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The Integration of a Behavioral Health Provider in a University Health Center

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A DNP project submitted in partial fulfillment
of the requirements for the degree of

Doctor of Nursing Practice

Seattle University

2023

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Abstract

Depression and suicidality rates among U.S. college students are rising, along with a surge in urgent mental health needs. Behavioral health care has traditionally been siloed and outside the doors of primary care. Integrating behavioral health services into primary care is an optimal access point for the timely diagnosis of college-age youth to be screened and assessed for mental health care. This program evaluation project sought to measure staff and provider confidence, competence, and satisfaction in treating and managing college student mental health conditions before and after hiring a psychiatric mental health nurse practitioner (PMHNP) in an on-campus university primary care clinic. The results indicate that despite a small sample size, integrating a PMHNP in the primary care setting can improve providers' satisfaction across all aspects of providing mental healthcare.

Keywords: Integration, behavioral health, pediatric, primary care providers, college students, competence, confidence, satisfaction

Depression affects millions of adolescents and young adults each year (Mahoney et al., 2017). Depression in adolescents is a public health threat responsible for 44% of all mental health hospitalizations costing over 1.33 billion in healthcare spending (Bardach et al., 2014). Depression and anxiety increase the risk of suicide and suicide attempts in this age group (APA, 2022; Kalin, 2021). In 2017, suicide was the second leading cause of death for persons aged 10–14, 15–19, and 20–24 (Curtin & Heron, 2019). The COVID-19 pandemic and multiple lockdowns exacerbated youth's risk for depression with sudden home confinement, disruption to school and work, social withdrawal, and intense stress about the future (Guessoum et al., 2020).

Despite dire statistics, adolescents and young adults with mental disorders continue to have low treatment rates for their conditions (Richardson et al., 2017). Behavioral health conditions that begin in childhood that go undiagnosed and untreated lead to a disrupted transition to young adulthood (Copeland et al., 2015). A childhood onset of mental disorders is correlated with an increased risk of comorbidity and carrying those conditions into young adulthood and midlife (Caspi et al., 2020; Copeland et al., 2015; Kessler, 2005).

The Healthy Minds Study, an annual website-based survey that examines mental health and mental health service use among undergraduate and graduate students, has queried over 400,000 students. The Healthy Minds web survey started in 2007 (Healthy Minds, 2020). Along with that, the National College of Health Assessment (NCHA) is a research survey that collects health information on college students (American College Health Association, 2020). These surveys have provided confidential insights into the health of young adults. Data from these sources between 2007-2018 showed a considerable and alarming decline in college students' mental health for that decade (Duffy et al., 2019). Furthermore, the college years represent a

transition time that can bring unprecedented levels of distress that impact mental health (Auerbach et al., 2016.; Liu et al., 2018; Mortier et al., 2018).

Depression and suicidality rates among youth and U.S. college students are rising (Lipson et al., 2019), along with urgent mental health needs. Adolescent visits to the emergency room tend to be most acute, with a high probability of suicidal ideation, attempts, or self-harm. In a study conducted by Kalb et al. 2019, only 37% of adolescents who visited the emergency room with an attempted suicide or self-harm episode saw a mental health provider following the episode (Kalb et al., 2019).

Barriers to mental health care for college-age youth include shortages of psychiatric providers, out-of-pocket costs for youth and families, stigma, and a compartmentalized healthcare system (National Alliance on Mental Health, 2017). Behavioral health care has traditionally been siloed and outside the doors of primary care. Integrating behavioral health services into primary care is an optimal access point for the timely diagnosis of college-age youth to be screened and assessed for depression, suicidality, and other mental health concerns (Akincigil & Matthews, 2017; Shahidullah et al., 2020). In a study with migrant farmworker families, receiving services within the primary care clinic with culturally sensitive providers received the highest importance score for families. In terms of improving outreach, they concluded that offering mental health services on-site, within the clinic, would be the "single most effective change in patient preferences" (Herman et al., 2016, p.740).

