Integration of Behavioral Health in Diabetes Care and Management in a Federally Qualified Health Center: A Needs Assessment

Stacey A. Damazo

School of Nursing, Oregon Health & Science University

NURS 703: Doctorate of Nursing Practice Final Project

Dr. Rebecca Martinez

June 4, 2021

Abstract

Background: Integration of behavioral health in collaborative care settings has demonstrated positive outcomes including improvement in emotional, behavioral, and psychosocial aspects of health, as well as improvement in clinical biomarkers. Richmond Clinic is a Federally Qualified Health Center (FQHC) with an established framework of integrated behavioral health in primary care. The expertise of Behavioral health consultants (BHCs) is integrated to assist patients with depression, anxiety, substance use disorders, and other mental and behavioral health conditions. The Richmond team sought explore important considerations for expanding behavioral health in diabetes. The purpose of this study was to identify current learning needs, perceived barriers, and facilitating factors among BHCs through a need's assessment.

Methods: This was a qualitative study design. Data was collected through an electronically delivered Behavioral Health Diabetes Survey, uniquely designed to meet the needs of this FQHC. The survey was developed and disseminated through Qualtrics. Descriptive data was extracted and analyzed using a Qualitative Content analysis for coding and identifying themes.

Participants: Participants were selected through purposive homogeneous sampling. All nine BHCs were invited to participate.

Results: Seven of 9 BHCs completed the survey. Findings from the survey centered around perceived barriers, facilitating factors, and competencies deemed important for diabetes care.

Conclusion: All competencies are considered important, limited capacity is a key barrier, increasing clinician awareness of BHC skills is a facilitating factor, and there is interest learning more about diabetes.

Keywords: behavioral health, diabetes, integrative care, collaborative care

Introduction

Problem Description

The number of people affected by diabetes in the United States is substantial. The estimated prevalence of diagnosed and undiagnosed diabetes among all ages in 2018 was 34.2 million or 10.5% of the US population, and of that 26.9 million (8.2% of the population) were people with diagnosed diabetes (Centers for Disease Control and Prevention [CDC], 2020). The diagnosis of diabetes in adults has demonstrated a progressive increase in prevalence overtime with 6.6% in 2003, 7.6% in 2006, 8.6% in 2009, 8.7% in 2015, and 9.1% in 2018 (CDC, 2020). And, as statistical modeling demonstrates, the rate of new diabetes diagnosis is projected to continue increasing at an unparalleled pace with an estimated 39.7 million (13.9%) by 2030 and 60.6 million (17.9%) by 2060 (Lin et al., 2018). Diabetes is a chronic condition that places heavy burdens on the person with diabetes, their families, health care resources, and the health care system. As an example, in 2016, of adults 18 and older, diabetes was listed as a diagnosis for 16 million emergency department visits, and 7.8 million hospitalizations (CDC, 2020). Diabetes is also a major contributor to complications with 11.7% reported having visual impairment including blindness (2018 data), and 37% with kidney disease (2013-2016 data) (CDC, 2020). Diabetes-related complications and the commonly co-occurring health conditions, such as hypertension, hyperlipidemia, and cardiovascular disease, impose greater difficulty and complexity in managing diabetes.

Aspects of diabetes self-management may include healthy eating, maintaining or reducing weight, incorporating physical activity, checking blood glucose levels, taking medications, and navigating management of diabetes in-between work, life, and family dynamics (ADA, 2021). There are considerable requirements placed on patients for managing the very

demanding condition of diabetes. It is not uncommon for self-management to become burdensome and lead to diabetes distress (a prevalence of 18-45%), or depression (one in four persons with type 1 or type 2 diabetes having symptoms) (ADA, 2021; Owens-Gary, 2018). Not surprisingly, persons with diabetes distress, depression, or both have poor self-management engagement and ensuing poor glycemic control (ADA, 2021; Owens-Gary, 2018; Snoek et al., 2015). As a result of these potential vulnerabilities, the ADA recommends routine implementation of validated screening tools for assessing psychosocial care needs, and connecting patients with diabetes self-management education and support (DSMES) programs (ADA, 2021; Young-Hyman, 2016). These interventions have demonstrated effective outcomes through increasing knowledge, patient self-care practices, healthy coping, and reducing all-cause mortality (ADA, 2021). Integration of behavioral health in diabetes care and management has demonstrated improvement in glucose control, patient-related self-efficacy, problem solving skills, and functional status (ADA, 2020; Andreae et al., 2020; Lanoye et al., 2017). This study is about exploring considerations for expanding the collaborative care model by increasing behavioral health support for patients with diabetes in a primary care setting. Elements deemed important for increasing behavioral health support and optimizing outcomes for diabetes are: 1) efficacy of behavioral health integration, 2) behavioral health competencies, 3) emotional and behavioral impact of diabetes self-management, 4) diabetes and psychosocial screening, 5) models of care that provide a framework, and 6) practice points to consider from the literature.

Search Strategy

A literature search on behavioral health, diabetes, and integrated care settings was conducted from August 2020 to September 2020 using two databases: Ebscohost and PubMed databases. A subset of sources selected in Ebscohost included: Cumulative Index of Nursing and

Allied Health Literature (CINAHL) Plus, Health Source-Nursing/Academic edition, Medline, and Psychology and Behavioral Sciences collection. Search terms included: *behavioral health, behavioral therapy, behavioral health consultant, diabetes, diabetes management, diabetes care, chronic disease, chronic conditions, primary care, social worker, framework, chronic care model, diabetes distress, diabetes burden, patient perspective, self-management challenges, training, integration, and implementation.* Filters used were: "full text" and "2015-2020." Search results were limited to articles published in English language from 2015 to 2020. Additional references were obtained from Centers of Disease Control and Prevention, American Diabetes Association, Behavioral Diabetes Institute, University of San Francisco Online Diabetes Course, American Psychology Association, Substance Abuse and Mental Health Services Administration (SAMHSA), and a Google search that yielded resources from Washington State Department of Health and Improving Chronic Illness Care.

A second literature search was conducted on models for integrating behavioral health in diabetes care from March 2021 to April 2021 using three electronic databases: Ebscohost PubMed, and MeSH. Search terms for Ebscohost and PubMed included: *diabetes, chronic conditions, chronic illness, chronic disease, workflow, structure, framework, model, behavioral health consultant, behavioral health social workers*. Search terms for MeSH included: *integrated, diabetes mellitus, models, patient care team, primary health care, capacity building, social workers, behavioral medicine, consultants, and chronic disease.* Search results were limited to articles published in the English language. A timeframe filter was not used.

For initial and second literature searches, articles were excluded if research pertained to internet delivered behavioral health programs, or if the article pertained to serious mental illness and/or psychosis.

Available Knowledge

Efficacy of Behavioral Health Integration

The integration of behavioral health in primary care is an invaluable resource for improving mental health and/or chronic disease such as diabetes, and has been demonstrated to have positive outcomes at the individual and population health level. The following are studies that exemplify the efficacy of behavioral health integration: (a) Several Federally Qualified Health Centers (FQHCs) in Seattle and King County Washington serving primarily Medicaid patients, found an observed time for improvement with depression was cut in half following integration of behavioral health in medical care (APA, n.d.); (b) Data from the Care of Mental, Physical and Substance Use Syndromes (COMPASS) program which treats adults with depression and diabetes and/or cardiovascular disease has shown improvement in depression and diabetes and/or hypertension by 40% and 20% respectively after four months of treatment (APA, n.d.); (c) Data from several primary care practices in Colorado that incorporate behavioral health demonstrated a $1.08 million cost savings (i.e. reduction in hospitalizations) among Medicare, Medicaid, and dual program populations after an 18-month post program analysis (Ross et al., 2019); and (d) A randomized controlled trial (RCT) evaluating brief cognitive behavioral therapy (CBT) against a control group (conventional care), found CBT significantly reduced diabetes distress, A1C levels, and improved food consumption behaviors in patients with type 2 diabetes and high diabetes distress scores at baseline (Tunsuchart et al., 2020). These excerpts provide a glimpse of a larger plethora of studies that demonstrate positive outcomes, including improvement in depression and chronic conditions, as well as decreased health care utilization, with behavioral health integration.

Behavioral Health Competencies

With more than half of behavioral health professionals being utilized in integrated care settings, there is interest in identifying competencies necessary for behavioral health roles in primary care and other integrated settings (Hall et al., 2015; Horevitz & Manoleas, 2013). Collectively, researchers have identified competencies perceived necessary although a standardized set of proficiencies has not been established. Themes of skills deemed important for behavioral health consultants in this practice setting as identified in the literature are, conducting mental health and psychosocial-related screenings, employing behavioral interventions/strategies (problem solving, coping skills, behavior-change skills, motivational interviewing, cognitive behavioral therapy), goal setting, care coordination and collaboration with the treatment team, assisting with lifestyle-related behavior change (sleep hygiene, diet, exercise), chronic disease management behaviors, and connecting patients with resources and services (Hall et al., 2015; Horevitz & Manoleas, 2013; McGough et al., 2016). Other than competencies specific to the behavioral health role, experts strongly endorse ability to function on an interdisciplinary team and work in a fast-paced dynamic clinic environment as necessary skills for the integrated care model (Davis et al., 2019). The behavioral health competencies described are essential for this federally qualified health center as they consider augmenting the collaborative care model with expansion of behavioral health into the care and management of diabetes.

Emotional and Behavioral Impact of Diabetes Self-Management

Managing diabetes is challenging. It is a chronic condition requiring constant time, attention, and behavioral intervention, and as such is very demanding. Components of self-management include administering medications and for some patients titrating doses, monitoring blood glucose, managing and finding balance with food intake, eating patterns, and exercise, and

adapting a work, social, and/or home-life schedule that is conducive to the components of management (American Diabetes Association [ADA], 2021). Diabetes requires development of many new skills and adaptation as the components of self-management must be integrated with everyday tasks, social situations, and life-altering occurrences. Focus group participants reported diabetes-related challenges with managing complications and medications, accepting the diagnosis, preparing different meals for other family members, adhering to their diet during social/special occasions, and added stress when glucose values were high (Gardsten et al., 2018). Similarly, an online survey among individuals in a diabetes network revealed 51-66% of respondents reported getting enough physical activity, managing weight, managing stress, and eating a healthy diet to be difficult, and 35-38% reported obtaining needed support from family and friends, work settings, and social activities to lend difficulty to managing diabetes (Schroeder et al., 2015). These examples provide perspective and insight to the challenges of daily diabetes management that patients are faced with, and corroborates the value of involving behavioral health consultants to assist patients with the emotional and behavioral aspects of managing diabetes.

All diabetes patients should have opportunities to engage in diabetes self-management education and support (DSMES). It serves to assist patients by increasing knowledge, decision-making, and problem-solving to optimize diabetes self-care (ADA, 2021). Diabetes self-management education and support has also been associated with improving A1C, self-care behaviors, quality of life, reducing all-cause mortality, and reducing health care costs (ADA, 2021). For the reasons mentioned, integration of DSMES is an important component of a comprehensive diabetes care model.

