

A QUALITY-IMPROVEMENT INITIATIVE: IMPLEMENTATION  
OF A SCREENING PROCESS FOR EATING DISORDERS  
IN OUTPATIENT PSYCHIATRY

by

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## DEDICATION

This project is dedicated to the PMHNP's patients who disclosed their eating disorder on the EDE-QS screener and began their brave journey toward ED recovery.

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## ABSTRACT

Eating disorders (EDs) are one of the most life-threatening and disabling mental health conditions and have a significant prevalence in men and women of all ages worldwide. Despite their severity and improved treatment outcomes with early identification, EDs are not frequently disclosed by patients or proactively screened for by many medical providers. ED screening is an effective, safe, quick, and cost-effective way to assess for the presence of EDs, allowing for further medical provider evaluation. An outpatient psychiatric setting is an optimal place to screen for EDs due to the concurrence of these with other mental health conditions treated in this setting. The Doctor of Nursing Practice (DNP) quality-improvement (QI) project aimed to implement within the outpatient psychiatric clinic setting an ED screening process using the Eating Disorder Examination-Questionnaire Short (EDE-QS), focused on enhancing nursing processes with nurse mentoring and psychiatric mental health nurse practitioner (PMHNP) assessment. A 6-week implementation period took place between January 3, 2022, and February 11, 2022, including a participating PMHNP and their scheduled patients. The following procedures took place: (1) Stakeholders were educated on the DNP process and purpose by the DNP student; (2) The clinic front desk staff gave each patient an EDE-QS screener at check-in to be completed with other screening tools already utilized by the provider; (3) The patient brought these completed screeners back to the registered nurse (RN) upon nursing intake; (4) The RN scored the EDE-QS screeners, and positive screeners, scores of 15 or greater, were given to the PMHNP by the RN at patient hand-off; and (5) The PMHNP had the opportunity to further assess for EDs during the visit and manage the ED, if present, at the PMHNP's discretion, either by managing in the outpatient psychiatric clinic or by referring to an ED treatment center. Findings paralleled literature that described the EDE-QS as an effective screening tool for EDs and suggested that mentoring and education of nurses, along with pre-implementation process development, can standardize workflow and the integration of new screening processes into practice.



## CHAPTER ONE

## INTRODUCTION

Eating disorders (EDs) are among the most complex and life-threatening psychiatric conditions with an alarming prevalence in both men and women worldwide (Murray et al., 2017). Anorexia nervosa, one kind of ED, results in more fatalities than any other psychiatric illness, in part because of a high comorbidity with coexisting mental health conditions (Murray et al., 2017). Despite the severity of EDs and the knowledge that better patient outcomes occur more often with early identification and treatment, EDs are not disclosed by patients and are often overlooked by medical providers who fail to perform proactive screening (Mitchison et al., 2017). All categories of EDs are commonly known to occur comorbidly with other mental health conditions (National Institute of Mental Health [NIMH], 2021). Individuals with an ED are generally disadvantaged, as they were found to have 48% higher healthcare expenditures, lower quality of life, 48% less yearly earnings, more risk with childbearing, and a higher presence of other mental health conditions when compared to individuals without an ED (Van Hoeken & Hoek, 2020). The comorbidity of EDs with mental health disorders promotes an opportunity to identify EDs in the outpatient psychiatric setting where patients are being treated routinely for other mental health disorders. Screening for EDs is a quick, safe, and effective way to identify the presence of EDs, allowing for further assessment; however, psychiatric patients are not consistently screened for the presence of EDs resulting in an unidentified and untreated aspect of mental health. The Doctor of Nursing Practice (DNP) quality-improvement (QI) project aimed to implement within the outpatient psychiatric clinic setting an ED screening process focused on

enhancing nursing processes and psychiatric mental health nurse practitioner (PMHNP) assessment.

### Background and Significance

#### Eating Disorders

Eating disorders (EDs) are mental and physical health disorders characterized by dysfunction with eating, feeding, body shape, and/or body weight (National Eating Disorder Association [NEDA], 2021b). EDs are serious and devastating mental and physical health disorders that can affect every body system with lasting and sometimes deadly health consequences (NEDA, 2021a). EDs do not discriminate between the populations they affect, including individuals from all genders, races, socioeconomic classes, religions, sexual orientations, ages, body shapes, and weights (NEDA, 2021b). The overarching cause of EDs is relatively unknown at this time, but is thought to be a combination of genetic, biological, sociocultural, and psychological factors (NEDA, 2021b).

The Diagnostic and Statistical Manual of Mental Disorders fifth edition (DSM-V), an authoritative guide used by providers for diagnosing mental illness, contains diagnostic criteria for differentiating varying dysfunctional eating and feeding symptoms into different ED diagnoses. These disorders include: anorexia nervosa (AN); bulimia nervosa (BN); binge eating disorder (BED); pica; rumination disorder; avoidant/restrictive food intake disorder (ARFID); other specified feeding or eating disorder (OSFED); and unspecified feeding or eating disorder (American Psychiatric Association [APA], 2013). The DSM-V generally categorizes feeding and eating disorders as those that include dysfunction in eating or feeding-related behavior resulting

in impaired consumption or absorption of food that significantly diminishes an individual's physical health and psychosocial functioning (APA, 2013). Typically, 3 months, or a certain number of episodes weekly, of disordered eating patterns are required for the diagnosis of a specified ED, but the diagnosis OSFED may be assigned with initial positive findings.

### Negative Outcomes

EDs result in devastating physiological outcomes to nearly all body systems (NEDA, 2021a). Physiological manifestations of anorexia nervosa include: the breakdown of muscle, including heart muscle; decreased pulse rate and blood pressure; a decreased metabolic rate; slowed digestion and constipation; inefficient brain functioning; dizziness; syncope; hypothermia; decreased production of the body's hormones; anemia; lowered ability to fight infection; and numbness in the extremities (NEDA, 2021a). Binge eating disorder may result in an increased risk of stomach perforation, sleep apnea, insulin resistance, as well as the development of diabetes mellitus type II and obesity (NEDA, 2021a). Bulimia nervosa may result in an increased risk of electrolyte imbalance, esophageal rupture, swollen parotid glands, pancreatitis, and seizures (NEDA, 2021a).

Although EDs vary in their presentation and the physical and psychological damage inflicted on the body, they all are disabling and have lasting consequences apart from physical damage. Elevated death rates in individuals with EDs may be attributed to increased rates of suicide, substance abuse, and starvation, which have been observed at higher rates in individuals with EDs than in those without (NEDA, 2021a). Additionally, the functional impairments and reduced quality of life for individuals with EDs have been noted to be similar to those of autism and schizophrenia, commonly known as severe mental illnesses (Murray et al., 2017).

## Prevalence

A barrier to determining the prevalence of EDs in Montana is attributed to limited data; therefore, it became necessary to examine national and worldwide data. Galmiche et al. (2019) conducted a systematic review of 33 studies between 2000 and 2018 that examined the prevalence of EDs worldwide. The lifetime prevalence rate for all types of EDs worldwide is notably high with a weighted average of 8.4% for women and 2.2% for men (Galmiche et al., 2019). In other words, for every 100 women and 100 men seen in any clinical setting, approximately eight women and two men may have an ED. Further, Galmiche et al. (2019) noted that the most prevalent disorders illuminated from their systematic review included: eating disorder not otherwise specified (renamed in the DSM-V to generally include criteria of OSFED), which had a weighted mean lifetime prevalence rate of 4.3% in women and 3.6% in men; BED had a weighted mean lifetime prevalence rate of 2.8% in women and 1.0% in men; BN had a weighted mean lifetime prevalence rate of 1.9% for women and 0.6% for men; and AN had a weighted mean lifetime prevalence rate of 1.4% in women and 0.2% in men.

## Importance of Screening for Eating Disorders

Physical and psychological consequences worsen the longer EDs are left untreated. Early detection and treatment are vital and have been noted to result in a higher chance of physical and mental recovery (NEDA, 2021a). However, many people with EDs do not seek treatment or self-disclose about their disorders for a variety of reasons including fear of bias or unawareness of the disorder, which results in delayed treatment. Screening for EDs helps to facilitate the detection of these disorders so treatment may be initiated immediately (National Collaborating Centre for Mental Health, 2004). The American Psychiatric Association (APA), known for recommending

best practices for psychiatric care, recommends screening for EDs with each patient (American Psychiatric Association [APA], 2015). The APA suggests that screening can be accomplished with a self-report screening instrument, often given in paper form, that is followed up with a formal assessment if the patient's self-report screening is positive for disordered eating (American Psychiatric Association [APA], 2007).

### Eating Disorders and Concomitant Mental Health Disorders

EDs have a high rate of comorbidity with other mental health disorders (Murray et al., 2017). Data from the National Comorbidity Survey Replication, presented by the National Institute of Mental Health (2021), examined the presence of core DSM-IV disorders including anxiety, mood, impulse control, and substance abuse disorders, with AN, BN, and BED. It was noted that AN, BN, and BED had the highest comorbidity with DSM-V anxiety disorders (NIMH, 2021). Further, 56.2% of individuals with AN, 94.5% of individuals with BN, and 78.9% of individuals with BED also met the criteria for a DSM-IV core mental disorder (NIMH, 2021). This high rate of concomitant mental health and EDs offers an opportunity for providers to identify if an ED is present, while treating the comorbid mental health disorder. An outpatient psychiatric setting is an optimal place to screen for ED because patients have existing relationships with providers and staff managing anxiety and depression, thus possibly minimizing the stigmatization of disclosing a concurrent ED.