Studies have shown that reducing delays and improving youth mental health treatment can positively impact physical and mental health outcomes (Richardson, 2017; Vickers, 2013). Mental health screening and treatment within the primary care clinic foster normalization and help reduce the stigmatization of seeking treatment for psychiatric problems (Campo, 2018).

This study also found more positive outcomes and higher patient and family satisfaction with behavioral health integration in primary care. Moreover, identifying and treating problems early reduces the severity and duration of mental illness.

Integration of behavioral health care into the primary care setting can contribute to early identification, assessment, and intervention to promote better outcomes for adolescents and young adults. Collaboration between primary care and behavioral health can improve access, reduce rates of depression, break down attitudinal barriers, and enhance provider and patient satisfaction (Kolko et al., 2014).

Background and Literature Review

Definitions

The American Academy of Pediatrics (AAP) is broad in its definition of “pediatric care,” including preconception through age 21 (Hardin & Hackel, 2017). Because scant research exists that exclusively studies late adolescents and young adults regarding integrating behavioral health in primary care—and because the research outcomes appear consistent across all segments of the pediatric age spectrum—a review of the literature regarding the entire pediatric cohort is relevant. However, for the purpose of clarity, when referencing adolescence, the AAP’s subcategories of early (ages 11-14), middle (15-17), and late (18-21) will be used (American Academy of Pediatrics, n.d.). Late adolescents will also be referred to as emerging adults. For the remainder of this paper, the phrase “college-age youth” will be used as an inclusive term for late adolescents and young adults who represent the typical age range of first-time college students.

Prevalence

Considerable literature exists regarding the prevalence of untreated mental disorders in college-age youth. Behavioral and mental health disorders impact about one in five children, and serious mental disorders typically begin early in life. Half of these illnesses develop by age 14 years, and the majority by age 24 years (Kessler et al., 2005). The incidence of mental health conditions that occur before age 26 is as high as 80% (Caspi et al. 2020; Kessler et al. 2005). In the United States, between 2009–2018, suicide rates among youth aged 14–18 increased by 61.7%, with the prevalence of suicide attempts greatest for gender-diverse youth (Ivey-Stephenson et al., 2019), requiring more attention on how care integration can reach this population.

Current research is emerging about the impact of the COVID-19 pandemic on all youth, including college-age students. The effect of lockdowns disproportionately impacted young people, putting them at higher risk for adverse psychosocial effects (Power, 2020). Clearly, more studies will be needed to determine the pandemic's long-term effects from social isolation and disruption to lives. However, the pandemic stressors unquestioningly point to an urgent need for prevention, early identification, and treatment through primary care. Between 2007 and 2018, even prior to the pandemic, rates of depression, anxiety, suicidal ideation, self-harm, and suicide attempts increased remarkably among college-age youth. Researchers noted that during that decade, college students reported a considerable decline in mental health (Duffy et al., 2019). Clearly—even before the pandemic—mental health was declining in college-age youth, and new strategies for supporting this population were needed.

Outcomes

The integration of behavioral health in primary care shows great promise. In this paper, the integration of behavioral health in primary care will often be abbreviated to “integrated care”.

Several studies note that integrated care can reduce structural barriers, reduce stigma for youth and their families, reduce rates of depression, and improve outcomes (Asarnow et al., 2015; Bai et al., 2018; Campo et al., 2018; Rapp, 2017). While several studies show a positive reduction in depressive symptoms resulting from integrated care, a retrospective chart review by Stafford and colleagues (2020) cautions that while youth may receive care for depression in primary care, most are not receiving follow-up care for depression according to practice guidelines established by Guidelines for Adolescent Depression in Primary Care (GLAD-PC) recommendations. The authors of this study acknowledge limitations to their research, including a small sample size and use of medical records alone for determining rates of depression and follow-up (Stafford et al. 2020). Nonetheless, the critical importance of follow-up care is worth noting.