Diabetes self-management education and support (DSMES) is most commonly delivered by nurses, dietitians, and pharmacists who practice as diabetes care and education specialists (ADA, 2021). Although DSMES is typically not a role responsibility of behavioral health professionals, a collaborative model that connects patients with behavioral health support is essential, as self-management behaviors are significantly impacted by psychosocial factors (ADA, 2021). In fact, the American Diabetes Association position statement places psychosocial care integration for persons with diabetes at a level A recommendation, for improving health outcomes and quality of life (Young-Hyman, 2016). Therefore, behavioral health consultants have an indispensable role to support patients with behavioral aspects of diabetes self-management.

Screening for Psychosocial Care Needs

Considering the demands of diabetes self-management and the aforementioned patient reported challenges with diabetes, it is not surprising for management efforts to be impeded by low mood, stress, frustration, or other emotional challenges. In fact, depression and diabetes distress commonly occur among individuals with diabetes either as coexisting conditions or independently. The reported prevalence of diabetes distress among persons with type 2 diabetes is 18-45%, while the prevalence of Major Depressive Disorder (MDD) in persons with type 1 and type 2 diabetes is estimated to be 12% and 19% respectively. (ADA, 2021; Kreider, 2017). Researchers specializing in psychology and diabetes have revealed there are distinct differences between depression and diabetes distress. Accordingly, from an estimated 45% of persons with type 2 diabetes that have diabetes distress, 70% of them do not meet the diagnostic criteria for MDD (Kreider, 2017).

Diabetes Distress. Diabetes distress pertains to the emotional side of diabetes and although constructs overlap somewhat with depression, there are also distinguishable differences. One description of diabetes distress refers to expressions of emotional feelings and worries associated with the demands and burdens of diabetes management (ADA, 2021; Kreider, 2017). Symptoms of diabetes distress have been explained as powerlessness, hopelessness, fear, burnout, lack of motivation, being overwhelmed, frustration, guilt, loneliness, anger, and defeat (Fisher et al., 2019; Kreider, 2017). Experts on the topic encourage that diabetes distress not be categorized as anxiety or depressive disorder, and endorse the use of validated screening tools to discern distress from other psychological and/or social conditions (ADA, 2021; Fisher et al., 2019; Kalra & Balhara, 2018). Regular screening is recommended over relying on clinical suspicion, as distress is often subtle and does not present with distinct signs that would prompt further investigation (Fisher et al., 2019). Validated screening tools include the Problem Areas in Diabetes (PAID) questionnaire (20-item), the Diabetes Distress scale (DDS) (17-item), and the Type 1-Diabetes Distress Scale (T1-DDS) (28-item) (Fisher et al., 2019). These screening tools yield scores in sub-categories allowing for identification of specific areas that are problematic for a patient, and guide interventions toward the specific behavioral challenge.

Depression. Applying the Diagnostic and Statistical Manual of Mental Health Disorders, 5th edition (DSM-5), an individual is diagnosed with depression if they have had depressed mood, feelings of hopelessness, or loss of interest or pleasure in doing things nearly daily for the past two weeks, effectively the diagnosis is made when five of nine symptoms including one core symptom (diminished/irritable mood or decreased pleasure/interest) are present (Dieter & Lauerer, 2016; Snoek et al., 2015). As with diabetes distress, depression is most often diagnosed through validated self-reported questionnaires. Screening tools for depression include the Beck

Depression Index, Five Item Well Being Index (WHO-5), and the Patient Health Questionnaire-9 (PHQ-9) (Dieter & Lauerer, 2016; Snoek et al., 2015).

The consequences of diabetes distress and/or depression are significant. A high level of diabetes distress is associated with lower activity levels, lower adherence to medications, poor glycemic control, higher risk for complications, lower quality of life, and higher all-cause mortality (ADA, 2021; Fisher et al., 2019; Kreider, 2017). Similarly, depression impacts diabetes self-care, is associated with poor glycemic control, and correlated with 4.5 times higher rate economic health burden through a greater number of sick days and more hospitalizations (Dieter & Lauerer, 2016).

It is justly acknowledged that screening for distress and depression are important for differentiating appropriately and for determining the most effective treatment. Pharmacotherapy with SSRIs is considered standard treatment with or without cognitive behavioral therapy for depression, whereas DSMES and behavioral interventions are the considered the most effective treatment approach for diabetes distress, in cases where, pharmacotherapy is unlikely to be effective and is not recommended (ADA, 2020; Kalra & Balhara, 2018; Kreider, 2017).

Aside from diabetes distress and depression, screening for other psychosocial situations including disordered eating, health literacy/numeracy, cognitive changes, and medication adherence is advised as all influence self-care behaviors (ADA, 2021; Young-Hyman et al., 2016). Opportunistic times for screening include at the time of diagnosis, during diabetes follow up appointments, during or after hospitalization, when a change occurs (i.e., a new complication, medication adjustment, job loss, or transition in care), and when difficulty in achieving the A1C target is identified (ADA, 2021; Fischer et al., 2019).

Use of screening tools aid in early recognition of psychosocial factors that impede a patient's ability to adequately manage diabetes, and are therefore, a key step toward treating and managing behavioral needs (Owens-Gary et al., 2018). Information elicited from psychosocial screening tools facilitate channeling the patient to the most appropriate evidence-based therapy and/or behavioral management, leading to improvement in psychosocial status, self-management practices, and/or glycemic control (Owens-Gary et al., 2018; Young-Hyman et al., 2016). Thus, screening tools are causal to improving outcomes.

Rationale

Models of Care That Provide a Framework

Since the Affordable Care Act of 2010, mental and behavioral health care have been highlighted as requiring greater prioritization, considering a fragmented health care system has prevented collaborative efforts between mental-behavioral, medical, and chronic health conditions (Damian & Gallo, 2019). The Substance Abuse and Mental Health Services Administration's (SAMHSA) six-level model supports collaborative integration of mental and behavioral health into medical care. This model uses three predominant categories: coordinated care,-where the key element is communication; co-located care,-where the key element is physical proximity; and integrated care,-where the key element is practice change (Damian & Gallo, 2019; SAMHSA, n.d.). Embedded within the integrated behavioral health framework is the Collaborative Care Model (CoCM). Partnership and coordination between the health care team members and the patient is an integral component of the behavioral health integrative framework and is essential to the success of the CoCM approach to care. The clinic setting for this study has behavioral health incorporated into primary care. With that, close collaboration takes place between providers, behavioral health consultants, and other members of the care

team meeting the fully integrated care classification of the SAMHSA framework, and thus, the Collaborative Care Model (Collins et al., 2010; SAMHSA, n.d.).

Considering diabetes as a chronic condition, the appropriate conceptual model that is congruent with this study is the Chronic Care Model (CCM). The model's original six elements are community, health system, self-management support, delivery system design, decision support, and clinical information systems (Improving Chronic Illness Care, 2020). Employing evidence-based practice, patient-centered collaboration, and concepts from each of these elements have been identified as essential for delivering high quality care of chronic conditions and improving outcomes (Improving Chronic Illness Care, 2020). A study that examined CCM implementation for diabetes, specifically relative to diet, weight loss, and physical activity counseling in primary care clinics, found the greater number of CCM constructs integrated into practice, the better the diabetes care and outcomes (Strickland et al., 2010). With the existing Behavioral Health Integrated Care framework and collaborative efforts between pharmacists and providers for medication management, incorporating behavioral health for diabetes care would reciprocally accommodate all six of the CCM constructs. The elements and their relevance to this study are: (1) Health system—the clinic fundamentally operates by removing barriers to care, engaging patients with resources, and offering extended hours, (2) Delivery system design—each clinic pod has a care coordinator to assist all health care professionals in transitioning patients to services as needed, (3) Decision support—the clinic's quality improvement team advocates use of clinical practice guidelines and evidence based practice among providers, (4) Clinical information systems—the clinic's quality improvement team has processes in place to track clinical metrics including A1C trends and behavioral health utilization, (5) Self-management support—involving behavioral health will facilitate

improvement with coping and problem solving skills for diabetes management, and (6) Community—the clinic care coordinators and behavioral health specialists connect patients with services and resources in the community (Bongaerts et al., 2017; Improving Chronic Illness Care, 2020). To summarize, the models of care that provide a structural foundation for this project include the SAMHSA integrated framework, Collaborative Care Model, and the Chronic Care Model.

Specific Aims

The purpose of this need's assessment study is to further evolve Richmond Clinic's Collaborative Care Model for managing diabetes by identifying important considerations for expanding behavioral health support in behavior-related diabetes self-management.

The need's assessment has two aims:

1. To conduct an electronically delivered survey that serves to identify current learning needs, perceived barriers, and facilitating factors among behavioral health consultants for expanding behavioral health support in diabetes care.
2. To develop proposed recommendations for next steps based on current literature supporting the model care of behavioral health integration with diabetes.

Methods

Setting

This quality improvement needs assessment study took place at Oregon Health & Science University (OHSU) Richmond Clinic. Richmond is a primary care FQHC located in Southeast Portland, Oregon. The clinic serves people of all ages, genders, and socio-economic status regardless of background, ethnicity, insurance, ability to pay, or documented status (OHSU, 2020). The clinic consists of four designated pods each with a collaborating team: several

primary care providers, a pharmacist, a behavioral health consultant, a care coordinator, and a registered nurse.

There are approximately 1,200 patients, or 8% of the Richmond patient population with diabetes. Twenty-one percent have uncontrolled diabetes (Richmond QI parameter A1C ≥ 8.5%). The diabetes program at Richmond Clinic is part of a quality improvement initiative of Oregon Primary Care Association where uncontrolled diabetes is a priority metric for performance improvement. The program at Richmond is guided by the Coordinated Care Organizations (CCOs) clinical marker of diabetes management, glycated hemoglobin (A1C), applying < 9% as the metric target. Considering this is higher than the ADA (2021) recommended target of ≤ 7%, the Quality Improvement Team at Richmond prioritizes a level between the CCO and ADA with a target metric A1C of 8.5% for their diabetes population. The Richmond diabetes program leverages a collaborative approach between providers and pharmacists for medication management. During a patient encounter the provider may incorporate assistance from an in-clinic pharmacist for adjusting doses of a previously prescribed diabetes medication, or when initiating a medication from a drug-class of lower familiarity. As part of the process of adding a new drug or modifying the dose of an already prescribed drug, patients are followed every 2-3 weeks by phone or through an in-clinic follow up appointment. Additionally, the Richmond diabetes program includes monthly outreach to patients with A1C ≥ 9% to encourage routine clinical encounters with their provider every three months. Other diabetes-related metrics performed and monitored annually are monofilament foot exams and urine microalbumin levels. However, A1C is the preferred metric for measuring diabetes performance for the diabetes population at Richmond, and is the metric routinely monitored by the Quality Improvement Team. Data and metrics offered by E. Kirk (personal communication, August 31, 2020).

