting persons served to obtain and use glucose monitors.

What was the impact of the team's interventions? Six months after we began this project, nine (9) of the eighteen (18) participants had actively changed their diet and had started to exercise. One individual enrolled in Weight Watchers. Two participants began to ask the nurses more questions about physical health. Despite these changes, not having the financial resources to purchase fresh fruits and vegetables was a continuing challenge for the participants. The team's next step will be to collect more recent HgbA1c results to determine the level of progress.

Of the 18 participants in the project, five (5) individuals living in a boarding home setting had little or no change. Although some individuals expressed interest in diet modification, they eat all their meals in the boarding home. We examined the weekly menu and found that the meals were heavy in starches and had little fresh fruit or vegetables. Two diabetic individuals refused any type of intervention despite the team's continuing efforts.

Discussion and Future Directions

Although this was a pilot project in one of our teams, we learned some important lessons. One lesson was that many of the people we serve were willing to change behaviors when given bilingual, user-friendly information and provided by people with whom they had an established positive relationship. Another lesson was the importance of team nurses conducting blood draws in the home setting. Without baseline screening results, developing a population-based health intervention is very difficult. As noted in the literature (Castillo: 2915), obtaining blood samples from individuals engaged in assertive community treatment programs has been a challenge. Finally, as noted in our findings, one of the major challenges the people we work with face is obtaining healthy food. In addition to assisting people with food insecurity, our teams' ability to

focus on social determinants of health determinants, such as employment and supportive housing, may play an important role in improving nutritional status.

Our organization will now expand this project to other teams based on what we have learned. We will provide teams with the most up-to-date and engaging diabetes educational resources. Bridgeway will train other team nurses who may require an update on their phlebotomy skills. We will ask teams to provide baseline data, develop disease registries, and provide project feedback at regular intervals. Finally, Bridgeway will implement processes so that teams can share best practices and wins.

The people that PACT teams serve are some of the most marginalized and vulnerable people in our society. Many of these individuals not only have to cope with emotional distress but also must deal with poverty, community stigma, lack of transportation, and a complex healthcare system that is difficult to navigate. Based on our study, we believe that PACT teams can play a critical role in population health. PACT teams have a defined population, multidisciplinary staff, and the ability to provide regular and frequent service in non-traditional settings. By adding basic health screenings (including the ability to draw blood in home settings), incorporating disease registries, addressing social determinants of health, and evidence-based health education strategies, PACT teams are in a perfect position to move the needle toward better health outcomes for the SMI population.

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