### Benefits of Outpatient Treatment of EDs in Montana

Any EDs identified early in their disease progression are possibly less severe and more likely to be effectively managed in the outpatient clinic setting without a referral to a specialized

ED treatment center (NEDA, 2021b). This can eliminate patient commute from distant rural areas to one of two Montana ED treatment centers. EDs managed in outpatient behavioral health may help to eliminate patient burden and reduce the waitlists of the consistently full Montana ED treatment centers. Partial hospitalization programs and intensive outpatient treatment groups have limited group sizes to be safe and effective. Experts from ED treatment centers express the number of patients needing ED treatment currently far exceeds the resources available and results in delayed admissions. Thus, earlier screening and ongoing treatment of EDs in the outpatient psychiatric setting is ideal for patients and the limited specialty care available.

### Setting

The setting of this DNP project implementation was an outpatient psychiatric clinic located in a larger hospital system. This clinic's manager reported that one psychiatric mental health nurse practitioner (PMHNP) in this setting had a caseload of 676 patients and saw 3,577 patients for appointments between September 2020 and 2021. Among these visits, approximately 1.4% of this PMHNP's patients were managed for ED treatment and 1.3% had diagnosed EDs during this 12-month period. The PMHNP was supported by one RN, thus promoting a small stakeholder group for the project.

### Organization's Mission, Goals, and Strategic Plan, and DNP Project

The mission of the project site was to provide excellent care for all individuals by healing the body, mind, and spirit. This mission aligns with the DNP project aims since implementing screening processes is often a first step in identifying and addressing health conditions, specifically mental health conditions. Patients receiving care for physical and mental health

conditions are on track to healing their bodies and minds, which is the first step in healing the human spirit. Excellent care is care that meets evidence-based standards and the individual needs of patients; thus, healthcare providers must identify the conditions keeping individuals from their optimal physical and mental health. Through the DNP guidance of implementation of a screening assessment and process for EDs, outpatient psychiatric patients can receive earlier identification, treatment, and more comprehensive care that promotes optimal physical and mental recovery outcomes and aligns with the setting's mission.

## CHAPTER TWO

## REVIEW AND SYNTHESIS OF EVIDENCE IN THE LITERATURE

A comprehensive literature review was conducted (2005–2021) using combinations of the following search terms: “eating disorder,” “screening tools,” “EDE-QS,” “outpatient,” “psychiatry,” “screening,” “primary care,” “electronic health record,” “EHR,” “nurse,” “mentoring,” and “effectiveness.” Databases searched included PsycInfo, Google Scholar, CINAHL Complete, Joanna Briggs Institute Evidence Based Practice Database, Cochrane Library, and PubMed. Information was organized by key topics including the role and benefits of screening for and treating EDs in primary care and outpatient psychiatric settings; the role of the advanced practice nurse practitioner (APRN) and nurse in ED treatment; the barriers to identifying and managing EDs in the primary care and outpatient psychiatric settings; screening tools for EDs including the Eating Disorder Examination-Questionnaire Short (EDE-QS); and the change process and mentoring of nurses. Eight single qualitative studies (level VI), four systematic reviews of qualitative studies (level V), and three, well-organized, controlled trials without randomization (level III) were included in this literature review. The Melnyk and Fineout-Overholt (2015) Hierarchy of Evidence was used to examine quality and assign levels of evidence to each study.

Literature was limited regarding the benefits of ED screening and treatment in outpatient psychiatry; therefore, it became necessary to include pertinent research on the benefits of ED screening and treatment in the primary care setting by general practitioners. From the DNP student’s practicum observation, outpatient psychiatric practices are somewhat similar to primary



care practices because providers in both settings screen for a variety of illnesses, promote strong therapeutic relationships with patients, and treat a multitude of psychiatric illnesses. It also became necessary to examine evidence published from 2005 to 2021 due to the low number of studies found within the last 5 years on the screening or management of EDs published from 2016 to 2021. Even with an expanded search timeline, only 14 articles were found usable for this literature review and an additional two articles were included on the general topic of mentoring nurses.

#### Role of ED Screening in Primary Care and Outpatient Psychiatric Settings

Priorities for ED management include the early screening and identification of EDs, with primary care providers often assuming the first point of contact for this process (Johns et al., 2019; Lebow et al., 2021). When compared to other specialized providers, primary care providers see patients more frequently for the management of medical and mental health conditions (Johns et al., 2019; Lebow et al., 2021). Therefore, due to more frequent office visits, they have an increased opportunity to screen for and identify EDs (Johns et al., 2019; Lebow et al., 2021). Outpatient psychiatric providers have a similar increased frequency of patient visits, allowing them increased interactions necessary to manage the mental health concerns of their patients. As a result of more frequent visits, providers have longstanding and closer relationships with their patients (Johns et al., 2019; Lebow et al., 2021). The perceived disinterest and bias from health professionals against EDs may limit a patient's disclosure or discussion to healthcare professionals (Johns et al., 2019). In a qualitative study by de la Rie et al. (2006), ED treatment outcomes were often improved by providers who allowed patients to feel understood, supported,

and involved in good working alliances with their medical providers. The closer and more positive relationships existing between primary care providers or psychiatric providers and patients mitigate bias and can increase the rate of discussion and identification of EDs through the use of screening tools (Johns et al., 2019; Lebow et al., 2021).

### Role of the APRN and Nurse in ED Treatment

ED treatment is complex and multifaceted, requiring management either in the inpatient or outpatient setting and involving a combination of general medical, psychotherapeutic, and psychopharmacologic modalities. Both inpatient and outpatient treatment for EDs involving nurses, which may or may not be supervised by ED specialists, has been noted to result in positive outcomes for patients with EDs (de la Rie et al., 2006; Kotilahti et al., 2020). Qualitative studies supported that nurses, regardless of education or form of licensure, provide care that is highly influential and results in more personalized treatment intervention, treatment adherence, and recovery behaviors in individuals with EDs (van Ommen et al., 2009; Zugai et al., 2013).

Outpatient ED medical care includes care provided by medical doctors, physician assistants, medical and nursing assistants, psychotherapists, dieticians, advanced practice registered nurses, including psychiatric mental health nurse practitioners (PMHNPs), and nurses in outpatient settings such as primary care clinics, outpatient psychiatric clinics, and other specialty clinics. Thus, it is an outpatient interdisciplinary team that collaborates to provide care to a majority of ED patients. PMHNPs are increasingly prevalent in Montana outpatient psychiatric settings, especially in rural areas with limited access to health professionals. While there are no public data available presenting the total number of PMHNPs and psychiatrists in

Montana, there is an overall national and statewide shortage of psychiatric providers and a particular shortage of psychiatric providers working in the ED specialty. PMHNPs aim to ease this psychiatric provider shortage and are crucial in providing treatment for EDs, thus reducing the burden on specialty ED treatment centers.

The provision of medical and mental health care is at the core of nursing and ultimately promotes improved quality of life for many patients (Kotilahti et al., 2020). Primary care providers and outpatient psychiatric providers, including PMHNPs, along with nurses can screen and assess for EDs and promptly provide treatment and education for mental health concerns. Following the screening and identification of EDs, treatment involves approaches that may include the management of nutrition, medical factors, and psychological factors (Walker & Lloyd, 2011). The holistic team approach offered by primary care and PMHNPs, coupled with nursing support, facilitates ED treatment (de la Rie et al., 2006; Walker & Lloyd, 2011).

#### System Barriers to Identifying and Treating EDs

Qualitative studies cited the various healthcare system barriers to identifying and managing EDs in primary care and outpatient psychiatric settings (Hart et al., 2011; Johnston et al., 2007; Maranhao et al., 2018). Health providers identified system barriers to complete screening for EDs including limited time in patient appointments and the devaluation of screening for other conditions (Hart et al., 2011; Johnson et al., 2007). Further system barriers included waitlists, trouble with insurance coverage of EDs, and lack of specialized ED treatment providers (Hart et al., 2011; Johnson et al., 2007). These system barriers pose difficulty for providers who identify EDs but feel unable to manage care for or refer complex EDs to

specialized providers (Hart et al., 2011; Johnson et al., 2007). Although integration of screening into the EHR has been found to promote provider ease of use, ED screening is not routinely included in purchased EHR packages (Maranhao et al., 2018). In their exploratory study, Maranhao et al. (2018) described that EHR integration of ED screening is important because it easily provides evidence of data to support provider decision-making, thus promoting provider incorporation of screening tool data into the clinical plan.

### Provider Barriers to Identifying and Treating EDs

Qualitative research findings explained provider assessment and care barriers related to identifying and managing EDs in the outpatient setting (Hart et al., 2011; Johnston et al., 2007; Maranhao et al., 2018). Shame and stigma are associated with patient secrecy in disclosing symptoms of EDs to healthcare professionals (Hart et al., 2011; Johnson et al., 2007). Patients often present to outpatient healthcare settings reporting nonspecific physical complaints, such as menstrual irregularities or gastrointestinal issues that are associated with EDs, but fail to disclose that an ED exists (Hart et al., 2011; Johnson et al., 2007). Without screening tools, healthcare professionals are commonly left to identify EDs without patient disclosure and with nonspecific presenting patient complaints, which is ineffective but can be improved through the use of ED screening tools (Prnjak et al., 2020). If patients are screened for ED and are found to have positive results, providers in primary care and psychiatry specialties cited their lack of knowledge and training on the management of EDs as problematic (Hart et al., 2011; Johnson et al., 2007). For example, Hart et al. (2011) noted that providers are often focused on the treatment of weight loss in individuals with BED; however, clinical practice guidelines do not suggest

prescribed weight loss as a treatment for this condition. Therefore, providers may not have the knowledge or attitude to provide optimal treatment for EDs, such as with BED, if identified (Hart et al., 2011). Specialized ED treatment providers are limited, and providers in primary care or general psychiatry often are unsure where to refer their patients when an individual's ED complexity outweighs a provider's perceived ability to manage the disorder in the primary care or outpatient psychiatric setting (Hart et al., 2011; Johnson et al., 2007).