Behavioral health consultants (BHCs) are integrated into the primary care setting at Richmond Clinic. Patient encounters may be initiated by the BHC receiving a page from a provider or other clinician (RN or PharmD) with a request to see a patient during an in-person or virtual appointment (warm hand-off), or the BHC receives a referral from a provider via EPIC in-basket with a request for initial consultation or follow-up with a patient. Behavioral health consultants' practice from a short-term intervention lens, whereby in-the-moment visits are limited to 15 minutes with the aim of empowering the patient with an actionable item before parting from the encounter. Patients may also call the clinic to request an appointment with a BHC, where a scheduled encounter is a 30-minute visit. Behavioral health consultants provide direct clinical care for mental health conditions including anxiety, depression, insomnia, and serious persistent mental illness, assist patients with problem solving, as well as crisis intervention for suicidality and homicidality. Additional responsibilities include administering anxiety, depression, and PTSD screenings, conducting evaluations for ADHD and gender affirmation surgery, and facilitating care coordination with community partners. Behavioral health consultants also provide behavior change care for chronic conditions including (but not limited to) hypertension, diabetes, heart failure, chronic pain, and substance use disorders. Behavioral health consultant role responsibilities and workflow were offered by J. Schlobohm (personal communication, May 20, 2021).

Study Design

A qualitative study design was used to assess participant perspective. A purposive homogeneous sampling strategy was applied for focused inquiry among BHCs. This study evaluated learning needs, perceived barriers, and facilitating factors for expanding diabetes-related behavioral support using an electronically delivered survey entitled Behavioral Health

Diabetes Survey, uniquely designed to meet the purpose of the FQHC. Characteristics of participants including details of age, gender, and length of time practicing as a BHC were not elicited as part of this study design.

Participants

The participants of this study are behavioral health consultants (BHCs) at Richmond clinic. As previously mentioned, BHCs are integrated into the collaborative care model at Richmond Clinic where their expertise is an integral component to psychotherapeutic care and mental health for patients. The current structure of behavioral health integration in primary care at Richmond emulates the "integrated" model, with constructs from the SAMHSA collaborative care framework (SAMHSA-HSRA, n.d.).

The BHC team was informed of the following information during a huddle meeting: a brief background of positive outcomes related to behavioral health integration into diabetes care based on the literature, the purpose of the study, what can be expected with BHC participation (mode of intervention, time commitment, and timeline for completion), and informed the study results would be shared with the team. Moreover, this provided a forum for questions, an opportunity to encourage participation, and inform the team their participation would be voluntary. Participation was also encouraged by the Interim Director prior to this author's huddle attendance.

Eligibility criteria for inclusion were currently practicing BHCs at Richmond clinic. Considering the intended purpose of this study is to further expand Richmond's Collaborative Care Model, an all-inclusive approach, inviting nine currently practicing BHCs to participate in this need's assessment study, was appropriate. Participation involved sharing perspective and options through an electronically delivered survey. Participant demographic information was not

obtained due to a small sample size, and as a means of avoiding alignment of demographic data with participant responses.

Measures

An electronically derived questionnaire, entitled Behavioral Health Diabetes Survey (Appendix) was developed with collaborative effort between this author, the Quality Improvement Team, and the Interim Director of Behavioral Health Clinics between March 11 through March 30, 2021. Between April 2 through April 9, 2021, survey questions were designed and built using the Qualtrics platform, then evaluated and tested for question clarity, grammatical editing, look and feel, question behavior, and survey flow by four non-behavioral health colleagues prior to disseminating the final version.

The survey tool evolved into a 13-item questionnaire (Appendix) with varying question types. The first, a Dichotomous (yes/no) question asked participants if they have experience working with patients regarding behavior-related diabetes. A “yes” response would direct the participant to complete open-ended questions 2 through 4: (2) Please describe what you did in your behavioral health role while working with diabetes patients; (3) What specific behavioral health skills were essential for this role/work?; (4) What aspects of this role were challenging (if any)? A “no” response to question 1 would skip forward to question 5, a Likert-scale question assessing self-reported level of comfort with providing behavioral diabetes support to patients at the present time with response options using a 5-point scale: very uncomfortable (1), uncomfortable (2), neither uncomfortable nor comfortable (3), comfortable (4), or very comfortable (5). Question 6 through 10 were Multiple Response type questions. Question 6 requested participants to select from a list, behavioral health related competencies they perceive important for working with behavior-related diabetes. Question 7 requested participants to select

from the same list in question 6, any competencies for which they would like a review. Question 8 requested participants to select from a list of 13 validated diabetes screening tools (used for diagnosing, assessing, and monitoring psychosocial care needs of diabetes patients) they are familiar with (i.e., had knowledge of, but no experience using), and question 9 requested selecting from the same list in question 8, diabetes screening tools they have experience using. Questions 11 and 12 were open-ended asking about perceived barriers and facilitating factors for expanding behavioral diabetes support in the Richmond clinic setting. The last question 13, was open-ended and optional allowing for comments.

Behavioral health consultants were provided with introductory information regarding the background and purpose of the study through the Quality Improvement Team and Interim Director of Behavioral Health Clinics during a monthly meeting. Additionally, this author was invited to attend a weekly BHC huddle meeting via WebEx on April 1, 2021. The survey link was electronically disseminated to BHCs through a Qualtrics email distribution on April 9, 2021. In addition, a separate email message was sent on April 9, 2021 to inform the BHC team that the survey link had been sent. The requested deadline for completing the survey was April 16, 2021. A reminder email was sent to all participants on April 13 and April 16, 2021. Since April 16th fell on a Friday, a grace period was subsequently accommodated through Monday, April 19, 2021. Accordingly, data was collected between April 9 through April 19, 2021.

Analysis

As mentioned, demographic variables were not elicited as part of the data collection to maintain anonymity by concealing the likelihood of linking employee information with responses with a small sample size. The data analysis and report features within Qualtrics were used for descriptive statistical analysis by calculating the number and percentage of responses to

each response option for Dichotomous, Likert-scale, and Multiple Response type questions. Data from the Open-ended and narrative questions were extracted from Qualtrics, organized into a Word document, and analyzed for themes and interpreted for meaning. Qualitative content analysis was the method used to identify important themes and patterns (Polit & Beck, 2021). The Qualitative content analysis entailed multiple readings with an analytical examination of each narrative response. This was followed by extracting key words to ascertain recognizable information and developing codes to formulate a condensed meaning of each response (Polit & Beck, 2021). Codes containing similar ideas were grouped together to cultivate themed categories with a focus on perspectives of behavioral health consultants. Data was extracted from Qualtrics and manually examined and analyzed between April 20 and May8, 2021. To increase accuracy in interpretation of narrative data, a secondary Qualitative content analyses was performed by the Clinic Quality Manager. Appropriateness of data analysis strategies were determined in consultation with a university statistician.

Ethical Considerations

The study protocol was granted non-human research determination and exempt by OHSU IRB on October 21, 2020 (eCRIS ID: CRS00006079). Written consent for voluntary participation was embedded into the introductory and opening statements of the Behavioral Health Diabetes Survey. Implied consent was obtained through participant completion and submission of the survey.

Results

Evolution Over Time

This needs assessment study evolved out of long-established dedicated care and appreciation for persons with diabetes; and a professional interest in developing an improvement

initiative that would serve to expand care and management for diabetes patients in primary care. Pairing this with the Quality Improvement Team's endeavor to improve metrics related to diabetes, and an appeal for exploring the prospect of expanding behavioral health in diabetes care and management, an intriguing alignment was established.

The initial development of the project design took place between June and August 2020. A mixed methods approach was proposed with use of a diabetes knowledge test, a behavioral health competency questionnaire, and semi-structured telephone interviews with BHCs. Pre-existing validated tools were examined and considered for their potential in fulfilling the objective of assessing BHC knowledge of diabetes, familiarity with competency skills and diabetes distress screening tools perceived necessary for behavior-related diabetes management. The Revised Diabetes Knowledge Test (DKT2) is a well validated, reliable 23-item questionnaire designed for use among many populations (patients and clinicians) (Fitzgerald et al., 2016). The DKT2 was considered for assessing BHC general knowledge about diabetes with the idea that results would help identify knowledge gaps and guide learning needs. To assess BHC-specific competencies deemed necessary for this integrated setting, two questionnaires were compared. The first tool considered was a 99-item questionnaire developed by Horevitz and Manoleas (2013) that assesses familiarity with and perceived importance of 19 behavioral health competency areas. The second tool considered was Social Worker Integrated Care Competency Scale (SWICCS), a 37-item questionnaire developed by Davis et al. (2019) as a social worker self-assessment for rating individual perceived competency in various areas of practice. The SWICCS was originally studied among social worker students, however authors propose it holds value for use among behavioral health clinicians in clinical practice (Davis et al., 2019). The third component, semi-structured interviews, would include questions that elicit BHC

perspective regarding barriers, facilitating factors, and familiarity with diabetes screening tools. The total time for BHCs to complete the three proposed interventions was estimated at 90 minutes. During February and March 2021, collaborative meetings with the Quality Improvement Team and Interim Director of Behavioral Health Clinics took place. At this time, it was deemed necessary to identify a single intervention strategy requiring less than 25 minutes of BHC time due to limitations of clinic bandwidth. In addition, a closer evaluation of the DKT2 and competency questionnaires suggested the information that would be extracted would not optimally fulfill the aims of this study. At this point, the project team agreed that refining and restructuring interview questions into an electronic survey would more appropriately meet clinic capacity, and yield information that distinctly aligns with the project purpose and aims.

Process Measures and Outcome

Seven of nine participants completed the Behavioral Health Diabetes Survey (Appendix). Of the 7 participants, the survey completion rate was 100%. To maintain anonymity with a small sample size, demographic data was not elicited for this qualitative design.

The dichotomous question pertaining to previous experience working with behavior-related diabetes management or diabetes-related distress/depression revealed 6 of 7 participants (85.7%) selected a *yes* response. A *yes* response directed participants to 3 open-ended questions eliciting narratives. Emerging themes identified from the question related to the behavioral health role while working with diabetes patients, were *patient engagement* and *patient activation*, with the majority of (5 of 6) responses reflecting these role functions. Additional themes extracted were *identifying strengths*, *identifying support*, and *multidisciplinary care coordination*. The major emerging theme identified from the question related to essential behavioral health skills in former diabetes work was *motivational interviewing*, with 100% of

participants listing this as a necessary skill. Additional themes regarding important skills were a*cceptance and commitment therapy (ACT), cognitive behavioral therapy (CBT), solution focused therapy, understanding the medical condition, therapeutic listening, active listening*, and *psychosocial assessments*. Emerging themes identified from the question related to challenges in former diabetes work, were classified into two categories, clinician related and patient related challenges. Themes identified under the clinician related category were *misalignment between BHC and provider insight related to behavioral complexities* and *feeling unsupported*. Themes identified under the patient related category were *insurance barriers, missed appointments,* and *Social Determinants of Health (SDoH) barriers*.