Other studies on integrated care noted an increase in access to care for patients (Campo et al. 2018; Cole et al., 2019; Vickers et al., 2013), increased levels of provider satisfaction (Walter et al. 2019; Vickers et al. 2013), earlier detection of behavioral health concerns (Muther et al., 2016; Wissow et al., 2020), and primary care provider appreciation of collaboration with behavioral health providers (Connors et al., 2018). Campo et al., 2018, cite that collaborative integration "challenges stigma by communicating that health cannot be compartmentalized into physical and mental components" (p. 448). The authors suggest that given primary care's place as the "foundation of modern healthcare," treating conditions under one roof can elevate behavioral healthcare as preventative and necessary (Campo et al. 2018, p. 448).

A united front between primary care and mental health providers can reduce reticence in seeking care among youth, families, and providers. Muther et al. (2016) conducted a continuous quality improvement (QI) project in a high-volume pediatric practice and tracked five years of medical records to evaluate the outcomes of integrated care. This QI project resulted in

improvements in early identification and assessment of mental health disorders that promoted the overall well-being of children and families (Muther et al., 2016).

Rapp and colleagues conducted a multisite randomized controlled trial evaluating integrated care's effect on improved access. Results were positive in reducing barriers to care; however, adolescents from non-English speaking families dropped out of care more frequently (Rapp et al., 2017). Integrating culturally sensitive behavioral health care for non-English speaking families was identified as an area requiring more research.

In contrast to the Rapp et al. findings, a randomized control study by Weersing and colleagues (2017) showed better outcomes for Hispanic patients in the integrated clinic than for patients referred to an outside behavioral health provider. This study noted positive results for Hispanic children, indicating that this model may reduce ethnic disparities and roadblocks to mental healthcare (Weersing, 2017).

A Boston study by Cole et al., 2019, compared integrated care clinics to non-integrated primary care clinics within the same network. All of the clinics served low-income children and families. The study found improved access and increased service utilization for children with mental disorder diagnoses in the clinics with integrated models. Claims data from children and adolescents were used in comparing the clinics. The study showed an increase in primary care provider visits but not an increase in overall spending for costs of care. Based on their findings, it was recommended that expanding integrated care to all clinics could improve long-term treatment outcomes and result in long-term cost savings (Cole et al., 2019; Turner et al., 2018).

Kolko and colleagues (2014) found that more families accessed and completed treatment for mental disorders when those services were available within the clinic and found better child and family outcomes and satisfaction. The authors of this study recommended including

screening and expanded training to pediatric primary care providers. Additionally, the authors called for a more sustained effort to integrate and maintain a collaborative care practice by making financial and practice patterns friendly to integration (Kolko et al., 2014).

Integrated care models also show the benefits of reducing depression and improving health for patients with comorbid medical conditions. Penckofer et al. (2014) found that effective treatment of depression using cognitive-behavioral therapy within a collaborative care setting significantly improved glycemic control for patients with diabetes (Penckofer et al., 2014).

Barriers

More studies are needed to assess the effect of integrating behavioral health services in—specifically—*late* adolescent primary health clinics. While studies primarily focusing on early to middle adolescents are promising, the literature on integration in primary care for late adolescents and the young adult population is limited. In 2017, Richardson and colleagues systematically reviewed current literature on behavioral health integration for adolescents and young adults. The authors noted that despite the devastating consequences to our nation's youth with untreated mental health conditions and the improved outcomes with integrated care, there is not enough research on adolescent health in this area. The study used a Cochrane review and identified 79 randomized controlled trials of integrated care for depression and anxiety in adult populations. With overwhelming evidence, these controlled trials with adult samples showed that integrated care can reduce anxiety and depression levels (Richardson et al., 2017). Richardson et al. contrasted these findings with only three randomized controlled trials of integrated care with adolescents. These adolescent studies were limited to depression and did not cover other conditions such as anxiety, suicidality, or eating disorders. Richardson et al. identified reports of integrated care for children with attention deficit disorder but did not find studies of children over

age 13 years with this condition. The Richardson team concluded that more research and randomized controlled trials are needed to evaluate the effectiveness of behavioral health integration for the adolescent population. Richardson et al. acknowledged that pediatric primary care providers may experience barriers to integrated care implementation which have not been reported in adult studies due to the current fee-for-service payment models and lack of resources (Richardson et al., 2017).