### ED Screening Tools

The APA clinical practice guidelines for the treatment of EDs recommended the use of investigated standardized ED screening tools (APA, 2007). Each instrument varies regarding which ED it screens and the amount of time it takes to complete (APA, 2007). The Eating Disorder Examination (EDE) assesses the presence of EDs and their severity while suggesting DSM-IV diagnoses upon scoring (APA, 2007). Although the EDE is regarded as one of the most comprehensive and effective ED screeners, its downfall is it must be administered by a clinician and can take between 30 and 60 minutes to complete (APA, 2007). The Eating Disorder Examination-Questionnaire (EDE-Q) is another APA-supported ED screener (APA, 2007). The EDE-Q is a patient self-report questionnaire that takes 8 to 10 minutes to complete and does not require clinician administration (APA, 2007). A short form, the EDE-QS (see Appendix A) can be completed in under 10 minutes independently by patients in the waiting room before their appointments, which is ideal in busy healthcare settings. Although a minimum required literacy level needed to complete the EDE-QS could not be found in the current research, the EDE-QS has been tested in a variety of participants in a multitude of settings, including outpatient settings

(Gideon et al., 2016; Prnjak et al., 2020). An EDE-QS score of 15 or greater is the optimal established level of a positive screen and yielded the best relationship between sensitivity (.83) and specificity (.85) (Prnjak et al., 2020).

The EDE-Q and EDE-QS have been validated against the EDE, meaning that they have been noted to identify the presence of EDs at similar rates as the EDE, while their brevity saves time and the need for clinician administration (APA, 2007; Duffy et al., 2021; Gideon et al., 2016; Prnjak et al., 2020; Wolk et al., 2005). In numerous research analyses, the EDE-QS was noted to have a high correlation with the EDE-Q and other screening instruments such as the Sick, Control, One, Fat, Food (SCOFF) questionnaire and the Clinical Impairment Assessment (CIA) (Gideon et al., 2016; Prnjak et al., 2020). The SCOFF is regarded as a valid screening tool for EDs and, because of its brevity, is commonly used in practice. When compared, the EDE-QS had a higher positive predictive value than the SCOFF (.37 vs. .34) and provided more information on a patient's specific ED behaviors (Prnjak et al., 2020). Further, the EDE-QS instrument has demonstrated high and statistically significant internal consistency ( $\alpha = 0.913$ ;  $N = 559$ ) and temporal stability, test-retest reliability ( $ICC = 0.93$ ;  $p < .001$ ) (95% CI: 0.91, 0.94), sensitivity (reported presence of current ED [ $Mdn = 17.5$ ]) (no reported ED [ $Mdn = 5.0$ ]) ( $U = 3209.5$ ,  $p < .001$ ), specificity, good positive predictive value, and discriminatory power comparable to other ED instruments in detecting the presence of EDs (Duffy et al., 2021; Gideon et al., 2016; Prnjak et al., 2020). There is some evidence related to the EDE-QS and its use with transgender and gender-diverse populations. Duffy et al. (2021) described the findings of their mixed-methods study examining the use of the EDE-QS in a transgender and gender-diverse sample. In this study population, the EDE-QS was found to have good measurement and

construct validity (internal consistency  $\alpha = 0.86$  in the full sample of each gender group) (differences between EDE-QS scores in those with and without ED for all gender groups ( $t[69] = 2.89, p = .005$ , mean difference 0.40 [95% CI = .12-.68]), demonstrating efficacy for use in the transgender and gender-diverse population (Duffy et al., 2021).

Despite their ability to detect disordered eating habits, ED screeners are not a definitive ED diagnostic tool, but generally do predict an ED diagnosis with further assessment by the psychiatric provider (APA, 2007). Following a positive result on an ED screener, a patient still needs a formal clinician assessment, usually completed by a psychiatrist, mental health professional including a PMHNP, or a general/family practice provider, for a definitive ED diagnosis (APA, 2007; Gideon et al., 2016; Kotilahti et al., 2020). Therefore, it is the role of a PMHNP or other health provider to conduct a formal ED assessment in patients whose EDE-QS screening scores are 15 or greater. Although research was not available indicating the percentage of patients who screened positive and had a diagnosable ED, the use of ED screeners is largely supported by the APA to detect disordered eating habits in previously undiagnosed individuals, allowing for the opportunity for further clinical ED assessment.

An additional role of ED screeners is to monitor ED treatment outcomes throughout ED treatment, and both the EDE-Q and EDE-QS are used for this purpose (Gideon et al., 2016; Kotilahti et al., 2020). Therefore, after an initial assessment and/or diagnosis of an ED by a primary care or outpatient psychiatric provider, such as a PMHNP, the EDE-QS can be readministered at set intervals to note the patient's progress towards ED recovery through treatment. Although outside the timeline of this DNP project, implementing the EDE-QS allows

the PMHNP a longitudinal assessment tool, thus promoting project sustainability and improvement in assessing long-term ED treatment outcomes.

### The Change Process and Mentoring of Nurses

The implementation of an ED screening process in an outpatient psychiatric clinic results in a practice change for nurses, and for such change to be successful requires nursing education and mentoring by the DNP student. It is important to note that this DNP project included the mentoring of nurses on the implementation of ED screening and the change process associated with this, but it did not affect the PMHNP management of EDs. The diagnostic management of EDs was already demonstrated by the PMHNP, who had experience and confidence in ED diagnostic criteria, and was outside the scope of the DNP project's interventions.

Change is often difficult in healthcare settings; thus, to yield sustained practice change requires anticipation of both strengths and barriers before implementation (Hoover et al., 2020). Nurses, regardless of education level, are vital to promoting quality of care and are essential for inclusion as active participants in the change process (Hoover et al., 2020). The promotion of a supportive environment that provides education to help nurses promote and sustain practice change is essential (Hoover et al., 2020). Many medical providers, including PMHNPs and all nurses, lack the educational preparation to manage the complexities of EDs without feeling discomfort because ED management curricula are not thoroughly reviewed in nursing education (Hart et al., 2011). Thus, the implementation of quality-improvement (QI) initiatives, educational opportunities, and mentoring programs for nurses can help to fill gaps in clinical knowledge and experience (Hoover et al., 2020). In their qualitative study and systematic review of literature,



Hale and Philips (2018) and Hoover et al. (2020) found that the mentoring of nurses has a profound effect on decreasing nurse stress and burnout levels, implementing and sustaining practice change, and promoting high-quality patient outcomes. The quality of nurse mentoring is correlated with its efficacy (Hale & Philips, 2018; Hoover et al., 2020). Principles of high-quality nurse mentoring include the setting of common goals; mentors who are experienced or have specialized education; a small mentee-to-mentor ratio; mentor behaviors that exude sincerity and good intentions; assessment of mentee needs; promotion of trust; and collegial treatment (Hale & Philips, 2018; Hoover et al., 2020). The National Organization of Nurse Practitioner Faculties supports the DNP student role in designing and implementing QI initiatives and offering educational and mentoring programs for nurses to strengthen their clinical knowledge, such as in the management of EDs (The National Organization of Nurse Practitioner Faculties [NONFP], 2017).

#### Literature Synthesis for Project Interventions

Based on the reviewed body of literature, the DNP project will utilize the EDE-QS screening tool implementation as it demonstrated internal consistency, temporal stability, test-retest reliability, sensitivity, specificity, positive predictive power greater than other ED screening instruments, and discriminatory power for detecting EDs when compared to other ED screening instruments (Duffy et al., 2021; Gideon et al., 2016; Prnjak et al., 2020). Weekly DNP student mentoring of nursing staff on EDE-QS screening and scoring of a positive screening can ease the further PMHNP assessment, management, or referral to an ED specialist. By developing a screening process and project pre-implementation nursing education, care is standardized, thus

optimizing the baseline rapport and trust between patients and outpatient psychiatric staff. This project aimed to initiate a nurse-led ED screening process that enabled EDs to be identified sooner in the outpatient psychiatric setting to promote earlier treatment, more comprehensive care, and, ultimately, optimal physical and mental recovery outcomes for patients (Johns et al., 2019; Lebow et al., 2021; NEDA, 2021a).

## CHAPTER THREE

## SETTING AND METHODS

The DNP quality-improvement (QI) project aimed to implement a patient-directed EDE-QS screening by nurses to enhance earlier assessment and management by a PMHNP of positive ED screens in the outpatient psychiatric setting. The Health Belief Model (HBM) as a theoretical framework and the Plan-Do-Study-Act (PDSA) quality-improvement method supported the clinical change proposed in this project.

Theoretical Framework

The chosen theoretical framework for this DNP project was the Health Belief Model (HBM) (Appendix B). The HBM emphasizes the impact of patients' perceived health beliefs on their overall health behaviors (Abraham & Sheeran, 2015). Specifically, they explain that the HBM emphasizes patients' beliefs about their risk of experiencing a health problem and the likelihood that preventative care will offer them benefit. The more severe perception a patient has of a current health condition or risk of developing a health condition, the more likely a patient is to participate in health-promoting behaviors (Abraham & Sheeran, 2015). The authors discuss that research of the HBM shows health beliefs are correlated with the presence of health behaviors. Thus, health information given by providers contributes to patients' health beliefs and has been shown to contribute to the development of preventative health behaviors, health service usage, and adherence to medical advice (Abraham & Sheeran, 2015). Further, the authors

elaborate that providers can assess patients' current level of health literacy, then tailor their provision of health education, health assessment, and care based on individual patient needs.

In this project, the principles of the HBM model were utilized to influence patients' health beliefs and behaviors. The utilization of the EDE-QS screener in outpatient psychiatric patients offered the PMHNP the chance to screen and assess for the presence of EDs. If EDs were identified, the PMHNP could assess patients' beliefs about the ED, the severity and health consequences of an ED, and the facilitators and barriers of receiving ED treatment. The PMHNP who assessed these beliefs was then able to provide related health education, a treatment plan, and referral to specialty ED care to best promote patient-informed health beliefs and health-seeking behaviors and, ultimately, health outcomes for these patients. Use of this theory as an underpinning of the DNP project promoted enhanced nursing understanding of ED severity and thus increased their informed decisions regarding ED behaviors.