The Likert-scale regarding level of comfort in the ability to provide diabetes-related behavioral support at the present time, revealed responses ranging from "uncomfortable" (2) to "very comfortable" (5), there were zero very uncomfortable (1) responses (Table 1). The response mean was 4, indicating that the majority of participants feel "comfortable" providing diabetes-related behavioral support for patients.

Table 1

Current level of comfort with providing diabetes-related behavioral support

	Self-Rated Comfort Level No. (% of N)
	N=7
Very uncomfortable (1)	0 (0%)
Uncomfortable (2)	1 (14.29%)
Neither uncomfortable nor comfortable (3)	1 (14.29%)
Comfortable (4)	2 (28.57%)
Very comfortable (5)	3 (42.86%)

Survey questions 6 through 10 allowed participants to select "all that apply." Responses to question 6 regarding competencies perceived important for behavior-related diabetes self-management, revealed 6 of 7 participants (85.7%) selected behavioral activation, motivational

interviewing, problem solving, and cognitive behavioral therapy. Five of 7 participants (71.4%) selected functional assessment, and 4 of 7 (57.1%) selected relaxation training as important competencies. Additional competencies perceived as important were entered in the free space entitled “other” by one respondent: acceptance and commitment therapy (ACT), principles of neurobiology of trauma, assessment of SDoH, assessment of health literacy, trauma informed care, group facilitation, psychoeducation, and care coordination. Responses to question 7 regarding competencies for which a review or refresher would be useful, revealed a broad spectrum from not needing review to desiring review of several competencies. Two of 7 participants (28.5%) selected the response, “I do not need a review of the above competencies.” Five of 7 participants (71.4%) selected behavioral activation, 3 of 7 participants (42.8%) selected functional assessment and problem-solving treatment. Two of 7 participants (28.5%) selected motivational interviewing, cognitive behavioral therapy, and relaxation training. There were no additional entries in the free-space entitled “other” for this question. Responses to question 8 regarding familiarity with any of the 13 validated diabetes screening tools (Table 2), revealed 6 of 7 participants (85.7%) selected the option, “I am not familiar with any of the above screening tools (Table 3).” One participant selected the Diabetes Eating Problems Survey option. There were no additional entries in the free space entitled “other” for this question. Responses to question 9 regarding experience using any of the 13 validated diabetes screening tools (Table 2) revealed, 6 of 7 participants (85.7%) selected the option, “I do not have experience with any of the above screening tools (Table 3).” One participant selected the Diabetes Eating Problems Survey option.

Table 2

Psychosocial screening tools for diabetes

Problem Areas in Diabetes (PAID) (for adults w/type 1 and type 2 DM)
Problem Areas in Diabetes-Pediatric Version (PAID-Peds)
Diabetes Distress Scale (DDS) (for adults with type 1 and type 2 diabetes)
Type 1 Diabetes Distress Scale (T1-DDS)
Diabetes Eating Problems Survey (DEPS-R)
Diabetes Treatment and Satiety Scale (DTSS-20)
Self-efficacy for diabetes Management (for adolescents)
Diabetes self efficacy (for adults)
Hypoglycemia Fear Survey-II (HFS-II) (for adults with type 1 diabetes)
Children's Hypoglycemia Index (CHI) (for ages 8-16 with type 1 diabetes)
Summary of Diabetes Self Care Activities (SDSCA) (for adults with type 1 and type 2 diabetes)
Adherence to Refills and Medications Scale (ARMS-D) (for adults)
Barriers to diabetes adherence (for ages 12-17)

Note. Adapted from Young-Hyman et al. (2016)

Table 3

Familiarity with and experience with diabetes-related psychosocial screening tools

	Familiarity With No. (% of N)	**Experience Using** No. (% of N)
	N=7	N=7
Diabetes Eating Problems Survey (DEPS-R)	1 (14.29%)	1(14.29%)
I am not familiar with any of the above screening tools	6 (85.71%)	
I do not have experience with any of the above screening tools		6 (85.71%)

There were no additional entries in the free space entitled "other" for this question. Responses to question 10 regarding desire to learn more about diabetes revealed, there were no topics in the list left unchecked. All diabetes topics were selected by one or more participants, and there were zero responses to the option, "I do not wish to learn more about diabetes." The majority of participants (6 of 7, or 85.7%) would like to learn more about the effects of substance use on

diabetes, followed by 5 of 7 (71.4%) participants would like to learn more about transition time/changes that make management challenging (Table 4). Four of 7 participants (57.1%) selected overview of types/routes of medications and diabetes resources as areas of interest for learning more (Table 4). Between 1 and 3 (of 7) participants selected all other diabetes topics. One participant wrote an entry in the free space entitled "other:" *I think all of the above would be interesting and useful to learn more about. However, identifying pt population and demographics (i.e., poverty level, education, cognitive function etc) will be important in determining what type of training BH teams need. For example, with FMR pts, my experience was that due to depression, intellectual disability, traumatic brain injury, dementia, etc., cognitive functioning was often a barrier.* This response is interpreted as follows: in addition to diabetes-specific topics, it is important to consider other psychosocial aspects (i.e., conditions affecting cognition and SDoH) of health that influence an individual's ability to manage a chronic condition such as diabetes.

Table 4

Diabetes: learning more to enhance ability to provide diabetes behavioral health support

	Respondents: Topics of Interest No. (% of N)
	N=7
Overview—diabetes prevalence-national, state	2 (28.57%)
Overview—ethnic distribution	3 (42.85%)
Overview—screening/A1C	2 (28.57%)
Overview—diagnosis	1 (14.28%)
Overview—basic physiology	2 (28.57%)
Overview—type 1 vs. type 2	2 (28.57%)
Overview—signs/symptoms of hyper-and hypo-glycemia	2 (28.57%)
Medications-overview of types and routes	4 (57.14%)
Medications—administration skills	2 (28.57%)
Medications—potential barriers and challenges	3 (42.85%)

Home glucose monitoring—regimens	2 (28.57%)
Home glucose monitoring--purpose	1 (14.28%)
Home glucose monitoring—target glucose levels	2 (28.57%)
Home glucose monitoring—potential barriers and challenges	3 (42.85%)
Behavioral diabetes—exercise	2 (28.57%)
Behavioral diabetes—healthy eating and nutrition	1 (14.28%)
Behavioral diabetes—safety steps to prevent hypoglycemia	2 (28.57%)
Behavioral diabetes—managing hypoglycemia	2 (28.57%)
Behavioral diabetes—managing hyperglycemia	2 (28.57%)
Behavioral diabetes—effects of substance use on diabetes	6 (85.71%)
Behavioral diabetes—transition time/changes that make diabetes management challenging	5 (71.42)
Diabetes resources available for patients	4 (57.14%)
I do not wish to learn more about diabetes	0

Questions 11 through 13 were open-ended eliciting narrative responses that were optional. Responses to question 11 regarding perceived potential barriers for expanding behavioral health support, reveal 4 of 7 participants responded to this question. Themes related to barriers were classified into two categories, clinician related (may include BHCs, providers, or other clinicians) and patient related barriers. Themes identified under the clinician category were *limited capacity, insufficient utilization of expertise, and insufficient knowledge related to BHC skills/capabilities*. A theme identified under the patient category was *lack of interest*. Responses to question 12 regarding perceived facilitating factors for expanding behavioral health support, reveal all 7 participants responded to this question. Emerging themes are within the clinician realm, *restructuring distribution of workload, BHC education, increase clinician awareness of BHC skills, and BHC efficacy*. The predominant theme was *increase clinician awareness of BHC skills* with 3 of 7 participants suggesting this as an enabling factor. Question 13 allowed participants to share remaining thoughts or comments in narrative form. One participant wrote an entry in the free space: *I'm SO glad to hear that you are looking at BH role in DM care considering prevalence of DM. I've been interested in it for years but couldn't get traction.*

Happy to talk to you more about it. Themes extracted from this comment are *BHC interest in diabetes* and *involving BHC with diabetes expansion.*

Contextual Elements

This study took place during the 2020-21 COVID-19 pandemic. All interactions with the Richmond Clinic project team and Behavioral Health Consultants were in a virtual context via email, WebEx, and an electronic delivery of a Qualtrics survey. One hundred percent participation may have occurred if this author/researcher was able to meet BHCs and have an occasional in-person presence, though it is unknown if the virtual context impacted participation or the results.

Discussion

Summary

The structure of the Behavioral Health Diabetes Survey developed for this study incorporated constituents identified in the literature that appear to have an integral relationship between behavioral health and diabetes in integrated care settings. The survey aimed to glean perspective of behavioral health consultants related to previous experience with diabetes, comfort level with behavioral aspects of diabetes, perceived behavioral health competencies necessary for working with diabetes patients, awareness experience with diabetes screening tools, content areas of interest for learning more about diabetes, and perceived barriers and facilitating factors for program expansion. Thus, the Behavioral Health Diabetes Survey and its results are specific to the project aims designed for Richmond Clinic's integrated setting.

Overall results show Richmond BHCs have insight to behavior-related diabetes work through previous experience, they are comfortable with their ability to provide diabetes-related behavioral support, they do not have experience with diabetes psychosocial screening tools, they

are interested in reviewing competency skills relevant to behavioral diabetes, and they are interested in learning more about diabetes. Behavioral health consultants perceive clinician lack of knowledge/familiarity about BHC skills as a hindrance to expanding behavioral support for diabetes, albeit increasing clinician knowledge/familiarity as an enablement to the identified barrier.

The primary aim of this study has been achieved and distinguished as follows: 1) BHC learning needs have been elucidated, including reviewing the behavioral activation competency, becoming familiar with screening tools for diabetes-related psychosocial care needs, and acquiring more knowledge about diabetes, with significant interest on the topic, effects of substance use in diabetes; 2) perceived barriers for expanding behavioral diabetes support include limited capacity and limited awareness of BHC skills among clinicians; 3) the predominant facilitating factor identified for expanding behavioral diabetes support is raising clinician awareness of BHC skills and competence. The project purpose has been met as the findings provide a foundation from which to consider next steps for expanding behavioral health in diabetes care for Richmond Clinic. The secondary aim, considerations for guiding future action that support Richmond's model of care, are discussed under implications for practice.