In addition to the existence of limited research regarding integration of mental health services into primary care for the late adolescent population, there are other significant obstacles. Other barriers noted by Brady et al. (2020) and Mahoney et al. (2017), include (1) inadequate implementation of mental health and depression screening for at-risk youth; (2) limited time and reimbursement for services; (3) poor staff education; (4) not enough administrative support; (5) lack of provider communication, and (6) lack of knowledge in mental health diagnoses (Brady et al., 2020; Mahoney et al. 2017). According to Mahoney and colleagues, “easing the burden of regulatory and corporate structural burdens to humanize work environments” is one step in the direction of making practices better able to address these concerns in their adolescent population (Mahoney et al., 2017, p. 11).

Another aspect of the Richardson et al., 2017 study was to categorize each of the studies found in the Cochrane database based on how collaboration between primary care and behavioral health care was defined. Richardson adapted a chart showing collaborative care models defined as “coordinated”, “co-located”, and “integrated” (Blount, 2003; Collins, 2010). These different categorizations for models of collaboration in providing mental health services developed by Collins and colleagues are worth noting. A comparison table shows the characteristics of various levels of mental health collaboration (See Appendix A). These differences help point to the

multiple scenarios in which clinics can achieve collaboration between behavioral health and primary care providers even with the barriers discussed by Brady et al. (2020) and Mahoney et al. (2017).

Management Strategies

A wide range of potential interventions—many of which have been outlined above in the literature review—exist to maximize the effectiveness of integrating behavioral health in primary care for college-age youth. Already clear is that integration of behavioral health services within primary care can bridge the gap for college-age youth’s immediate and long-term health outcomes. As noted in Appendix A, there are various models for primary care to achieve a more collaborative relationship with behavioral health providers. Behavioral health providers can either be coordinated, co-located, or integrated.

Various mental health providers are trained to work collaboratively with primary care practitioners such as psychologists, mental health counselors, and social workers. Particularly, psychiatric mental health nurse practitioner (PMHNP) skills are well-suited to this collaboration. With a background in patient education and prescriptive authority, a PMHNP can provide the full scope of services within a primary care practice (Delaney et al., 2013). While employing a PMHNP in every primary care clinic would be ideal, the shortage of these providers is an obstacle to achieving that goal.

Primary care providers must be available to screen—and then either treat or refer to coordinated on-site or off-site mental health providers when mental health problems are identified. With the help of a consortium of health care systems and the American Academy of Pediatrics (AAP) in the U.S. and Canada, the Guidelines for Adolescent Depression in Primary Care Guide (GLAD-PC) Part 1 and Part 2 was developed. These guidelines were specifically

designed to address major depression in adolescents. The guidelines serve as a tool for primary care providers treating this condition (Cheung et al., 2018 & Zuckerbrot et al., 2018). Integration can be achieved in many settings, including school-based health centers, private pediatric practices, public health clinics, health maintenance organizations, and university health clinics to address these conditions.

Problem Statement

College entrance is stressful and is associated with a high prevalence of mental health disorders (Alonso et al., 2018). During this time, many students experience their first onset of mental health issues or an exacerbation of a comorbid mental health condition (Pedrelli et al., 2015). There is a need to improve access to mental health services and optimal treatment protocols for college-age youth. Integrated mental health services in university-based primary care clinics can effectively increase student access to these services and decrease mental health risks (Bai et al., 2018).

Project Purpose and Aims

This DNP project evaluated a new integrated care model at Seattle University Student Health Center (SUSHC). In 2019, the SUSHC hired a psychiatrist to work with the clinic on a limited basis, six hours per week. The primary care providers of SUSHC benefited from the psychiatric consultation time but felt a more integrated approach was necessary based on the demand and prevalence of students with mental health conditions seeking services at the clinic. At the time of this project, the clinic was no longer using the psychiatric consultation service. In 2021, SUSHC hired a PMHNP for a two-day-per-week commitment as a fully integrated team member with the idea of expanding this part-time position to full-time based on an evaluation of the benefits and obstacles encountered.