#### Project Site Assessment

The DNP project focused on ED process change supported by DNP student-led education and mentoring. The key to this proposed process change was the PMHNP's confidence and experience with EDs. The selected PMHNP, who practices in an adult outpatient psychiatric setting in Montana and treats various mental health concerns, had a total of 3,577 patient encounters over the span of 12 months. The clinic manager explained that during this pre-project timeframe, the PMHNP had 51 appointments for the management of EDs. Of the total 3,577 patient encounters, this PMHNP saw 676 different patients with nine of those patients found to have an ED diagnosis requiring 51 encounters for ED management. This amounts to 1.4% of the

PMHNP's encounters dedicated to the management of EDs and 1.3% of the total patient caseload diagnosed with EDs. These data indicated the project site's prevalence rate was lower than the estimated worldwide prevalence of EDs, which is over 8% in females and over 2% in males (Galmiche et al., 2019). Despite this clinic's lower-than-expected ED prevalence rate, it was a project strength that this provider possessed comfort in managing early identified EDs, which was essential for successful ED screening and assessment implementation central to the DNP project.

This PMHNP and one registered nurse promoted a small stakeholder group to meet the requirements of the DNP project's QI framework more effectively. Other supportive stakeholders responsible for the implementation of this DNP project included the DNP student, the outpatient psychiatric manager, and the clinic front desk staff. Stakeholder buy-in was elicited through a conversation about the low rates of ED presence in the clinic compared to worldwide averages, and the associated patient risks if EDs are not promptly identified and treated. The project intended to improve care for those with positive ED screening in order to initiate prompt treatment for their ED. Thus, the DNP project introduced a process for completion of paper EDE-QS screenings on all new and existing adult patients with any mental health condition seen by one PMHNP over a 6-week project-implementation phase.

### Facilitators and Barriers to Project Implementation

#### Facilitators

Facilitators for this DNP project included support from the participating provider and outpatient psychiatric management. Each of these stakeholders had expressed the desire to

provide the best mental health care possible to their patients and were willing to expand their knowledge to include new clinical practices to do so. Additionally, the participating PMHNP had knowledge and experience in treating EDs, mitigating a common barrier providers express in their limited knowledge of ED treatment (Hart et al., 2011).

The EDE-QS was free to use as it is copyrighted under a creative commons license used when the original author allows others to share, use, and build upon the work (Gideon et al., 2016). The cost was \$0.15 per copy to print the one-page written screener; thus, it was a cost-effective way to screen for EDs. Other cost savings included forgoing the upfront cost of implementation of the EDE-QS screening tool into the EHR. Although implementation into the EHR is supported by the literature, this was not planned to be completed until the ED screening process was optimized. Additionally, the DNP student's donation of time to mentor nurses through project implementation was a facilitator. An estimation of the cost of this time was the DNP's current nursing wage of \$30.00/hour multiplied by the 270 required project hours over the Fall 2021 and Spring 2022 semesters, which amounted to approximately \$8,100.00 in saved costs to this project site.

### Barriers

A completed project site problem analysis illuminated the diverse contributing factors for a lack of screening for EDs in this clinic (see the attached fishbone diagram in Appendix C). The outpatient psychiatric clinic had not acknowledged the severity and prevalence of EDs or the poor patient outcomes when EDs are not screened for, assessed, and treated promptly. Without ED screening, a subset of outpatient psychiatric patients was becoming more mentally and physically ill. Other barriers of the project site included 30-minute appointment length, full

provider schedules, a high volume of patients seen by providers, and the effect of COVID-19 on nurse staffing. Some existing clinic nurses possessed limited psychiatric experience and there were no board-certified psychiatric/mental health nurses, who have extra knowledge and competency in the management of EDs, present at this site. A lengthy waiting list for specialized community ED appointments and the lack of residential treatment for EDs in Montana were contributing factors to deficient ED screening for this project site's providers. One Montana PMHNP additionally shared that many mental health and primary care providers in Montana perceive a lack of knowledge and training required to assess and treat EDs along with a sense of helplessness when managing EDs due to inadequate specialized treatment resources.

### Project Methods

#### Plan-Do-Study-Act

The Plan-Do-Study-Act (PDSA) method was the chosen project quality-improvement (QI) framework. The PDSA method is a commonly used and recognized model for QI programs in healthcare that structures improvement in cycles modeled after the scientific method of experimental learning (Knudsen et al., 2019). The PDSA method consists of four steps, including the steps of plan, do, study, and act, that are completed as a cycle (Agency for Healthcare Research and Quality [AHRQ], 2020). The repeating cycles used in the PDSA model occur on a small scale and the information collected continually in each cycle helps guide changes to subsequent cycles to achieve an improved quality of care (Knudsen et al., 2019). This is beneficial for use in projects with a limited timeline, such as the short, 6-week implementation timeline utilized in this DNP project. The main principles of the PDSA method require a

repeating cyclic method, continuous data collection, and testing on a small scale, such as was the case in this DNP project with one nurse and one PMHNP as the main facilitators of the process change (Knudsen et al., 2019). Other considerations include that each PDSA cycle contains only one step or goal of the intervention implementation and has a short timeline. This DNP project had 1-week repeating cycles where the DNP student provided evaluation and weekly updates to improve process implementation by incorporating stakeholder feedback from previous weekly cycle data collection (AHRQ, 2020).

### Plan

In this DNP project, the “plan” step was the pre-implementation step that included stakeholder collaboration, choice of the ED screener and RN scoring process, and the process for RN scoring and notification of the PMHNP of all positive ED screenings. The timeline of the “plan” phase spanned from August 25, 2021, until the implementation of the project on January 3, 2022, and, during this period, the DNP student routinely elicited stakeholder feedback and interest. Beginning in September, 2021, a project-implementation timeline was distributed to the front desk staff, nursing, and the participating PMHNP (see Appendix D). The education of stakeholders was a DNP student-led in-person educational session on December 7, 2021. This 30-minute session included a review of the DNP project, its purpose and goals, and its implementation process. It also included education on the importance of screening for EDs and the EDE-QS screener including what constituted a positive screen score. For quick reference, printed copies containing the project timeline, implementation process, and instructions for the scoring of EDE-QS screeners were given to stakeholders and placed in each stakeholder’s clinic office. See Appendix E for further educational session details. The “plan” stage was evaluated by



the SMART goal: By December 8, 2021, 100% of stakeholders will be trained on the ED screening process and scoring of the EDE-QS.

### Do

The second step of the cycle, “do,” was the implementation of steps identified in “plan,” an observation of what happened during the cycle with weekly examination of whether the cycle went as planned or needed modification (AHRQ, 2020). The “do” phase and clinical workflow began upon DNP project implementation on January 3, 2022, and concluded February 11, 2022, following the 6-week project implementation. This phase was evaluated by two SMART goals evaluated over the 6-week implementation period (January 3, 2022–February 11, 2022) including: (1) 75% of the participating PMHNP’s patients seen over the intervention period will have completed the EDE-QS during their visit and (2) The participating provider was notified 100% of the time by nursing staff of positive EDE-QS screens.

The clinical workflow process map, detailed in Appendix F, included the front desk staff providing a written copy of an ED screener to each patient of the selected PMHNP upon check-in. While awaiting the scheduled visit, the patient completed the EDE-QS with the other screening tools, thus expanding the current screening process. The patient brought all completed screeners to nursing upon being placed in an exam room. The RN then scored the EDE-QS for each patient. Scores of 15 or greater were considered positive and lesser scores were negative. Negative ED screeners were placed in an envelope in the RN’s locked office. Positive ED screeners were taken by the RN to the PMHNP at patient hand-off. This notified the PMHNP that further intervention and ED assessment was warranted and allowed an opportunity to further assess for and manage an ED according to clinical discretion, either by management in the clinic

or referral to an ED treatment center. Following the PMHNP's evaluation of the positive screener, the presence of further ED assessment and plan was written, if completed by the PMHNP, on the back of the positive screener for data collection and it was placed in an envelope in the PMHNP's locked office.

### Study

The third step, "study," entailed an examination of the continual data collection and results from the cycle conducted, including what was learned and whether the cycle met the goals and needs that it intended (AHRQ, 2020). The "study" phase occurred simultaneously with the "do" phase. This phase entailed a weekly examination by the DNP student and stakeholders of the data and results from the previous week of the project-implementation cycle. Data were recorded in an Excel spreadsheet (see Appendix G) and analysis was conducted in this step to determine whether the past week of project implementation met the goals and aims of the DNP project.

### Act

The fourth and final step, "act," included collaboration with stakeholders to determine what was concluded from the cycle conducted and what should be adapted, adopted, or abandoned for the next cycle (AHRQ, 2020). Associated long-term SMART goals incorporated here included: (1) By February 11, 2022, 75% of patients with positive EDE-QS screens are further assessed for ED by the participating PMHNP, and (2) By December 2022, 100% of patients with positive ED screenings will have ongoing provider assessment for ED. The second

long-term SMART goal was outside the constraints and timeline of this DNP project but was established for future project sustainability.

The “act” phase additionally occurred simultaneously with the “study” and “do” phases. The “act” phase entailed a discussion with stakeholders regarding the previous week of DNP project implementation. It then included a brief collaborative work session involving the DNP student and stakeholders regarding what should have been changed to improve the next week’s project-implementation process and patient outcomes. At the conclusion of the DNP project timeline, the “act” phase included an overall discussion of whether the intervention worked and an assessment of the readiness to implement the DNP project into a larger-scale intervention across all PMHNPs within the practice. The conclusions from these discussions guided the DNP’s collaborative efforts with stakeholders to make and implement process changes and to provide additional needed education to stakeholders using an executive summary provided to stakeholders in March of 2022.

