Examining the Association Between Mental Health, Health Behaviors, and Type 2 Diabetes Among Centene Patients

PURPOSE OF THE STUDY
To determine the mental health needs among Centene patients; to examine the association between mental health conditions and health behaviors (e.g., diet, smoking, alcohol use); and to determine the association between mental health conditions and type 2 diabetes and diabetes self-management behaviors among Centene patients.

STUDY DESCRIPTION
Aim 1: Determine the mental health needs among Centene patients.
Aim 2: Determine the association between mental health conditions and poor health behaviors (e.g., smoking, overeating).
Aim 3: Determine the association between mental health conditions and type 2 diabetes.

- Determine whether patients with type 2 diabetes receive treatment for mental health conditions.
- Examine the association between mental health conditions and diabetes self-management behaviors (e.g., diet and medication adherence).

BACKGROUND
Mental health problems are a major source of worldwide disability.[1,2] Characterized by a variety of debilitating disorders that result in an annual cost of $185 billion in productivity loss and treatment (e.g., absenteeism, disability claims), mental health is a major U.S. public health concern.[3] There are links between mental health problems and poor health behaviors (e.g., sedentary lifestyle, unhealthy dietary habits) as well as physical health conditions such as type 2 diabetes.[4,5] Mental health problems are associated with obesity, poorer chronic disease self-management, and overutilization of the emergency room.[6,7] Findings from numerous studies indicate the successful treatment of mental health problems, such as depression, improves the physical health of individuals.[8,9] However, findings from previous research have highlighted the difficulty of estimating the true burden of mental health conditions, especially in underserved settings such as rural and urban areas. Previous research indicates that mental health services are underutilized in general.[10]

Using data drawn from the BJC HealthCare Center for Outpatient Health Primary Care Medicine Clinic (COH) in St. Louis, the prevalence of mental disorders in a primary care setting was examined. Overall, 45 percent of patients who participated in the COH study had a diagnosed mental health problem in their electronic medical record; the most common mental disorder was depression.[11] Medicaid patients were more likely to have a mental health condition than other patients. There has not been a national psychiatric epidemiologic study to examine national rates of mental health conditions in over a decade. There is little known about the true, current prevalence and burden of mental health problems. Considering that most mental health problems are diagnosed in medical settings, examining the prevalence of mental health conditions among Centene patients would be helpful, not only for Centene but also for researchers, providers, and systems across the country.

It is also critical to consider the association between mental health and health behaviors such as smoking and overeating. Mental health conditions are associated with health behaviors that are deleterious to overall health and well-being.[12,13] Additionally, social context and availability of coping resources play an important role in the production of social norms around health behaviors that can impact health at the individual and population levels. In a vulnerable population, such as Medicaid patients, it is possible that patients live in neighborhoods that may have a preponderance of fast food restaurants and are proliferated with tobacco and alcohol advertisements but lack full-service grocery stories and safe, affordable places to recreate.[14] These environmental factors may promote the adoption of unhealthy behaviors due to the close proximity of large numbers of outlets that serve high-fat, calorie-dense foods as well as increased access to alcohol and
illicit drugs. These factors may be related to the development of chronic diseases such as type 2 diabetes.[13] Using data drawn from the Baltimore Epidemiologic Catchment Area Study, it was found that the use of poor health behaviors (e.g., poor diet, overeating and alcohol use) provide immediate alleviation from stressors and protect against the development of depression and other mental disorders.[15] Yet, these poor health behaviors may simultaneously increase the risk of obesity and subsequent chronic diseases.

So examining the association between mental health conditions and health behaviors may help to direct future intervention efforts. In other previous research conducted, there were significant unmet mental health needs in a large sample of Kaiser Permanente patients with diabetes.[16] There were also significant racial/ethnic disparities in the diagnosis and treatment of mental health in this sample. Randomized controlled trials investigating the efficacy of different depression treatment modalities suggest that reductions in the recurrence of depression may lead to improvements in diabetes-related outcomes such as hemoglobin A1C,[17,18] and trials of patient-centered management of depression and chronic disease have shown significantly improved control of medical disease and depression, suggesting the utility of depression treatment when tailoring care.[17] The data that could be explored in this unique sample would allow for the association between mental health conditions and type 2 diabetes as well as diabetes self-management behaviors among a much larger, diverse population.

BRIEF DESCRIPTION
The goal of this research is to determine the mental health needs among Centene patients; to examine the association between mental health conditions and health behaviors (e.g., diet, smoking, alcohol use); and to determine the association between mental health conditions and type 2 diabetes and diabetes self-management behaviors among Centene patients. If data are available, a secondary goal of this study will be to examine whether patients diagnosed with mental health conditions follow up with treatment and/or filling medications and to examine how pertinent sociodemographic factors such as race/ethnicity, gender, and socioeconomic status could affect the likelihood of a mental health diagnosis as well as acceptability of treatment modalities. The results from this study could be impactful, as they would allow for providers to consider different ways to screen for mental health conditions in clinical settings.

Considering the link between depression and diabetes, the research team will determine the association between mental health and diabetes control and outcomes among Centene patients. The evidence garnered from this study could inform how providers and systems can better systematically detect and treat mental health problems within various settings, particularly among vulnerable populations. Examining these issues within patients of Centene – a large, national Medicaid provider – stands to make a substantial contribution to the mental health literature. Specifically, the ability to leverage diagnosis information (e.g., ICD codes), treatment, and billing codes along with available patient characteristics (e.g., race/ethnicity, education, region, urbanicity), provides a unique opportunity to provide answers to timely questions with greater representation and specificity than previous research in this area. Additionally, mental health could be associated with poor health behaviors such as overeating and alcohol use. These health behaviors could be deleterious to health over a long period of time, including the development of chronic diseases such as type 2 diabetes and cardiovascular disease. The aims of this proposal will inform prevention efforts of medical and public health initiatives at multiple levels of intervention.

STUDY METHODS
The data analysis plan will include an examination of relevant sociodemographic factors, bivariate analyses, and multivariable regression models to estimate risk of mental health conditions as well as the association between mental health conditions, health behaviors, and type 2 diabetes. Specific data requests will include authorization data, diagnostic and procedure codes, pharmacy information, and member data (e.g., age, race/ethnicity – where available, geographic location).

REFERENCES