This DNP project was undertaken to evaluate the integrated care model at SUSHC. The specific aims of this project were to evaluate changes in areas of 1) provider competency in treating mental health conditions, 2) provider confidence in treating students with mental health concerns, and 3) provider and staff levels of satisfaction before and after the implementation of the integrated care model. Evaluating these areas highlighted barriers to providing integrated mental health care and identified areas for improving mental health services for students. Results from this project contributed information about the integration of a PMHNP into the SUSHC and the impact of this integration on the competence, confidence, and satisfaction of primary care providers and staff when assessing and treating students with mental health problems. Recommendations were presented to the administrative team of SUSHC to overcome identified barriers and improve processes of care in the SUSHC.

Conceptual Framework

The Donabedian conceptual framework (1988) provided the foundation for examining how establishing an integrated care model in a primary care clinic can promote structures and processes that allow for provider competence, confidence, and satisfaction in caring for college students and promote better mental health outcomes. Each component in Donabedian's "structure-process-outcome" conceptual model (1988) were applied in this project. For example, Donabedian's conceptual framework highlights the organizational "structure" as an important consideration in quality care; in this case, the university health clinic (Moran et al., 2020). Within the structure, new "processes" were adopted to enhance the integration of behavioral health and primary care. Primary care providers worked collaboratively with the PMHNP for planned and deliberate care coordination. This required changes in practice patterns and processes which were assessed in this program evaluation. Building a solid structure and

processes for change can lead to successful patient outcomes. Integration has the potential to address structural and attitudinal barriers to care delivery, leading to more favorable outcomes for this population. The “outcomes” evaluated in this project included provider competence and confidence, and staff and provider satisfaction that resulted from changes in the clinic structure and processes with the addition of a psychiatric mental health nurse practitioner.

Methodology

Project Type and Design

This program evaluation project was submitted to Seattle University’s Institutional Review Board (IRB) and determined to be a quality improvement project that did not involve human subjects' research. This project used a mixed-method evaluation design of Likert-style quantitative questions and open-ended qualitative questions in a pre and post integrated care survey. The survey was administered via a Qualtrics survey platform, one before the start of having the PMHNP in the clinic and then a post-survey five months following the hiring of the PMHNP. The survey was designed to elicit the experiences and opinions of staff and primary care providers at the SUSHC.

The project contributed valuable insight into ascertaining whether the integration of a PMHNP into a university health center led to increased primary care provider competence, confidence, and provider and staff satisfaction when assessing and treating students with mental health disorders, thereby improving outcomes in the mental health of college students.

Setting

This project was implemented at SUSHC, an on-campus primary care clinic serving Seattle University students. SUSHC provides primary care, acute care, women's health services, sports medicine, immunizations, and mental health diagnosis and treatment services. The clinic

employs three family nurse practitioners (FNPs), one adult nurse practitioner (ANP), one nurse, a medical assistant, and a clinic administrative assistant.

Recruitment Plan/Participants

All providers and staff at the SUSHC were invited to participate. The clinic director introduced the project and distributed the link to the pre-survey. The same providers and staff were invited to complete a post-survey. Participation in the project was voluntary, and survey answers were confidential. No exclusion criteria were necessary.

Intervention and Data Collection

A PMHNP was hired on August 1, 2021. The PMHNP works 12 hours per week as a part-time employee. A pre-survey questionnaire was distributed to providers and staff the first week of August during the PMHNP's clinic orientation. In January 2022, a post-survey was sent to providers and staff to assess any change in provider and staff competence, confidence, and satisfaction. Between the pre-survey and the post-survey, key informant interviews with the PMHNP and clinic director were conducted and revealed potential barriers to full integration. The interviews also revealed that in-clinic PMHNP-led training for providers and staff might enhance confidence, competence, and satisfaction. Following the key informant interviews, open-ended questions were added to the post-survey to glean additional data about barriers to care and whether consultation and training by the PMHNP affected provider and staff attitudes.