### Measurement Tool

The EDE-QS was the chosen measurement tool for this DNP project due to its brevity, ability for the patient to self-administer, free cost to clinical use, and significant sensitivity as indicated by a score of 15 or greater yielding a positive score indicating a need for further provider assessment (APA, 2007; Duffy et al., 2021; Gideon et al., 2016; Prnjak et al., 2020; Wolk et al., 2005). (See Appendix A.) A minimum required literacy level needed to complete the EDE-QS was not established in the current research, but the EDE-QS has been tested and used with individuals in various healthcare settings (Gideon et al., 2016; Prnjak et al., 2020).

## Human Subjects Protection

### Institutional Review Board

Institutional Review Board (IRB) review was completed by Montana State University (MSU) with the intent for exempt approval during November, 2021. The hospital system in which the outpatient psychiatric clinic is affiliated did not have an internal IRB review board; therefore, the MSU IRB was acceptable. Since the DNP project added to current clinical screening practice in the psychiatric clinic, the patient's consent to treatment signified consent to ED screening completion. The PMHNP had already routinely screened with other validated screeners that were voluntary for patients to complete, including the GAD-7 and PHQ-9, and the inclusion of the validated EDE-QS was an addition to this existing voluntary process.

### Data Confidentiality

All aggregate, deidentified data collected from the project site were kept in an Excel spreadsheet on the project site computer, held on a secure server with password protection, and only accessed by the DNP student while at the project site. Negative screens were kept in a secured, opaque folder marked "confidential patient health information (PHI)" in the RN's office, which was locked whenever the RN was not present. Positive screens were kept in a secured, opaque folder marked "confidential patient health information (PHI)" in the PMHNP's office, which was locked whenever the PMHNP was not present. Keys to these offices were only available to the clinic manager, providers, nurses, and front desk staff. These offices were located behind a restricted access door that required a clinic employee badge to open. To protect patient confidentiality, the original ED screens with all identifying patient information were

removed and shredded after data collection, chart review, and analysis was complete. The DNP student maintained HIPPA compliance with all patient information observed during this DNP project. The PMHNP voluntarily agreed to participate through chart review and data collection in this DNP project.

### Data Collection

During the DNP student-provided educational in-service for clinic front desk staff, nursing, and the participating provider, the DNP student collected the number of staff who attended education out of the total number of staff members. The DNP student reported to the project site weekly on Fridays to collect EDE-QS screeners completed during the week, the number of patients seen by the participating provider total for the week, and any feedback stakeholders had to improve the project-implementation process in the subsequent weeks. Additionally, the DNP student examined positive screeners of patients who had positive EDE-QS scores to determine the number of patients with positive screeners who were further assessed for EDs by the PMHNP. PMHNP patient assessment and patient plan after having a positive EDE-QS was written on the back of the positive EDE-QS screener, if completed by the participating PMHNP. After collecting this aggregate data, screeners were shredded.

## CHAPTER FOUR

## DISCUSSION AND RESULTS

This DNP QI project had four aims: (1) educational training of all project site stakeholders, (2) implementation of the EDE-QS screener into the clinical workflow, (3) provider notification by nursing for all positive EDE-QS screeners, and (4) provider assessment of patients with positive EDE-QS screeners. Short, intermediate, and long-term SMART goals were formulated to guide the achievement of these purposes. Data collected weekly were collated in an Excel spreadsheet including total patients seen for appointments by participating PMHNP, total number of screeners completed, completed screenings with negative findings, completed screenings with positive findings, and the number of positive ED scores that received further assessment by the PMHNP (see Appendix G). Qualitative feedback and solutions for process adaptations identified by stakeholders and the DNP student were summarized in an additional tab of the Data Analysis Excel spreadsheet. Following data analysis, a report of findings and whether goals were being met was sent to stakeholders weekly via secure email or communicated verbally to elicit collaborative process changes.

Short-term SMART GoalResults

The short-term SMART goal of this project was 100% of stakeholders received training on the QI project purpose and implementation process before the project-implementation phase. To achieve this, an educational training for stakeholders was prescheduled and conducted over a

lunchtime staff meeting on December 7, 2021. Training was assessed by verbal confirmation of understanding and being able to demonstrate the project-implementation process during a practice cycle of project implementation. Evaluation of this short-term SMART goal was obtained by dividing the number of stakeholders who completed education by the total number of stakeholders. Attendees included two front desk staff members (100% of front desk staff), five registered nurses (100% of outpatient psychiatric clinic nursing staff), and two PMHNPs (67% including all PMHNP staff and 100% including the PMHNP stakeholder). QI project stakeholders included two front desk staff, one registered nurse, and one PMHNP, thus meeting the short-term SMART goal: 100% of stakeholders attended the project educational training.

### Discussion

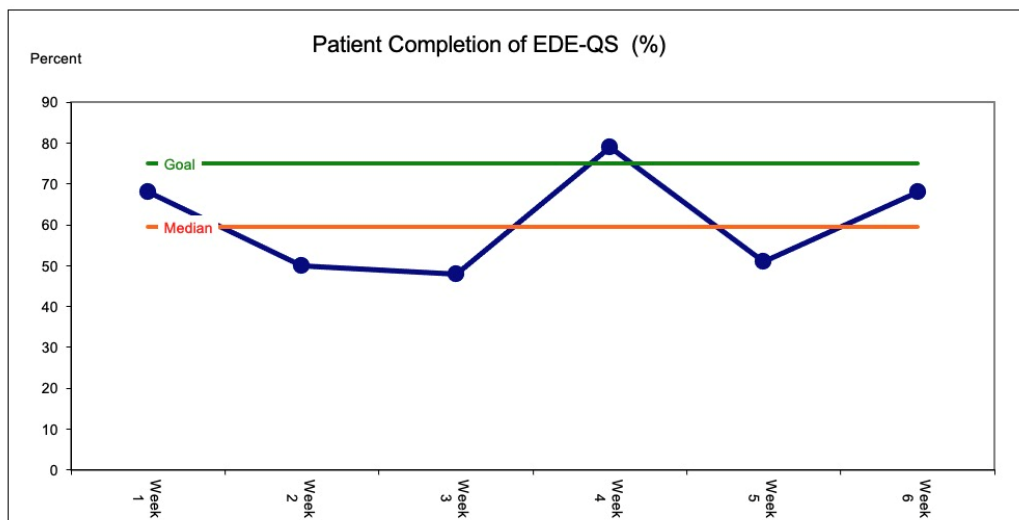
The literature reports that many providers and nurses may feel that they do not have adequate training to provide high quality treatment for eating disorders; therefore, this DNP student-led training aimed to provide ED-related education to the outpatient psychiatric clinic staff and project stakeholders (Hart et al., 2011). The DNP student was able to support practice change and nurse mentoring found essential for QI success (Hale & Phillips, 2018; Hoover et al., 2020). The attendance for the educational session was greater than planned, with many more individuals in attendance than just the stakeholders for the DNP project. All of the nursing staff for the entire outpatient psychiatric clinic were in attendance and were able to learn about the DNP project purpose and implementation. This early project support became immensely important during the implementation period when the registered nurse stakeholder experienced a 2-week quarantine due to COVID-19 and other nurses were required to cover during her absence.

### Intermediate SMART Goal 1

#### Results

The first intermediate-term SMART goal was 75% of the patients seen by the participating PMHNP over the intervention period will have completed the EDE-QS during their visit. This value was obtained by dividing the total number of screeners completed by the total number of patients seen by the PMHNP. The percentage of patients screened using the EDE-QS varied across the 6-week project-implementation period (see Figure 1), but the average was 61% (135 completed screeners/223 total patient appointments) of the participating PMHNP's patients were screened during the 6-week implementation period. Although this value did not meet the intermediate SMART goal of 75%, the measurement provided extensive review and adaptations by stakeholders throughout the project implementation.

Figure 1. Patient Completion of EDE-QS (%) Runchart





### Discussion and Limitations

There were numerous EDE-QS screener challenges reported anecdotally from the front desk staff. Because many patients were late to their appointments with the participating provider, the QI implementation process worked in reverse with the patient seeing the provider first instead of the nurse and completing their screeners after the PMHNP appointment. These late completed screeners were still counted into the total number of patients screened but could not be further assessed by the PMHNP. Weeks 2, 3, and 5 had a higher volume of late patients to their appointments when compared to weeks 1, 4, and 6, which attributed to the lower rates of patient completion of the EDE-QS. This process was unforeseen in project planning, and the participating provider suggested a project adaptation. Registered nurse stakeholders estimated that when the QI workflow was not followed, at least one patient daily left the clinic without completing their screener. The impact late patients were having on results was identified in week 2 by the PMHNP and DNP student. Stakeholders agreed on an adaptation in week 2 where patients were still screened using the EDE-QS, even if they were late. The participating PMHNP received late patient positive screeners after their visit and entered these findings into the patient's current visit note so that they could be addressed at the patient's next appointment. Most patients were typically seen by this provider every 4 to 8 weeks. The provider was reminded to discuss the positive ED screener findings at the next appointment when they read the patient's previous visit note in preparation for their upcoming appointment. In week 3, stakeholders adapted the workflow by having the front desk staff call patients and ask them to arrive 10 minutes earlier. During week 4, patient lateness decreased and more screeners were completed, which was also evident in week 6.

A second challenge occurred during week 5 when the front desk staff were given new electronic check-in equipment for obtaining patient signatures and copying insurance cards. This new equipment added time and extra workflow process steps to the prior check-in process. While learning this new process, the front desk staff shared they had periodically forgotten to give patients an EDE-QS screener throughout the remainder of the implementation period. This deviation from planned process was most reflected in the decrease of patients screened during week 5. By week 6, the front desk staff were accustomed to the new electronic process. A third notable challenge was that five of the six stakeholders, except for the participating PMHNP, became sick with COVID-19 and were out of the office for much of weeks 2 and 3. Low nursing and front desk staffing levels were present during these weeks and apparent in the decreased patient screening percentages found in weeks 2 and 3. Untrained float front desk staff were sent to cover the outpatient psychiatric staff shortage. This was unanticipated and prompted the DNP student to present in the outpatient psychiatric clinic to clarify the implementation process and to answer front desk float staff questions.