Interpretation

Behavioral Health Competencies

The majority of BHCs listed motivational interviewing, solution focused therapy, behavioral activation, and CBT as essential skills identified through their experience in working with diabetes. Motivational interviewing was listed as essential by 100% of participants, suggesting this may be a skill utilized most often and/or possibly regarded as the most valuable for patients having chronic conditions such as diabetes. This idea is mirrored through results of a

separate question eliciting competencies perceived to be important in the context of behavior-related diabetes work, with motivational interviewing selected by 85.7% of participants. These results align with that of a study by Horevitz and Manoleas (2013) who identified of social workers surveyed, 82% use MI in their job, and 76% rate MI as an important skill. It can be assumed that most BHC participants in this study have competence with motivational interviewing considering only 2 of 7 participants have interest in reviewing this skill. Behavioral activation was also selected by the majority of participants (85.7%) as an important competency for behavior-related diabetes work. And, most participants (71.4%) indicate a review of behavioral activation would be useful. This may reflect an insufficient acquisition of this skill through former training if one considers the findings from the Horevitz and Manoleas (2013) study, which found only 10% of respondents reported learning behavioral activation in school. Although few learned the skill in training, 31% reported using the skill in their current role and 37% reported it as important (Horevitz & Manoleas, 2013). With behavioral activation rated as an important skill and identified as one warranting review by the BHCs in this study, and considering there is a perceived deficit in acquiring this skill in school (per findings by Horevitz and Manoleas (2013)), there is justification for supplemental training. Less than half of BHCs desire a review of problem-solving treatment skills, though most (85.7%) perceive this skill important for diabetes work. Similarly, among social workers surveyed, a high percentage reported using problem-solving skills on the job (48%) and identified this as an important skill (43%) (Horevitz & Manoleas, 2013). During their experience with diabetes, 2 (of 6) BHCs listed CBT (in the free-text space) as essential for this work, and 85.7% of BHCs selected CBT as essential from the list of competency options. Similar results were found among social workers surveyed with 67% using CBT on the job and 60% reported it as an important skill (Horevitz &

Manoleas, 2013). Several behavioral strategies were identified as essential skills by the BHC survey participants. According to BHC survey participants, behavioral activation, problem solving, CBT, and MI are the most important skills in the context of working with behavior-related diabetes. This finding correlates well with a systematic review and meta-analysis of 12 randomized controlled trials evaluating psychological therapy to improve diabetes control in persons with type 2 diabetes, and identifying CBT as the most common intervention and MI as the second most common (Ismail et al, 2004). Of note, the meta-analysis showed a significant improvement in A1C (difference of 0.76%) among the groups using psychological therapies versus control, and when studies with less intensive psychological therapies were excluded in the analysis (CBT was included among intensive therapies), there was a larger effect in A1C (difference 1.00%) (Ismail et al., 2004).

Knowledge of the Medical Condition, Diabetes

During their experience with diabetes, 2 (of 6, or 33%) BHCs listed "understanding the medical condition" as an essential skill for working with diabetes patients. In the work of Horevitz and Manoleas (2013), 80% of social workers rated having knowledge of psychosocial sequelae of illnesses as an important competency. Clearly there is a large difference in percentage of respondents between the two studies (33% versus 80%). However, all 22 topic options were selected (by at least one BHC) to the query about desire to learn more related to diabetes, and zero respondents selected the option, "I do not wish to learn more about diabetes." These findings suggest that many BHCs have an interest in acquiring knowledge of the condition and learning more is a surmised requisite for effective behavioral health integration. This concept is further supported by the work of Black and Nugent (2018) who studied the model of knowledge needed for working in integrated health care settings. The study supports existing

evidence that knowledge of specific medical conditions for which behavior influences risk, prevention, and management of the chronic ailment is necessary (Black & Nugent, 2018). Of note, 94.2% of participants in the study "agreed" they required knowledge about diabetes for their role as behavioral health consultant (Black & Nugent, 2018).

As described, BHCs would appreciate expanding their overall knowledge about any aspect related to diabetes, as all 22 topic options were selected relative to learning more. Topics showing greater than 50% of participants having an interest in learning more are: effects of substance use on diabetes (85.7%), transition time/changes that make management challenging (71.4%), overview of types and routes of medications (57%), and resources available for patients (57%).

As expected, BHCs have considerable interest in understanding the effects of substance use on diabetes. This topic is of key importance for BHCs considering a significant portion of the patient population they serve experience substance use disorders making management of co-occurring chronic illnesses difficult. Substances of abuse exhibit varying effects on the metabolic system, and may contribute to the development of diabetes, or create havoc with pre-existing diabetes and place individuals at risk for a severe hyper- or hypo-glycemia state (SAMHSA, 2013). Additionally, substances of abuse contribute to poor self-management behaviors such as skipping medications or meals, consuming foods high in sugar, and not checking blood sugar, all of which make glycemic control more challenging (SAMHSA, 2013).

Encouragingly, BHCs have interest in learning more about how times of transition contribute to self-management challenges. This is another topic of key importance for BHCs considering difficulty related to diabetes self-management present under psychosocial challenges such as distress, depression, anxiety, conditions of SDoH; and during life transitions such as

changing schools, moving, job related changes, marriage or divorce, and experiencing loss (ADA, 2021; Young-Hyman, 2016). This highlights pivotal time-points for initiating assessment of DSME skills and screening for psychosocial conditions that directly impact diabetes as supported by the ADA (2021). Use of diabetes and psychosocial screening tools is discussed below.

These findings are somewhat difficult to compare, as literature supporting similar BHC self-reported learning needs was not identified. It is also important to note, these findings reflect diabetes learning needs perceived to be relevant to BHCs at Richmond, and are therefore unique to their team.

Diabetes and Psychosocial Screening Tools

During the initial phase of this study, an abundance of literature pointed to the unique difference between diabetes distress and depression and the importance of screening to distinguish between the two states. The ADA clearly affirms diabetes distress is a common and "independent condition" from depression, anxiety, and other psychological disorders (ADA, 2021, p. S64). Since high levels of diabetes distress negatively affects medication adherence and other self-management behaviors, and is associated with overall poor glycemic control, use of validated screening tools for its detection are highly endorsed by the American Diabetes Association (ADA, 2021; Young-Hyman et al., 2016). Detecting the presence of diabetes distress and/or depression in persons with diabetes is important, however, further review of the literature suggests it is also imperative to conduct screening for other psychosocial conditions that affect emotional well-being and diabetes outcomes (ADA, 2021; Young-Hyman et al., 2016). Accordingly, use of validated tools to routinely screen for anxiety, disordered eating, cognitive capacities (in older adults >65 years), health literacy and numeracy and social determinants of

health are additional conditions recommended (ADA, 2021; Young-Hyman et al., 2016). When to screen is an also an important consideration. Persons with diabetes have the greatest psychological vulnerability at the time of diagnosis, during hospitalizations, at the onset of new diagnoses or complications, when having difficulty achieving glucose goals, and/or during transitional periods (i.e., loss of employment or work-related change, disruption or change in housing, marriage, or divorce, or when experiencing loss), and are therefore recommended opportunities for psychosocial screening (ADA, 2021; Young-Hyman et al., 2016).

The Behavioral Health Diabetes Survey results show BHCs are familiar with the essentiality of SDoH and health literacy assessments based on responses to narrative questions. The survey also queried about familiarity and experience with specific psychosocial screening tools for diabetes listed in Table 2, although this list of instruments is not exhaustive. Most BHCs are both unfamiliar with and unexperienced in using diabetes-related psychosocial screening tools (85.7%) as shown from response options as depicted in Table 3. This finding illuminates an area for future learning should expansion of behavioral health in diabetes care continue to evolve.

Barriers and Facilitating Factors

As represented in the results section, limited capacity was the most consistent and predominant themed barrier to expanding behavioral health services in diabetes care. Many factors likely contribute to limited capacity of BHCs. A higher ratio of patients needing behavioral health support in relation to BHC availability is one possible contributing factor. Survey respondents indicate inadequate referrals to BHCs for behavioral diabetes support as a contributing barrier. Perhaps the limited number of diabetes referrals is influenced by providers recognizing BHCs have limited availability with their existing responsibilities, and intentionality

of not adding to their workload, a notion supported by the insights of Mann et al. (2016). Although limited capacity was a predominant barrier, investigating factors that contribute is beyond the scope of this study, and could be considered a topic for further exploration in the context of behavioral health expansion for this clinic setting.

In total, factors perceived to facilitate expansion of behavioral health in diabetes are restructuring time/work distribution, incorporating BHC education, increasing clinician awareness of BHC skills, and demonstrating efficacy of BHCs. In addition, one BHC indicated a desire to participate or having involvement in the effort of expanding diabetes care. This comment should also be considered a facilitating factor. With resounding predominance, increasing clinician awareness of BHC skills, and incorporating BHC education are perceived enabling factors. These responses suggest there is inadequate understanding of BHC scope of practice among clinicians. When role clarity and scope of practice are not clearly defined, building effective integrated behavioral health care can be challenging (Sugarman et al., 2014).

Cost Effectiveness

A cost analysis was not an intended component of this study, however a reflection on the cost effectiveness of behavioral health integration with diabetes is worth mentioning. There is substantial evidence demonstrating behavioral health interventions improve depression (APA, n.d.; Bogner et al., 2012; Huang et al., 2013), diabetes distress (Fisher et al., 2019; Tunsuchart et al., 2020), self-management behaviors (ADA, 2021), other psychosocial conditions, and diabetes specific metrics such as A1C (ADA, 2021; Bogner et al., 2012; Tunsuchart et al., 2020; Winkley et al., 2020). The studies showing these beneficial outcomes were not designed to determine a direct cost savings per se, however it is fair to deduce that a reduction in symptoms of depression, distress, or other psychosocial conditions, could decrease health care costs through

reduced health care utilization. A complementary point to this notion is shown through evidence that diabetes and co-occurring depression are associated with a 4.5 times higher rate of economic burden with increased number of sick days, hospitalizations, and longer length of hospital stays (Dieter & Lauerer, 2016; Lanoye et al., 2017). Additionally, although not specific to diabetes, an $1.08 million cost savings (reduced hospitalizations) for Medicare, Medicaid, and Dual eligible payer programs was identified among practices in Colorado that had integrated behavioral health (Ross et al., 2019).

Cost effectiveness of behavioral health interventions is seemingly difficult to demonstrate. Anecdotally, cost and effectiveness are influenced by duration of the behavioral health intervention or treatment, the specific intervention used, the length of time for each session, the health professional delivering the intervention (nurse vs. psychologist vs. social worker or other behavioral health professional), and other supportive structures in place for patients (community health workers, phone follow-up). An in-depth economic meta-analysis conducted by Winkley et al. (2020) revealed attention control and CBT are effective behavioral health interventions for type 1 diabetes, counseling and CBT are effective behavioral health interventions for type 2 diabetes, and CBT appears to be a cost-effective intervention. Whether measuring self-management behaviors, depression or distress scores, health care utilization, quality of life, or specific behavioral interventions, there is evidence to suggest behavioral health yields positive outcomes and therefore is cost effective (ADA, 2021; APA, n.d., Lanoye et al., 2017; Ross et al., 2019).