Measurement tools and data collection procedures were designed to address each of the aims of this project. Table 1 illustrates the relationship between project aims, measurement tools, and data collection procedures. Providers and staff were asked different questions due to their role differentiation within the clinic. Providers were given questions related to treatment,

including prescribing and managing mental health conditions. The staff was given questions about interacting with and triaging students experiencing mental health crises.

Table 1

Project Aims, Measurement, and Data Collection Procedure

Project Aims	Measurement	Data Collection Procedure
Assess provider and staff views on strengths and barriers in treating and managing mental health conditions	Open-ended questions such as asking providers and staff about the greatest strengths and barriers they experienced at the SUSHC in providing mental health care and psychiatric services to students.	Interviews with the PMHNP and clinic director during the integration phase. Data collection via responses to the pre-and post-survey questions.
Assess provider and staff confidence in treating and managing students with mental health concerns	Likert style quantitative questions and open-ended qualitative questions on a pre-and post-Qualtrics survey.	Data collection via responses to the pre-and post-survey questions.
Assess provider and staff satisfaction with mental health services provided by SUSHC	Likert style quantitative questions and open-ended qualitative questions on a pre-and post-Qualtrics survey.	Data collection via responses to the pre- and post-survey questions.

Measures/Instruments

The project used a Qualtrics survey including five-point Likert-style and open-ended response questions for the pre and post-surveys. Questions were designed to collect data on provider and staff confidence and satisfaction (Schmidt & Brown, 2019). A search of the literature located a questionnaire used in a research study about staff benefits from an integrated model of care (Vickers et. al 2013). The items on the published questionnaire provided a model to start from, but the language of the items required revision to fit the needs of this project.

Staff were given a specific set of questions related to interacting and triaging students in crisis, and providers received questions related to diagnosis, medication, and treatment of students who were patients of the SUSHC. A total of eight Likert and seven open-ended

questions were included on the provider survey and four Likert and six open-ended questions were included in the staff survey. Questions assessing confidence provided response options ranging from 1=very unsure to 5 = very confident. Questions assessing satisfaction provided response options ranging from 1=very dissatisfied to 5=very satisfied. Informed consent was embedded in the opening page of both surveys. At the start of the survey, participants were asked to identify as either staff or provider and then the appropriate set of questions populated the survey. Following each set of Likert questions was an open-ended question to invite additional comments regarding satisfaction and confidence and included questions about strengths and barriers to care.

Additional Likert-style quantitative questions were added to the post-survey. Providers and staff were asked about how much the location of the PMHNP in an office outside the clinic was an obstacle to accessing mental health consultation. Response options ranged from 1=very big obstacle to 5=not an obstacle at all. Also, providers were asked in the post-survey whether aligning the PMHNP's work schedule to work Tuesdays (with all providers in the clinic on Tuesdays) was helpful. Response options for this question ranged from 1=extremely helpful to 5=not helpful at all.

Open-ended qualitative questions were included on both the pre and post-surveys to elicit provider and staff perceptions. Qualitative data were also collected from the key informant interviews conducted in December of 2021, between the pre and post-surveys.

Data Analysis

The survey was designed to elicit quantitative data from the Likert-style questions that could be submitted to independent (unpaired) t-tests and descriptive statistics. Independent t-tests were planned instead of paired t-tests because of anticipated changes in the provider group with

plans to hire new primary care providers during the period between the pre and post-survey. Given the small number of providers and staff in the clinic, some staffing shortages, and staff changes, only two providers participated in the surveys. No staff volunteered to participate, so only provider data were collected.

The Qualtrics surveys did not collect any direct identifiers from respondents. All identifying information of respondents in the key informant interviews was removed before data analysis to protect anonymity. Given the low provider survey response (n=2), analysis of the statistical significance of changes in pre- to post-item scores was not possible. Qualitative data were collected through open-ended questions in both the pre-and-post-Qualtrics surveys and from key informant interviews. Qualitative data were analyzed for common themes related to provider competence, confidence, and satisfaction, and perceived barriers and strengths of the new integrated care model.

Results

Quantitative and qualitative results from this project were examined and analyzed. Results of the pre-and post-surveys and the key informant interviews are summarized below.