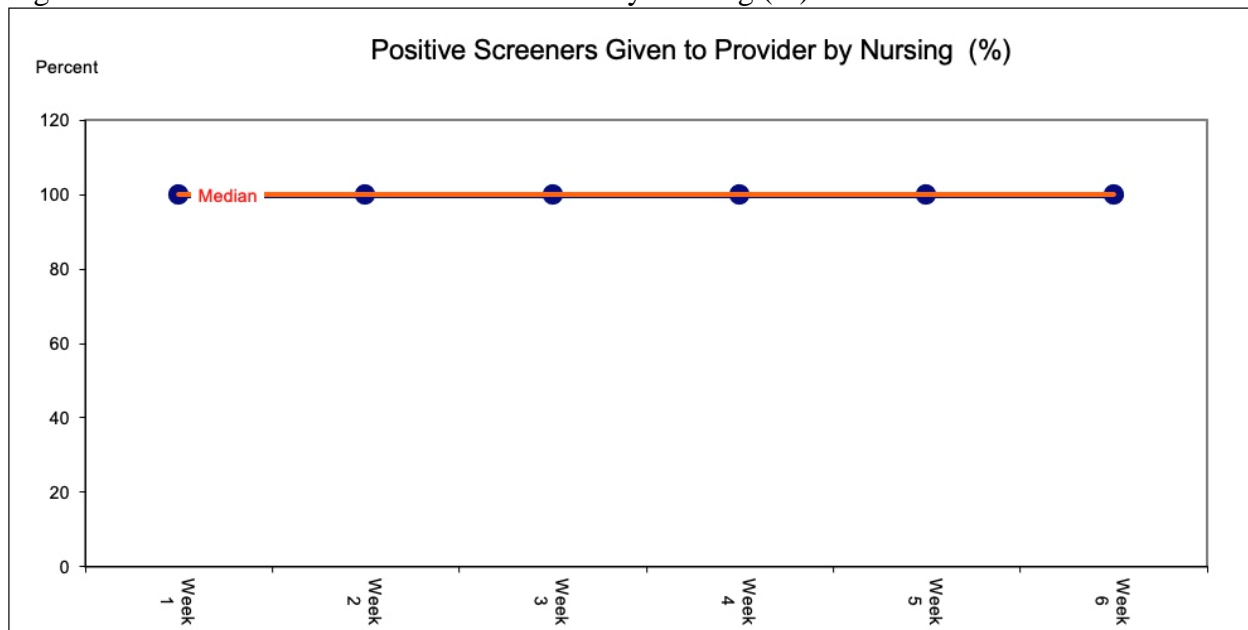
The unique staffing absences and limited float staff related to the COVID-19 pandemic were a distinct challenge to the setting and project timeline. Although other outpatient psychiatric clinics may experience less tardiness or differing check-in processes, the lesson of stakeholder adaptation for workflow is imperative to project implementation. Because pre-visit screenings had been part of this clinic's previous workflow, it was anticipated that adding ED screening would be well received. However, check-in software updates were not communicated to the stakeholders and no baseline data on patient tardiness were examined in the pre-implementation phase, thus were not anticipated by the stakeholders.

### Intermediate SMART Goal 2

#### Results

The second intermediate SMART goal of nursing notifying the participating provider on 100% of positive EDE-QS screens was assessed by dividing the total number of screeners with positive findings, obtained from the secure folder in the PMHNP's office, by the total number of positive screeners obtained weekly. The percentage of positive EDE-QS screeners given by nursing to the participating PMHNP did not vary across the 6-week implementation period and was 100% each week (see Figure 2) bringing the 6-week average also to 100% (15 positive screeners given to PMHNP by nursing/15 total positive EDE-QS screeners), which met the intermediate SMART goal.

Figure 2. Positive Screeners Given to Provider by Nursing (%) Runchart



### Discussion and Limitations

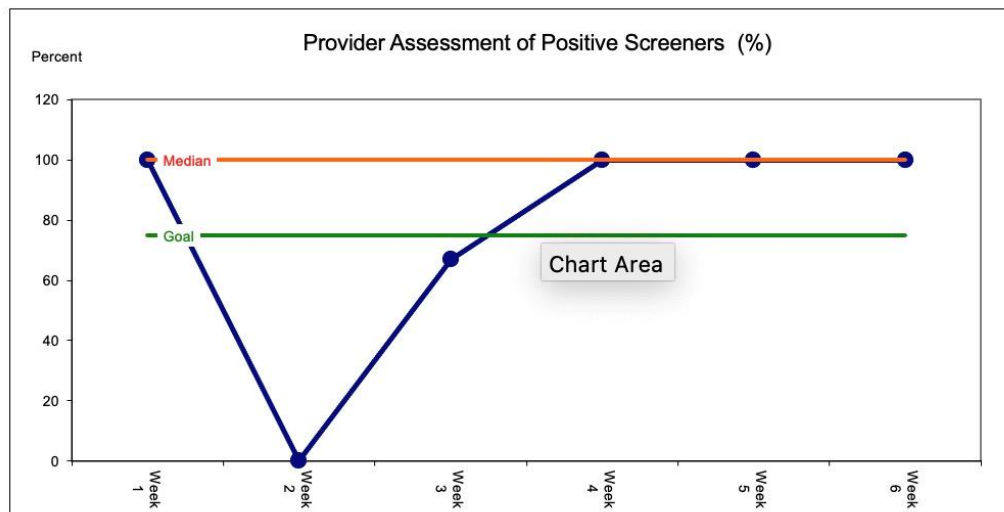
These results were remarkable considering that the registered nurse stakeholder was absent due to illness from the outpatient psychiatric office for 2 weeks, weeks 2 and 3, of the 6-week implementation period. The DNP student was notified by the PMHNP stakeholder that there were numerous COVID-related absences and alternate staff coverage. Following this notification, the DNP student, remaining stakeholders, and the remaining nurse in the clinic worked together to adopt the weeks 2 and 3 PDSA cycles to fit the temporary needs of the clinic. Each week's small-scale testing, which is foundational to the PDSA cycle, allowed for alteration of the next week, which was critical during COVID-19 related stakeholder and staff shortages. By adapting workflow and continued nurse mentoring in this staff-shortage period, nurses were able to continue providing comprehensive nursing care using the EDE-QS and project workflow process, which intended to improve quality of life for patients (Kotilahti et al., 2020). The educational handouts proved to be especially useful as a reference to non-stakeholder nurses who stepped in to help with project implementation. Qualitative feedback elicited from registered nursing staff was that the EDE-QS screening and evaluation process was simple to learn and to teach others how to complete. Nurses demonstrated adoption with 100% of positive EDE-QS results shared with PMHNP. The resilience shown in the non-stakeholder nursing staff was observed and their ability to mentor other nurses, with the help of the DNP student, resulted in continued implementation of the DNP project, despite the COVID-19-related staffing shortages. This aligns with literature explaining that the incorporation of nurse mentoring as a foundation to the QI process is essential for effective project implementation (Hoover et al., 2020).

### Long-term SMART Goal 1

#### Results

The first long-term SMART goal was 75% of patients with positive EDE-QS screens are further assessed for ED by the participating PMHNP. The value was obtained by the number of charted ED assessments completed by the PMHNP, as gathered by PMHNP documentation on the back of the EDE-QS screener reviewed by the DNP student, on patients with positive EDE-QS screeners divided by the total number of positive EDE-QS screeners. The results for the weekly percentages of patients with positive EDE-QS screeners varied somewhat (see Figure 3). The average across the 6-week period was that 87% (13 patients were further assessed by PMHNP/15 total positive EDE-QS screeners) of patients with positive EDE-QS screeners were further evaluated for eating disorder signs, symptoms, and prevalence by the participating PMHNP, meeting this long-term SMART goal.

Figure 3. Provider Assessment of Positive Screeners (%) Runchart



### Discussion and Limitations

The PMHNP shared that the greatest challenge in achieving this long-term SMART goal was the large number of patients who presented late for appointments. This was observed during week 2 when there were many patients late to appointments and unable to first complete the EDE-QS before the provider appointment, thus deviating from the QI project process. However, the stakeholder-devised adaptation of noting a positive EDE-QS screening in a patient's visit note allowed for the PMHNP to reassess for ED at the patient's next scheduled visit, ensuring the patient would receive assessment and treatment planning for ED, even if late to their appointment. Of the 135 total EDE-QS screeners completed during the 6-week project-implementation period, 15 positive EDE-QS screenings were found, which equates to 11% of patients screened had a positive result. This 11% positive screening rate in outpatient psychiatric patients is significant as it exceeded the reported worldwide prevalence of eating disorders in approximately 8% of women and 2% of men in their lifetimes (Galmiche et al., 2019). Although not completely diagnostic, the EDE-QS generally predicts an ED diagnosis after further provider assessment (APA, 2007; Gideon et al., 2016). These outcomes were shared with the project site and stakeholders verbally after initial data collection and later using a project poster the DNP student created.

### Long-term SMART Goal 2

The second long-term SMART goal, which was outside the initial implementation and set to promote project sustainability, was by December, 2022: 100% of patients with positive ED screenings will have ongoing provider assessment for ED. This long-term goal could be

examined via stakeholder chart review of the number of ED assessments conducted by the PMHNP on patients with positive EDE-QS screeners. The clinic manager could support evaluation of this goal by planning to conduct a chart review in the fall of 2022 and provide feedback to the initial stakeholder group.