Limitations

This study had several limitations. In particular, the sample size was small. Therefore, results are not generalizable to behavioral health consultants across integrated settings. The

qualitative design of this study lends to subjectivity of constructivist inquiry also limiting the generalizability. There were only two data analysts coding data increasing the possibility of interpretation bias. Checklist/multiple response type questions provided limited insight and would have generated more information if replaced with rank-order questions. For example, selecting all that apply from a list of diabetes topics yields information about areas of interest, but a rank-order question would provide greater insight to the preferred prioritization for topics of interest (Polit & Beck, 2021). Additionally, the questions used in the survey were uniquely tailored to meet the purpose and aims of this study and consented by the project team, however they were not tested for validity or reliability.

Implications for Practice

The subsequent paragraphs are intended to fulfill the second aim of this study, develop proposed recommendations for next steps based on literature that supports the model of behavioral health integration with diabetes.

Multidisciplinary Team Approach and Models of Behavioral Health Intervention.

Several studies incorporate a multidisciplinary team approach with study designs that serve as models of care for expanding diabetes and demonstrating improvement outcomes: (1) A 12-month RCT study by Cummings et al. (2019) employed a multidiscipline team model with nurse care managers who provided lifestyle coaching twice monthly via phone intervention, a psychologist and psychology doctoral student who provided 12 individually tailored CBT sessions, and community health workers who provided social support and navigation through quarterly phone intervention for the treatment group. Results showed a significant reduction in psychosocial measures of depression and distress, as well as improvements in lifestyle and behaviors related to medication adherence (Cummings et al., 2019); (2) An RCT by Katon et al.

(2010) applied a multidisciplinary team model with nurses who were provided with training on depression management and behavioral strategies, weekly consultation with psychiatrist and psychologist, and collaboration with primary care providers. Nurses proactively followed patients every 2-3 weeks, monitoring depression, offering behavioral strategies (including problem solving, goal setting, and MI) with emphasis on medication adherence and self-care activities (Katon et al., 2010). Results showed improvement in biomarkers (A1C, LDL, SBP), depression, and quality of life scores based on screening (Katon et al., 2010); (3) A retrospective cohort study employed a multidisciplinary team model within a diabetes collaborative care team. The team included a PCP, a care manager (RN, APRN, or RD), a psychiatric consultant, a medical consultant, and an MA. The care manager tasks included health assessments, self-management support, behavioral interventions (including MI, behavioral activation) and care coordination (Chwastiak et al., 2017). Significant reduction in A1C levels were found in patients referred to the diabetes collaborative care team (Chwastiak et al., 2017).

The key takeaways from the described excerpts and with consideration of this study's purpose, are: a multidisciplinary team-based approach is essential for achieving successful outcomes; members of the care team should include behavioral health professionals, primary care providers, and supportive clinical staff (RNs, MAs, and community health workers) as feasible; and efficacy may be measured through multiple parameters including A1C, other biomarkers, psychosocial screening scores, and/or patient engagement with self-management.

The setting of this study embodies the collaborative care model with behavioral health integration in primary care. In conjunction with the collaborative care framework, a multidisciplinary team approach to meeting patient behavioral health needs is imperative for successful outcomes. Although the current workflow accommodates a multidisciplinary team

environment, gaps in communication or role clarity may exist given the resounding theme suggesting a need for *increasing clinician awareness of BHC skills*, and proposed as an enabling factor for expanding support in diabetes. This finding may warrant further exploration to obtain a deeper understanding of gaps in the current system.

Therapeutic Interventions for Behavioral Health. In addition to the multidisciplinary team approach, review of the literature shows several behavioral health therapies as useful and effective for achieving positive outcomes. Cognitive behavioral therapy (CBT) is the most widely studied intervention demonstrating clinical effectiveness, with a reduction in diabetes distress and improvement in lifestyle management (Cummings et al., 2017; Lutes et al., 2020; Tunsuchart et al., 2020), as well as a positive effect on A1C levels (Ismail et al., 2010; Tunsuchart et al., 2020). Motivational interviewing (MI) is also a behavioral strategy commonly integrated into study designs. Although generally not measured specifically, MI is a component of many behavioral strategies used in research that contribute to positive outcomes (Chwastiak et al., 2017; Katon et al., 2010). A systematic review showed multiple psychotherapeutic strategies were effective by improving A1C and distress: supportive counseling, CBT, psychodynamic therapy, relaxation techniques, problem solving, goal setting, MI, cognitive restructuring, and others (Ismail et al., 2004).

The point to accentuate is that multiple behavioral therapies (or strategies) used in studies have shown positive diabetes- and behavior-related outcomes. Cognitive Behavioral Therapy and MI appear to have the greatest prominence in the literature, and coincidentally are two of the four competencies rated as important for assisting patients with behavior-related diabetes self-management by most BHCs, which also parallels with findings in the Horevitz and Manoleas (2013) study.

Behavioral Health Models for Diabetes. Models of care for integrating (or expanding) behavioral health in diabetes care specifically are lacking in the literature. Therefore, it is imperative to examine frameworks, models, and study designs used in behavioral health and diabetes research, as represented above, to develop a model that is compatible with the Richmond clinic setting.

Suggested Next Steps

As a means to expanding behavioral health support in the Richmond integrated care setting, the following suggested next steps have emerged from data gathered out of this study, and elements extracted from the literature:

- Acquire perspective of providers and nurses relative to barriers and facilitating factors for expanding behavioral health support for diabetes in this clinic setting, with a similar approach to that used for BHCs in this study. This would be valuable considering several studies model behavior-related improvement outcomes by integration of multidisciplinary teams that consist of providers, behavioral health professionals, nurses, and other support staff (Chwastiak et al., 2017; Cummings et al., 2019; Katon et al., 2010). Obtaining the perspective of other disciplines would strengthen the diabetes expansion endeavor, support the collaborative care model, and likely facilitate care team member engagement.
- Consider how other clinician roles would support expanding behavioral health support in diabetes. The studies illustrated previously provide examples of clearly defined clinical roles that support behavioral health. Some designs utilized nurses to conduct psychosocial screenings and support diabetes self-management efforts and reinforce behavioral health principles by telephone or face-to-face visits (Chwastiak et al.; 2017; Cummings et al; 2019). Some designs utilized nurses to deliver the behavioral health

therapy (Katon et al., 2020). And, other designs utilized community health workers for supportive outreach (Cummings et al., 2019). It is important to define the roles of other clinicians while developing a structure to support BHCs, and expanding behavioral support in diabetes. This augments the multidisciplinary team model.

- Leverage BHC competencies, skills, and diabetes-related knowledge. Results show, BHCs are interested in reviewing competencies, with most desiring review of behavioral activation. Increase BHC familiarity with screening tools used for diagnosing, assessing, and monitoring psychosocial care needs of patients with diabetes, considering use of screening tools are highly endorsed by the ADA (2021), and results of the survey show most BHCs do not have familiarity or experience using them. Identify resources (conferences, lectures, written materials) or request assistance of OHSU experts (diabetes educators, endocrinologists) from the diabetes center for potential learning opportunities to help BHCs increase knowledge related to diabetes. Understanding the chronic condition is indicated as an important competency (Davis et al., 2019; Horevitz & Manoleas, 2013), deemed essential for integrated care settings (Black & Nugent, 2018), and rated as an essential skill among BHCs with diabetes experience. All diabetes topic areas for learning more were of interest to BHCs, though topic areas with the greatest number of responses should be considered initially, including substance use effects on diabetes, transition times that make management challenging, resources for patients, and medication types/routes.
- With limited capacity indicated as a barrier by several BHCs, and as suggested by a respondent, consider restructuring BHC time allocated to responsibilities with the purpose of accommodating greater amount of time for behavior-related diabetes support.

An additional thought is to pilot group behavioral skills sessions for diabetes patients, where BHCs rotate facilitating these meetings monthly. Organizing group sessions for diabetes patients was illuminated as an area of interest by a BHC respondent.

- Involve BHCs in the development of the diabetes expansion project. A survey comment indicated one BHC has interest in participating with expanding behavioral health in diabetes care. Although this is only one response, it makes intuitive sense that involving BHCs who are interested would enhance engagement and contribute to success.

A qualitative study evaluating measures that influence effectiveness of a collaborative care model, identified team dynamics as one of many useful constructs (Beck et al., 2018). The aforementioned next step suggestions for obtaining perspective of providers and nurses, evaluating contribution of other clinician roles in the context of expanding diabetes support, and involving BHCs in the development of a project to expand behavioral health in diabetes align with cohesiveness, trust, and team members feeling valued, as team dynamic constructs that facilitate successful CoCM implementation (Beck et al., 2018).

- Increase clinician awareness of BHC skills. This was a resonating theme for facilitating expansion of diabetes care, and the lack of clinician awareness was revealed as a barrier. As a means of increasing awareness, consider presenting BHC efficacy through case study examples (or other data) available during clinic staff meetings. As provided throughout this report, research abounds showing the positive outcomes with behavioral integration in primary care, and as related to diabetes. Providing the administrative and clinical teams with examples of studies that show improvement in behavior-related diabetes self-management, diabetes distress, depression, and diabetes metrics such as A1C would offer another strategy for demonstrating BHC efficacy.

- Consider participation in the INTEGRATE-D: a pilot test of implementation strategies to support integration of medical and psychosocial care for people with type II diabetes, a partnership between OHSU Family Medicine and Oregon Rural Practice-based Research Network (ORPRN) (Oregon Health & Science University [OHSU], 2020). This pilot study applies several concepts threaded throughout this report including previously explained American Diabetes Association recommendations, the prevalence of co-occurring diabetes and depression, and increased patient engagement with self-management with integration of psychosocial care.

Conclusion

In conclusion, diabetes is progressively increasing in the United States with a 9.1% prevalence in 2018 and predicted 13.9% by 2030 (CDC 2020; Lin et al., 2018). Diabetes is a demanding chronic condition requiring self-management skills and adaptability to life changes and challenges (ADA, 2021). The burdens of diabetes self-management in the setting of psychosocial challenges contribute to unfavorable diabetes outcomes (ADA, 2021; Owens-Gary, 2018; Snoek et al., 2015; Young-Hyman, 2016).

Integration of behavioral health with diabetes care has demonstrated improvement in self-management behaviors, depression, distress, and clinical biomarkers (ADA, 2021; Andreae et al., 2020; Lanoye et al., 2017). This study explored elements for expanding behavioral health in diabetes including efficacy of behavioral health integration, behavioral health competencies, emotional and behavioral impact of diabetes self-management, and screening for psychosocial conditions affecting diabetes. Survey results revealed behavioral health consultants: feel comfortable providing diabetes-related behavioral support, have an interest in reviewing behavioral health competencies and learning more about diabetes, perceive their limited capacity

as the greatest barrier, and a need for increasing clinician awareness of BHC skills as an enablement for expanding behavioral health in diabetes. Suggestions that may be considered as next steps for expanding behavioral health in diabetes include: enhancing the multidisciplinary team approach by involving nurses, providers, and behavioral health consultants; leveraging BHC competencies, skills, and diabetes-related knowledge including awareness of psychosocial screening tools for diabetes; increasing clinician awareness of BHC skills and efficacy; and engaging BHCs in the development and integration project to expand behavioral health in diabetes care. The compilation of the literature appraisal and Behavioral Health Diabetes Survey results have shed light on important considerations, and have provided a foundation for expanding behavioral health in diabetes, and thereby have met the intended purpose of this study.