Quantitative Results

Quantitative data from the Likert-style pre-post survey questions on provider competence, confidence, and satisfaction were not submitted to statistical analysis given the low survey response rate (n=2 providers) and the inability to determine if the same providers responded to the post survey as responded to the pre survey. Nonetheless, differences in scores on each Likert-scaled item were visually examined for the amount and direction of change from pre- to post-surveys. Items that displayed a mean score change of 1.5 points or greater in either a

positive or negative direction from pre to post survey were highlighted although no conclusions could be drawn about the significance of this change.

In the survey items related to provider competence, only one item displayed a mean score change of 1.5 points or greater from pre to post evaluation. This item related to provider confidence in managing patients with active suicidal ideations and the mean score for this item changed in a positive direction toward greater confidence.

In contrast, all items addressing “provider satisfaction” displayed a 1.5 or greater mean score increase across each aspect of providing care with the integration of a PMHNP. These data are displayed in Table 2 for visual examination but, as described above, no conclusions can be drawn about the statistical significance of these results.

Table 2

Quantitative Data: Provider Satisfaction in Managing Student Mental Health and Providing Care at SU SHC

Level of satisfaction in	Pre-intervention (n=2) Mean	Post-intervention (n=2) Mean
Availability of in-services and training to increase my knowledge and skills to manage these problems and disorders	1.50	4.00
Processes and procedures for how patients at SU SHC access psychiatric care	1.50	4.50
Availability of psychiatric consultations to manage patients with complex problems and psychiatric conditions	2.00	4.50
Availability of consultation for decisions in initiating psychotropic medications to manage symptoms and disorders	1.50	4.50
Availability of consultation to change and cross-taper	1.50	4.50

psychotropic medications when necessary		
Availability of consultation to manage patients with active suicidal ideation and behaviors	1.50	4.00
Overall responsiveness of psychiatric consultants in assisting me to provide care for patients with mental health problems and psychiatric disorders	1.50	4.00
Overall quality of psychiatric consultations for managing patients with mental health problems and psychiatric disorders	1.50	4.00

The post-survey included a Likert-style question about provider perceptions of how the actual physical location of the PMHNP (being outside the clinic but on campus) impacted the integration. One provider responded that the PMHNP's current location outside the clinic was “somewhat of an obstacle” while the other provider responded, “not too much of an obstacle.”

Qualitative Results

Providers were asked open-ended survey questions about their confidence in addressing the mental health needs of students. One provider commented that their confidence had increased “due to the educational training and availability for consultation” that was provided by the PMHNP. When asked about educational training on assessing self-harm and suicide by the PMHNP, providers responded that the presentation was “helpful in differentiating suicide attempt vs self-harm without actual suicide attempt” and a “very helpful and useful tool to evaluate suicidality and plan for safety”.

Providers were asked to share the greatest strengths of the SUSHC in providing mental health care to students. Providers responded that “low cost and availability” and “willingness and desire to help students” were the greatest strengths of the clinic. When asked about the greatest barriers affecting SUSHC to provide mental health care, providers responded that having the PMHNP in the clinic for only 12 hours per week was a barrier. The other barrier was described as an inability to meet the current demand for services.

Providers were asked for ideas to improve the PMHNP’s integration into the team, and availability for consultations despite having an office outside the clinic. Providers responded that they would like to have “more FNP input on educational topics” as they viewed most educational sessions as helpful but not as relevant. Providers in general responded favorably to the PMHNP. They found the PMHNP responsive to consultation needs and liked that they could block time on their schedules for consultation.

The final question in the open-ended post-survey questions asked providers about how the integration of a PMHNP affected their own level of stress and anxiety about managing student mental health problems. Providers responded that having the PMHNP “significantly reduced their stress.” Prior to hiring the PMHNP, providers responded that the six hours of psychiatrist consultation and consultation phone line were helpful, but not as helpful as having the PMHNP present on campus to do chart reviews and see patients if needed. Providers responded that prior to the psychiatric consultative service, “it was very stressful seeing mental health patients with no backup or community services other than referral to the emergency room.” Providers responded that after integration of the PMHNP in the clinic, “it is reassuring to know that I have someone to consult with or to see patients that I am concerned about.”