### Lessons Learned and Future Practice Recommendations

Numerous lessons were learned throughout the DNP QI project implementation. Change, in terms of implementing new clinical workflow processes, is difficult for many healthcare workers in all kinds of health settings. While staff are learning the process, time and additional tasks are added to already busy healthcare workers. Initially, stakeholders were skeptical and unenthusiastic about the QI project implementation. Once implementation began and staff became accustomed to the new process, they became more enthusiastic and supportive of project participation. Nursing mentor literature highlighted that staff participating in change require support and motivation (Hoover et al., 2020). This was provided through the DNP student attending check-ins weekly with stakeholders to address any questions or concerns present. Additionally, the DNP student was available throughout the project via a phone call, which was utilized by stakeholders who called weekly with questions.

Nurses and the PMHNP recognized that manually tabulating the EDE-QS was manageable but could be improved if automated. The availability of an electronic template of the EDE-QS screener comes with the cost of an information technologist to input these data into a hospital's EHR but has shown to be useful and may subsequently save money through savings in paid nursing time (Maranhao et al., 2018). EHR integration would be especially useful for

patients who score positive on the EDE-QS screener because scores could be carried forward through subsequent patient visits to determine improvement in their ED-related symptoms. The EDE-QS is an ideal screening tool for this purpose because it was designed to provide a longitudinal assessment in assessing long-term ED-related outcomes (Gideon et al., 2016). Additionally, integration of the screener into the EHR would save time over nursing manually scoring the screeners. Further, a PMHNP would have immediate access to the EDE-QS score in the patient's EHR medical chart, eliminating the step of nursing handing the PMHNP a printed screener at handoff. Based on project findings and qualitative nursing feedback, the DNP student formally suggested to the clinic manager that an EHR template be developed within the next 1 to 2 months to encourage ongoing practice change. The clinic manager should be responsible for making the recommendation to clinic administration and the informational technology department to integrate the EDE-QS into the EHR, which also promotes patient confidentiality.

Late patient arrival to appointments can cause major issues to clinical workflow. The recurrent and unanticipated patient tardiness changed the clinical workflow order resulting in missed PMHNP evaluation of positive EDE-QS screenings and, some days, more than one patient leaving without completing their screeners. Stakeholders suggested, for future state, requesting patients arrive 10 minutes early or including the EDE-QS in new-patient mailed packets would minimize workflow disruption. Instead of having patients complete the EDE-QS screener every visit with the participating provider, it could be completed for all new patients upon their initial psychiatric evaluation. New-patient screening and intake paperwork are mailed to patients ahead of their appointment, which may result in a higher completion rate due to a patient's ability to complete paperwork at their convenience before their appointment. The EDE-



QS screener would then be repeated only by the nurses or PMHNP for patients who screen positive initially or report symptoms later during their follow-up visits. Screening all new patients for EDs during the initial psychiatric evaluation would align with the American Psychiatric Association guidelines for psychiatric evaluation (APA, 2015). It was the intent of the stakeholder group to adopt by incorporating this process to all future new-patient psychiatric evaluations. Further, it would be beneficial to expand this project to screen and collect demographics from patients of all ages, including pediatrics, and to begin collecting demographics from all patients who complete the screening process. Literature reports the highest number of eating disorders present in 15- to 24-year-olds (National Eating Disorder Association, 2021b). An intervention to identify trends by sex or age could target further screening interventions in the outpatient psychiatric clinic.

Continued nurse mentoring was determined by stakeholders as key to future project sustainability. As a driver for ongoing change, the participating PMHNP should serve as a mentor to the psychiatric clinic nursing staff. Also, a nurse in the outpatient psychiatric clinic should be designated and hold the responsibility to continue providing clinical knowledge and workflow education to new and existing nurses in the clinic. Nursing involvement in ED treatment has been shown to improve patient outcomes and nurse mentoring is vital to the implementation of successful QI projects (de la Rie et al., 2006; Hoover et al., 2020; Kotilahti et al., 2020). The DNP student-created handout can also be a reference used in sustaining this project long-term. The designated clinic nurse should additionally continue to audit the number of positive EDE-QS screeners and consult with stakeholders monthly to make changes to workflow that best meet project goals. Using the DNP mentorship and education skills, it was

found crucial in project planning that all nursing staff in the outpatient psychiatric clinic receive QI project training.

With continued mentoring and education provided to all clinic staff, registered nurses who are not immediate stakeholders would then be able to step in, mentor, and train fill-in staff on the project implementation in order to keep the QI project running despite challenges, including staffing shortages. This aligns with literature noting that nurse mentoring has been recognized as an effective way to mitigate gaps in knowledge, experience, or training in practice (Hoover et al., 2020). For future sustainability, the DNP student offered to complete an annual 10-minute live or video meeting, training summarizing the prevalence of ED and the benefits of screening, along with the workflow process that could be arranged a few times a year by the stakeholders. A live or video meeting would be preferred over a taped meeting as statistics on EDs are changing rapidly and will allow the DNP-trained PMHNP to continue mentoring on this crucial topic.

### Conclusion

Despite the short 6-week QI project-implementation period, this project accomplished the overall purpose intended: to increase screening for eating disorders among adult patients seen in the outpatient psychiatric clinic by one PMHNP and their nursing and staff support and through successful achievement of three of the four SMART goals. From January 3, 2022, to February 11, 2022: (1) 100% of site stakeholders completed education; (2) 61%, which was below the goal of 75%, of the PMHNP's patients completed an EDE-QS screener; (3) 100% of positive EDE-QS screeners were given by nursing to the participating PMHNP; and (4) 78%, which was above the 75% goal, of patients with positive EDE-QS scores were further assessed by the participating

PMHNP. Although the first intermediate SMART goal was not met, the project stakeholders, consisting of front desk staff, registered nurses, and the participating PMHNP, did unite to provide EDE-QS screeners when patients arrived on time. The week 3 stakeholder adaptation addressed those who did not arrive in a timely manner by providing positive screeners to the participating PMHNP for further evaluation during the patient's next visit.

These QI project findings parallel literature that suggests the mentoring and education provided to nurses, along with the development of a pre-implementation process for incorporating new screening measures into clinical workflow, can standardize care. Nurses impact care through an increased patient rapport and workflow process (Hoover et al., 2020). Additionally, it was observed in this DNP project that mentoring and education provided to nurses can be used to train fill-in staff when primary staff is out of the workplace, which is a tremendous benefit to existing and fill-in nursing staff.

Significantly, 11% of patients screened were found to have a positive EDE-QS score requiring additional assessment for the presence of a probable ED. Although project data were not stratified by sex to promote confidentiality, positive EDE-QS findings were higher than the worldwide prevalence rate of 8% of women and 2% of men who are estimated to have diagnosed EDs (Galmiche et al., 2019) and the pre-project implementation percentage of 1.4% of the participating PMHNP's appointments for the management of EDs and 1.3% of patients with diagnosed EDs. These results are substantial and demonstrate the ability of ED screeners to identify previously unknown or unassessed EDs in outpatient psychiatric patients.

Future study on this topic should consider the integration of the EDE-QS screener into the EHR system to make screening more efficient for nursing staff and providers, while creating

a record of the screening in clinical documentation for future reference (Maranhao et al., 2018). Additionally, incorporating the EDE-QS into new-patient intake paperwork may initially and comprehensively identify patients who have ED-related behaviors, while preventing the need to screen every patient every visit. Finally, continued nurse mentoring by the nurse stakeholders with education on mentoring nurses, including the registered nurse and PMHNP, will be key to future sustainability of this project (Hoover et al., 2020; Hale et al., 2018).

## CHAPTER FIVE

## DNP ESSENTIALS AND EDUCATION JOURNEY

Throughout the experience in the DNP program at Montana State University, I was able to meet the competencies of the Essentials of Doctoral Education for Advanced Nursing Practice outlined by the American Association of Colleges of Nursing (2006). The DNP essentials outline the quality indicators and competencies mastered by graduating DNP students (American Association of Colleges of Nursing [AACN], 2006). Further, the competency mastery of the DNP essentials identifies students who are ready to begin practicing as an advanced practice registered nurse (APRN) in the clinical healthcare setting educated at the doctorate level (AACN, 2006).

DNP Essential I applies scientific knowledge to advanced nursing practice using evidence-based practice (EBP) to inform clinical decision-making (AACN, 2006). This essential was a large basis of the EBP project completed in the DNP program, especially in the DNP QI project. In this project, I examined scientific knowledge attained through clinical practice guidelines centered in research and best patient outcomes and then tailored these to create a process change solution to a clinical practice problem. I conducted a comprehensive literature search to support an evidence-based ED screening implementation process, which I created in response to a lack of formal ED screening in an outpatient psychiatric setting. In the DNP QI project, I learned to search nursing and allied health databases to find pertinent literature. I sorted this literature into a review of literature table, which made examining the research more organized and efficient. I used the Health Belief Model and the principles of this theory to

translate EBP literature into a targeted intervention promoting PMHNP and patient awareness of EDs so they could be addressed. Through these educational opportunities, I was able to significantly develop skill in gathering, synthesizing, and applying scientific evidence to practice using nursing knowledge and knowledge from other allied fields, which will be used significantly in my future APRN role.

DNP Essential II, organizational and systems leadership for QI and systems thinking, outlines a DNP student's ability to examine the current workflow in a clinical practice system they are working in, then work with the organization to identify areas where processes could be improved to promote higher quality clinical care (AACN, 2006). The competencies included in this essential are the basis of the DNP QI project. In this project, I identified a problem within the organization—no process for screening for EDs—and then worked within the system and with leadership and stakeholders to create, implement, evaluate, and devise a sustainment plan to improve the system processes. I utilized nursing theory, including the Health Belief Model, and the QI model to lead this change. From this, I found my role as a leader, working with project stakeholders to implement a successful QI project while promoting better patient outcomes. During this process, it was vital that I examine system facilitators and barriers affecting the implementation of new processes. Through these experiences, I was able to develop understanding of how organizations and systems work, including how system facilitators and barriers affect the ability of the APRN to institute new programs. This understanding is vital in my future role as an APRN to facilitate additional successful QI projects.