References

American Diabetes Association. (2021). Standards of medical care in diabetes-2021. *Diabetes Care*, *44*(Suppl 1), S1-S232. https://care.diabetesjournals.org/content/44/Supplement_1

American Psychiatric Association [APA]. (n.d.). The collaborative care model for mental health: Rigorous research meets real world success. Retrieved from file:///C:/Users/damaz/Downloads/CCM-for-MH-Rigorous-Research-Meets-Real-World-Success%20(2).pdf

Andreae, S. J., Andreae, L. J., Richman, J. S., Cherrington, A. L., & Safford, M. M. (2020). Peer-delivered cognitive behavioral training to improve functioning in patients with diabetes: A cluster-randomized trial. *Annals of Family Medicine*, *18*(1), 15-23. doi: 10.1370/afm.2469

Beck, A., Boggs, J. M., Alem, A., Coleman, K. J., Rossom, R. C., Neely, C., Williams, M. D., Ferguson, R., Solberg, L. I. (2018). Large-scale implementation of collaborative care management for depression and diabetes and/or cardiovascular disease. *Journal of American Board of Family Medicine*, *31*(5), 702-711. doi: 10.3122/jabfm.2018.05.170102

Black, D. R., & Nugent, W. R. (2018). Examining the validity of a model of integrated health care knowledge. *Journal of the Society for Social Work and Research*, 9(3), 449-471. doi: 10.1086/699167

Bogner, H. R., Morales, K. H., de Vries, H. F., & Cappola, A. R. (2012). Integrated management of type 2 diabetes mellitus and depression treatment to improve medication adherence: A randomized controlled trial. *Annals of Family Medicine*, *10*(1), 15-22. doi: 10.1370/14m.1344

Bongaerts, B. W., Mussig, K., Wens, J., Lang, C., Schwarz, P., Roden, M., & Rathmann, W. (2017) Effectiveness of chronic care models for the management of type 2 diabetes mellitus in Europe: A systematic review and meta-analysis. *BMJ Open, 7*(3), e013076. doi: 10.1136/bmjopen-2016-013076

Centers for Disease Control and Prevention [CDC]. (2020). *National Diabetes Statistics Report, 2020*. Atlanta, GA: Centers for Disease Control and Prevention, U.S. Department of Health and Human Services. Retrieved from https://www.cdc.gov/diabetes/pdfs/data/statistics/national-diabetes-statistics-report.pdf

Chwastiak, L. A., Jackson, S. L., Russo, J., DeKeyser, P., Kiefer, M., Belyeu, B., Mertens, K., Chew, L., & Lin, E. (2017). A collaborative care team to integrate behavioral health care and treatment of poorly-controlled type 2 diabetes in an urban safety net primary care clinic. *General Hospital Psychiatry*, *44*, 10-15. doi: 10.1016/j.genhosppsych.2016.10.005

Collins, C., Hewson, D. L., Munger, R., Wade, T. (2010). *Evolving models of behavioral health integration in primary care*. New York, NY: Milbank Memorial Fund. https://www.milbank.org/wp-content/uploads/2016/04/EvolvingCare.pdf

Cummings, D. M, Lutes, L. D., Littlewood, K., Solar, C., Carraway, M., Kirian, K., Patil, S., Adams, A., Ciszewski, S., Edwards, S., Gatlin, P., & Hambidge, B. (2019). Randomized trial of a tailored cognitive behavioral intervention in type 2 diabetes with comorbid depressive and/or regimen related distress symptoms: 12-month outcomes from COMRADE. *Diabetes Care*, *42*(5), 841-848. doi: 10.2337/dc18-1841

Damian, A. J., & Gallo, J. J. (2019). Models of care for populations with chronic conditions and mental/behavioral health comorbidity. *International Review of Psychiatry*, *30*(6), 157-169. doi: 10.1080/09540261.2019.1568233

Davis, T. S., Reno, R., Guada, J., Swenson, S., Peck, A., Saunders-Adams, S., & Haas-Gehres, L. (2019). Social worker integrated care competencies scale (SWICCS): Assessing social worker clinical competencies for health care settings. *Social Work in Health Care, 58*(1), 75-92. doi: https://doi.org/10.1080/00981389.2018.1547346

Dieter, T. & Lauerer, J. (2016). Depression or diabetes distress? *Perspectives in Psychiatric Care*, 54(1), 84-87. doi: 10.1111/ppc.12203

Fisher, L., Polonsky, W. H., & Hessler, D. (2019). Addressing diabetes distress in clinical care: a practical guide. *Diabetic Medicine*, *36*(7), 803-812. doi: 10.1111/dme.13967

Fitzgerald, J. T., Funnell, M. M., Anderson, R. M., Nwankwo, R., Stansfield, R. B., & Piatt, G. A. (2016). Validation of the revised brief diabetes knowledge test (DKT2). *The Diabetes Educator*, *42*(2), 178-187. doi: 10.1177/0145721715624968

Gardsten, C., Blomqvist, K., Rask, M., Larsson, A., Lindberg, A., & Olsson, G. (2018). Challenges in everyday life among recently diagnosed and more experienced adults with type 2 diabetes: A multistage focus group study. *Journal of Clinical Nursing*, *27*, 3666-3678. doi: https://dooi.org/10.1111/jocn.14330

Hall, J., Cohen, D. J., Davis, M., Gunn, R., Blount, A., Pollack, D. A., Miller, W. L., Smith, C., Valentine, N., & Miller, B. F. (2015). Preparing the workforce for behavioral health and primary care integration. *Journal of American Board of Family Medicine, 28*(Suppl 1), S41-S51. doi: 10.3122/jabfm.2015.S1.150054

Horevitz, E., & Manoleas, P. (2013). Professional competencies and training needs of professional social workers in integrated behavioral health in primary care. *Social Work in Health Care, 52*(8), 752-787. doi: 10.1080/00981389.2013.791362

Huang, Y., Wei, X., Wu, T., Chen, R., & Guo, A. (2013). Collaborative care for patients with

depression and diabetes mellitus: A systematic review and meta-analysis. *BMC Psychiatry*, 13: 260, 1-11. doi: 10.1186/1471-244X-13-260

Improving Chronic Illness Care. (2020). The chronic care model [Website]. Retrieved from http://www.improvingchroniccare.org/index.php?p=Model_Elements&s=18

Ismail, K., Winkley, K., & Rabe-Hesketh, S. (2004). Systematic review and meta-analysis of randomized controlled trials of psychological interventions to improve glycemic control in patients with type 2 diabetes. *The Lancet, 363*(9421), 1589-1597. doi: 10.1016/S0140-6736(04)16202-8

Ismail, K., Maissi, E., Thomas, S., Chalder, T., Schmidt, U., Bartlett, J., Patel, A., Dickens, C., Creed, F., & Treasure, J. (2010). A randomized controlled trial of cognitive behavior therapy and motivational interviewing for people with type 1 diabetes mellitus with persistent sub-optimal glycemic control: A diabetes and psychological therapies (ADaPT) study. *Health Technology Assessment*, 14(22). doi: 10.3310/hta14220

Kalra, S., & Balhara, Y. P. S. (2018). Diabetes distress: What's in a name? Medicine Matters Diabetes. Retrieved from https://diabetes.medicinematters.com/diabetes-distress/mental-health/diabetes-distress-whats-in-a-name/16311568

Katon, W. J., Lin, E. H. B., Von Korff, M., Ciechanowski, P., Ludman,, E. J., Young, B., Peterson, D., Rutter, C. M., McGregor, M., McCulloch, D. (2010). Collaborative care for patients with depression and chronic illnesses. *New England Journal of Medicine*, *363*(27), 2611-2620. doi:10.1056/NEJMoa1003955

Kreider K. E. (2017). Diabetes distress or major depressive disorder? A practical approach to diagnosing and treating psychological comorbidities of diabetes. *Diabetes Therapy*, 8, 1-7. Doi: 10.1007/s13300-017-0231-1

Lanoye, A., Stewart, K. E., Rybarczyk, B. D., Auerbach, S. M., Sadock, E., Aggarwal, A., Waller, R., Wolver, S., & Austin, K. (2017). The impact of integrated psychological services in a safety net primary care clinic on medical utilization. *Journal of Clinical Psychology*, *73*(6), 681-692. doi: 10.1002/jclp.22367

Lin, J., Thompson, T. J., Cheng, Y. J., Zhuo, X., Zhang, P., Gregg, E., & Rolka, D. B. (2018). Projection of the future of diabetes burden in the United States through 2060. *Population Health Metrics*, *16*(1), 1-9. Doi: 10.1186/s12963-018-0166-4

Mann, C. C., Golden, J. H., Cronk, N. J., Gale, J. K., Hogan, T., & Washington, K. T. (2016). Social workers as behavioral health consultants in the primary care clinic. *Health & Social Work*, *41*(3), 196-200. doi: 10.1093/hsw/hlw027

McGough, P. M., Bauer, A. M., Collins, L., & Dougdale, D. C. (2016). Integrating behavioral health into primary care. *Population Health Management*, *19*(2), 81-87. doi: 10.1089/pop.2015.0039

Oregon Health & Science University [OHSU]. (2018). *Oregon rural practice-based research network: Active projects*. https://www.ohsu.edu/oregon-rural-practice-based-research-network/active-projects

Oregon Health & Science University [OHSU]. (2020). *OHSU primary care clinic, Richmond*. https://www.ohsu.edu/primary-care/ohsu-primary-care-clinic-richmond

Owens-Gary, M. D., Zhang, X., Jawanda, S., Bullard, K. M., Allweiss, P., & Smith, B. D. (2018). The importance of addressing depression and diabetes distress in adults with type 2 diabetes. *Journal of General Internal Medicine*, *34*(2), 320-324. doi: 10.1007/s11606-018-4705-2

Polit, D. F., Beck, C. T. (2021). *Nursing research: Generating and assessing evidence for*

nursing practice (11th ed.). New York, NY: Wolters Kluwer.

Ross, K. M., Gilchrist, E. C., Melek, S. P., Gordon, P. D., Ruland, S. L., & Miller, B. F. (2019). Cost savings associated with an alternative payment model for integrating behavioral health in primary care. *Translational Behavioral Medicine*, *9*(2), 274-281. doi: 10.1093/tbm/iby054

Schroeder, E. B., Desai, J., Schmittdiel, J. A., Paolino, A. R., Schneider, J. L., Goodrich, G. K., Lawrence, J. M., Newton, K. M., Nichols, G. A., O'Connor, P. J., Fitz-Randolph, & M., Steiner, J. F. (2015). An innovative approach to informing research: Gathering perspectives on diabetes care challenges from an online patient community. *Interactive Journal of Medical Research*, 4(2), e13. doi: 10.2196/ijmr.3856

Snoek, F. J., Bremmer, M. A., & Hermanns, N. (2015). Constructs of depression and distress in diabetes: time for an appraisal. *Lancet Diabetes Endocrinology*, *3*(6), 450-460. Doi: 10.1016/s2213-8587(15)00135-7

Strickland, P. A. O., Hudson, S. V., Piasecki, A., Hahn, K., Cohen, D., Orzano, A. J., Parchman, M. L., & Crabtree, B. F. (2010). Features of the chronic care model associated with behavioral counseling and diabetes care in community primary care. *Journal of the American Board of Family Medicine*, *23*(3), 295-305. doi:10.3122/jabfm.2010.03.090141.