Lessons Learned

While quantitative questions were very specific, there were too many items in the surveys to expect busy clinicians to respond. The clinic was receptive and welcoming of the project and providers were deeply interested in how to provide more integrated care to students. The timing of the project in the midst of the COVID-19 pandemic created an additional administrative burden to providers to participate in a multi-question survey. For future projects, it is recommended to limit the number of survey items in the interest of engaging busy clinicians.

Recommendations and Summary

To maximize mental health treatment accessibility and outcomes for college-age youth, a multi-pronged approach is recommended. First—as noted—based on the existence of only scant research on the integration of mental health care into youth primary health care, more studies with this subgroup of patients are needed. As noted by Richardson and colleagues (2017), despite poor outcomes for untreated mental health disorders in youth and the impact as they move into adulthood, little research exists examining the effect of integrating mental health services in primary care settings on this age group's outcomes (Richardson et al., 2017). Few studies have examined whether integrated care models are reaching this population, including college-aged students.

Second, there is ample room for improvement in administrative management strategies to enable and ensure the highest level of quality mental health care services at the lowest overall cost. Research suggests that youth mental disorders are costly to society. The prognosis for untreated conditions becomes dismal with repeated mental health episodes and comorbid conditions (Copeland, 2015) and can impair functioning into adulthood. Opportunities have been presented for improving care for youth with The Affordable Care Act and the expansion of

primary and preventative care coverage. Primary care with an integrated care model can effectively increase access to care and decrease cumulative health risks (Bai et al., 2018).

Finally, the COVID-19 pandemic was a public health emergency with enormous impacts on daily life resulting in mental health difficulties for many and highlighted gaps in our current healthcare delivery system. There is no more urgent time than now to address problems with mental health delivery. Several studies found that the mental health burden has increased due to the pandemic. Conditions such as depression, anxiety disorders, stress, panic attacks, somatization disorder, sleep disorders, PTSD symptoms, eating disorders, and suicidal behavior have been exacerbated (Hossain et al., 2020). College-aged youth are particularly susceptible to these conditions (Singh et al., 2020). In his study, Singh and colleagues (2020) call on policymakers to expedite and prioritize prevention, promotion, and intervention to address mental health concerns—particularly among vulnerable populations that will indeed be suffering long after the pandemic is over.

In summary, integrated care is both practical and efficient in addressing mental health disorders. It is a uniquely effective way to connect college-aged youth with both necessary primary care and access to behavioral health screening and treatment. This will lead to the best possible outcomes for both physical and mental health. College health clinics provide the same care as community primary care clinics yet are unique in that they serve youth ages 18-24 for a specific time. Well-coordinated, timely, and appropriate mental health treatment within college primary care clinics can lead to more effective care, fewer somatic complaints, and lower overall medical costs (Turner et al., 2018). This project and the literature point to a critical need to address mental health disorders in college-aged students within the university primary care clinic. Further, qualitative responses from respondents in this project demonstrate that integrated

care is valued and perceived as having a positive effect on provider satisfaction in managing student mental health and reducing provider stress.

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Appendix A

Collaborative Care Categorization Overview

Coordinated	Co-Located	Integrated
Routine behavioral health screening in the primary care setting - referral relationships developed between primary care and behavioral health	Medical and behavioral health services located in the same setting	Medical and behavioral services can be located in either the same or separate facilities
Routine behavioral health screening in the primary care setting - referral relationships developed between primary care and behavioral health	Referral process developed to delineate cases to be seen by behavioral health	Shared treatment plan between providers with both behavioral and medical elements
Primary care providers may deliver brief behavioral health interventions depending on the severity	Proximity promotes enhanced informal communication and bi-directional consultation	A multidisciplinary team works together to deliver care using a pre-arranged protocol
	Needs of the clinic population may influence the type of behavioral health services offered	Use of a database to track the care of patients who screen positive
		Protocols and improvement goals target the whole population in the database

Adapted from articles by Blount A. and Collins et al. by Richardson et al., 201