Substance Abuse and Mental Health Services Administration-Health Resources & Services Administration [SAMHSA-HRSA]. (n.d.). Center of Excellence for Integrated Health Solutions (CIHS) Standard framework for levels of integrated healthcare [pdf Table]. Retrieved from https://www.thenationalcouncil.org/wp-content/uploads/2020/01/CIHS_Framework_Final_charts.pdf?daf=375ateTbd56

Substance Abuse and Mental Health Services Administration. (2013). Diabetes care for clients in behavioral health treatment. Advisory, volume 12, issue 1. https://store.samhsa.gov/product/Diabetes-Care-for-Clients-in-Behavioral-Health-Treatment/SMA13-4780

Sugarman, J. R., Phillips, K. E., Wagner, E. H., Coleman, K., & Abrams, M. K. (2014). The safety net medical home initiative: Transforming care for vulnerable populations. *Medical Care*, *52*(11, Suppl 4), S1-S10. doi: 10.1097/MLR.0000000000000207

Tunsuchart, K., Lerttrakarnnon, P., Srithanaviboonchai, K., Likhitsathian, S., & Skulphan, S. (2020). Benefits of brief cognitive behavioral therapy in reducing diabetes-related distress and HbA1c in uncontrolled type 2 diabetes mellitus patients in Thailand. *Environmental Research and Public Health*, *17*(15), 5564. doi: 10.3390/ijerph17155564.

Winkley, K., Upsher, R., Stahl, D., Pollard, D., Kasera, A., Brennan, A., Heller, S., & Ismail, K. (2020). Psychological interventions to improve self-management of type 1 and type 2 diabetes: A systematic review. *Health Technology Assessment*, *24*(28), 1-232. doi: 10.3310/hta24280

Young-Hyman, D., DeGroot, M., Hill-Briggs, F., Gonzalez, J. S., Hood, K., & Peyrot, M. (2016). Psychosocial care for people with diabetes: A position statement of the American Diabetes Association. *Diabetes Care, 39*(12), 2126-2140. doi: 10.2337/dc16-2053

Appendix

Behavioral Health Diabetes Survey
13-Item Questionnaire

Introduction/Description:
The behavioral health diabetes project is intended to further evolve Richmond Clinic's collaborative care model by continuing to improve diabetes care and management. The overall aim is to identify important considerations for integrating behavioral health for patients needing support with behavior-related diabetes self-management. The survey questions that follow are intended to assess the current needs, perceived barriers, and facilitating factors of behavioral health consultants in the context of the project aim.

Definition:
The term **Diabetes self-management** refers to activities and behaviors an individual incorporates (as recommended or guided by their provider) into daily routines in order to manage the condition of diabetes. Activities and behaviors may include any or all of the following: healthy eating, effort to reduce weight, incorporating physical activity, checking blood glucose levels, taking medications (oral pills, insulin injections, wearing an insulin pump, or injecting non-insulin medications), and making diabetes-related decisions that attempt to synchronize with work, life, and family schedules.

Participation:
Your participation in completing this survey is encouraged, but completely voluntary. Survey responses are anonymous, as your name and demographic information are not elicited from this tool. Responses will be assimilated for common themes, and results will be shared with the Behavioral Health Consultant team.

Click the arrow below to continue with the survey.

Q1: Do you have previous experience working with patients that have diabetes, specifically behavior-related diabetes management or diabetes-related distress/depression? Experience may include a paid job as with your current position, a previous position, internship, or volunteer work.
__Yes
__ No

If yes response, survey directs participant to Q2-Q4. If no response, survey directs participant to Q5.

For the following questions, please answer with reflection on previous experience you have had working with diabetes patients, specifically behavior-related management or diabetes-related distress/depression.

Q2: Please describe what you did in your behavioral health role while working with diabetes patients.

Q3: What specific behavioral health skills were essential for this role/work?

Q4: What aspects of this role were challenging (if any)? If you did not experience challenges, enter "none"

Q5: What is your level of comfort regarding your ability to provide diabetes-related behavioral support for patients with diabetes at the **at the present time**?

__Very uncomfortable
__ Uncomfortable
__ Neither uncomfortable nor comfortable
__ Comfortable
__ Very Comfortable

Q6: What behavioral health-related competencies or skills **do you perceive as important for assisting patients with behavior-related diabetes self-management? Select all that apply.**

__Functional assessment:
used to assess current level of functioning including both strengths of functioning and functional impairments in a variety of domains.
__Behavioral Activation:
an evidence-based intervention for depression that focuses on activation and on processes that inhibit activation, such as escape and avoidance behaviors and ruminative thinking.
__Motivational Interviewing:
an intervention technique defined as "a collaborative, person centered form of guiding to elicit and strengthen motivation for change in clients"
__Problem-solving Treatment:
a psychological intervention shown to be effective in the treatment of major depression and for patients with a broad range of emotional disorders that have not resolved with simple measures. The treatment derives from cognitive-behavioral principles.
__Cognitive Behavioral Therapy (in Primary Care):
based on the traditional foundations of CBT but has been modified for a variety of disorders in primary care settings.
__Relaxation Training:
a variety of techniques including teaching clients diaphragmatic breathing, mindfulness, and visualizations.
__Other, please specify: _____

Q7: Select competencies for which **a review or refresher would be useful in the context of assisting patients with behavior-related diabetes self-management. Select all that apply.**

__Functional assessment:
used to assess current level of functioning including both strengths of functioning and functional impairments in a variety of domains.
__Behavioral Activation:
an evidence-based intervention for depression that focuses on activation and on processes that

inhibit activation, such as escape and avoidance behaviors and ruminative thinking.
__Motivational Interviewing:
an intervention technique defined as "a collaborative, person centered form of guiding to elicit and strengthen motivation for change in clients"
__Problem-solving Treatment:
a psychological intervention shown to be effective in the treatment of major depression and for patients with a broad range of emotional disorders that have not resolved with simple measures. The treatment derives from cognitive-behavioral principles.
__Cognitive Behavioral Therapy (in Primary Care):
based on the traditional foundations of CBT but has been modified for a variety of disorders in primary care settings.
__Relaxation Training:
a variety of techniques including teaching clients diaphragmatic breathing, mindfulness, and visualizations.
__Other, please specify: _____
__ I do not need a review of the above competencies.

Q8: The American Diabetes Association (ADA) recommends use of validated screening tools for diagnosis, assessment, and monitoring of psychosocial care needs for patients with diabetes. From the following list, please select the diabetes-related screening tools **you are familiar with (i.e., knowledgeable of, but have not had experience using). Select all that apply.**

__Problem Areas in Diabetes (PAID) (adults with type 1 and type 2 diabetes)
__Problem Areas in Diabetes-Pediatric Version (PAID-peds)
__Diabetes Distress Scale (DDS) (adults with type 1 and type 2 diabetes)
__Type 1 Diabetes Distress Scale (T1-DDS)
__Diabetes Eating Problems Survey (DEPS-R)
__Diabetes Treatment and Satiety Scale (DTSS-20)
__Self-efficacy for diabetes management (adolescents)
__Diabetes self efficacy (adults)
__Hypoglycemia Fear Survey-II (HFS-II) (adults with type 1 diabetes)
__Children's Hypoglycemia Index (CHI) (ages 8-16 with type 1 diabetes)
__Summary of Diabetes Self Care Activities (SDSCA) (adults with type 1 and type 2 diabetes)
__Adherence to Refills and Medications Scale (ARMS-D) (adults)
__Barriers to diabetes adherence (ages 12-17)
__I am not familiar with any of the above screening tools

Q9: The American Diabetes Association (ADA) recommends use of validated screening tools for diagnosis, assessment, and monitoring of psychosocial care needs for patients with diabetes. From the following list, select the diabetes-related screening tools **you have experience using or working with. Select all that apply.**

__Problem Areas in Diabetes (PAID) (adults with type 1 and type 2 diabetes)
__Problem Areas in Diabetes-Pediatric Version (PAID-peds)
__Diabetes Distress Scale (DDS) (adults with type 1 and type 2 diabetes)

__Type 1 Diabetes Distress Scale (T1-DDS)
__Diabetes Eating Problems Survey (DEPS-R)
__Diabetes Treatment and Satiety Scale (DTSS-20)
__Self-efficacy for diabetes management (adolescents)
__Diabetes self efficacy (adults)
__Hypoglycemia Fear Survey-II (HFS-II) (adults with type 1 diabetes)
__Children's Hypoglycemia Index (CHI) (ages 8-16 with type 1 diabetes)
__Summary of Diabetes Self Care Activities (SDSCA) (adults with type 1 and type 2 diabetes)
__Adherence to Refills and Medications Scale (ARMS-D) (adults)
__Barriers to diabetes adherence (ages 12-17)
__I do not have experience with any of the above screening tools
__Other, please specify _____

Q10: What diabetes topics would be helpful to learn more about to enhance your ability to provide diabetes specific behavioral health services in the context of assisting patients with behavior-related diabetes self-management? **Select all that apply.**

__Overview—diabetes prevalence-national, state
__Overview--Ethnic distribution
__Overview--Screening/A1C
__Overview—Diagnosis
__Overview—basic physiology
__Overview--Type 1 vs. type 2
__Overview—Signs/symptoms of hyper and hypo-glycemia
__Medications--Overview of types/routes
__Medications--Administration skills
__Medications--Potential barriers/challenges
__Home glucose monitoring—regimens
__Home glucose monitoring—purpose
__Home glucose monitoring--target glucose levels
__Home glucose monitoring--Potential patient barriers and challenges
__Behavioral Diabetes--exercise
__Behavioral Diabetes—healthy eating and nutrition
__Behavioral Diabetes—Safety Steps to prevent hypoglycemia
__Behavioral Diabetes--Managing hypoglycemia
__Behavioral Diabetes--Managing hyperglycemia
__Behavioral Diabetes--Effects of substance use on diabetes
__Behavioral Diabetes—Transition times/changes that make management challenging
__Diabetes resources available for patients
__Other, please specify _____
__I do not wish to learn more about diabetes

Q11: What are **potential barriers** to expanding behavioral health support for patients with diabetes in this primary care setting?

Q12: What factors would **facilitate** expanding behavioral health support for patients with

diabetes in this primary care setting?
Q13: Please include any remaining thoughts or comments in the box below