DNP Essential III, clinical scholarship and analytical methods for EBP, applies a DNP student's ability to examine existing literature to find high-quality and applicable evidence to

base clinical practice treatments and process decisions (AACN, 2006). In the DNP program, I learned why choosing high-quality evidence is important using statistical methods with the understanding of what reliability, validity, generalizability, and significance mean. In the statistics course, I completed a group project examining the quality of evidence from a research study and how evidence quality could have been improved. In the DNP QI project, process-improvement methods were guided by a comprehensive literature search on the benefits of screening for EDs and the nurse's role in this practice change. I was able to practice examining evidence quality in these educational modalities and to use this to inform clinical practice decisions, which is vital in providing patient care as a future APRN.

DNP Essential IV, information systems/technology and patient care technology for the improvement and transformation of health care, engages the DNP student's ability to use and mentor other nurses on the use of informational systems/technology in patient-care activities to improve healthcare systems and the quality of care provided (AACN, 2006). In the DNP program, I completed an informatics technology project identifying a clinical program using an informational technology device—a locking medicine dispenser—to help solve a clinical problem with patient medication adherence. In this educational opportunity, I designed an implementation and evaluation process for this informational technology device to determine if it should be implemented into clinical practice. In the DNP QI project, feedback from stakeholders supported implementing an ED screening device into the EHR as they felt it would improve the screening process by promoting stakeholder ease of use. Through these experiences, I gained skill in designing, selecting, using, and evaluating innovative health-information technology

programs, which is great practice for my transition into the APRN role, which includes informational technology to improve efficiency and the quality of patient care provided.

DNP Essential V, health care policy for advocacy in health care, details the DNP graduate role of engaging in and developing health policy at all levels in healthcare and government (AACN, 2006). In a DNP health policy course, a health policy issue analysis assignment included the completion of a nursing advocacy letter. This became an advocacy letter I addressed to the Montana (MT) Board of Nursing supporting the nursing profession, social justice, and healthcare ethics. In the DNP QI project, I examined a patient inequity, decreased access to ED screening and treatment. I additionally addressed current policy in the US, which included low rates of health insurance coverage of specialized ED treatment. I designed the DNP QI project in a way that promoted access to care for patients in a general psychiatric setting for early ED treatment, which would be covered by most health insurances. These educational opportunities improved my comfort and confidence in the crucial skill of practicing patient advocacy through healthcare policy, which is essential in my future role as an APRN.

DNP Essential VI, interprofessional collaboration for improving patient and population health outcomes, explains the role of the DNP graduate in providing collaborative multidisciplinary care (AACN, 2006). I participated in collaboration throughout the DNP program, with my participation in teams and group projects facilitating collaboration. In the DNP QI project, professional collaboration was key. I constantly maintained weekly communication in-person and by email or phone when I was not onsite with multidisciplinary project stakeholders. My consistent communication helped to ensure that processes were running smoothly and that stakeholders were confident in their ability to effectively carry out the project-



implementation process changes. When processes were not running smoothly, I used collaborative communication to reimagine the project from diverse viewpoints while making changes to promote a smoother process with better outcomes. APRNs coordinate care, obtain consults from other providers, and communicate effectively with the healthcare team and patients. The DNP program allowed for my practice and improvement in this skill, which will be used daily in my future APRN role.

DNP Essential VII, clinical prevention and population health for improving the nation's health, outlines the DNP graduate's role as a leader in the implementation of clinical prevention and population health activities (AACN, 2006). The DNP QI project allowed me to identify a clinical practice problem that could be targeted with a prevention-themed process intervention to improve the health of individuals with EDs. In the literature review, it was discovered that early identification and treatment of EDs often resulted in the most positive patient outcomes. This could be accomplished by screening patients for EDs with a screening device. I created and then implemented a population-health-themed process improvement into practice with the aim to prevent severe illness in patients with EDs. I gained an understanding of the importance of preventative health through these experiences and will incorporate this into my future APRN role by adding interventions to practice, such as a variety of different screening devices to screen all patients receiving mental health care for a variety of additional mental health conditions.

DNP Essential VIII, advanced nursing practice, outlines the DNP graduate's role in treating diverse patients using advanced practice nursing techniques including assessment, diagnosis, treatment planning, and evaluation of care (AACN, 2006). In the DNP program, I completed mastery of this essential largely through clinical hours completed in inpatient and

outpatient psychiatric settings treating adult and child patients with diverse mental health conditions. I was able to practice completing diagnostic psychiatric evaluations, planning and managing treatment plans for patients, giving psychotherapy, ordering labs and medications, and evaluating patients' responses to these interventions. Other courses that contributed to my mastery of this essential included pathophysiology, pharmacology, EBP, and PMHNP role and theory courses, which provided me with a knowledge basis for decision-making in the clinical setting. These courses have shaped me as an APRN and will continue to be the basis of knowledge and practice that I will use once I become an APRN.

#### QI Project-implementation Experience

The experience of implementing a DNP QI project in the clinical setting to address a practice problem has informed and impacted my future career as a DNP-educated APRN. The QI project provided me with the first opportunity to assess the need for a QI project in a setting, identify a practice problem, devise and implement an intervention for this problem, and evaluate the implementation to make changes promoting sustainability of a new workflow process. This will be the first of many in my career. The DNP-educated APRN has a responsibility to improve systems to improve the quality of patient care provided. The experience and practice of this project will help to inform future QI projects, advocacy projects, and policy promotion projects lead by me as a DNP-prepared APRN in my career. Troubles and triumphs I encountered in this project will guide me in future QI projects to make the process more efficient with the ultimate goal of improving patient outcomes.

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APPENDICES



APPENDIX A

EATING DISORDER EXAMINATION-QUESTIONNAIRE SHORT (EDE-QS)

**EATING DISORDER EXAMINATION-QUESTIONNAIRE SHORT (EDE-QS)**

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Weight: \_\_\_\_\_ Height: \_\_\_\_\_

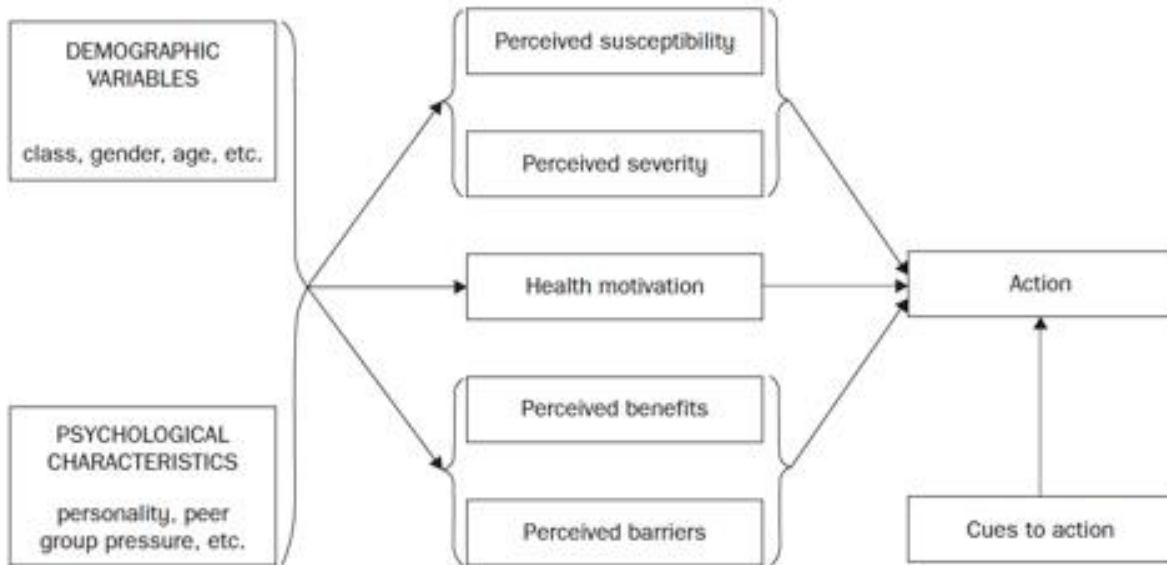
<b>ON HOW MANY OF THE PAST 7 DAYS....</b>	<b>0 days</b>	<b>1-2 days</b>	<b>3-5 days</b>	<b>6-7 days</b>
1. Have you been deliberately <u>trying</u> to limit the amount of food you eat to influence your weight or shape (whether or not you have succeeded)?	0	1	2	3
2. Have you gone for long periods of time (e.g., 8 or more waking hours) without eating anything at all in order to influence your weight or shape?	0	1	2	3
3. Has thinking about <u>food, eating or calories</u> made it very difficult to concentrate on things you are interested in (such as working, following a conversation or reading)?	0	1	2	3
4. Has thinking about your <u>weight or shape</u> made it very difficult to concentrate on things you are interested in (such as working, following a conversation or reading)?	0	1	2	3
5. Have you had a definite fear that you might gain weight?	0	1	2	3
6. Have you had a strong desire to lose weight?	0	1	2	3
7. Have you tried to control your weight or shape by making yourself sick (vomit) or taking laxatives?	0	1	2	3
8. Have you exercised in a driven or compulsive way as a means of controlling your weight, shape or body fat, or to burn off calories?	0	1	2	3
9. Have you had a sense of having lost control over your eating (at the time that you were eating)?	0	1	2	3
10. On how many of these days ( <i>i.e. days on which you had a sense of having lost control over your eating</i> ) did you eat what other people would regard as an <u>unusually large amount of food in one go</u> ?	0	1	2	3
<b>OVER THE PAST 7 DAYS ...</b>	<b>Not at all</b>	<b>Slightly</b>	<b>Moderately</b>	<b>Markedly</b>
11. Has your weight or shape influenced how you think about (judge) yourself as a person?	0	1	2	3
12. How dissatisfied have you been with your weight	0	1	2	3

or shape?

**Derived from the EDE-Q, © Fairburn and Beglin, 2008**

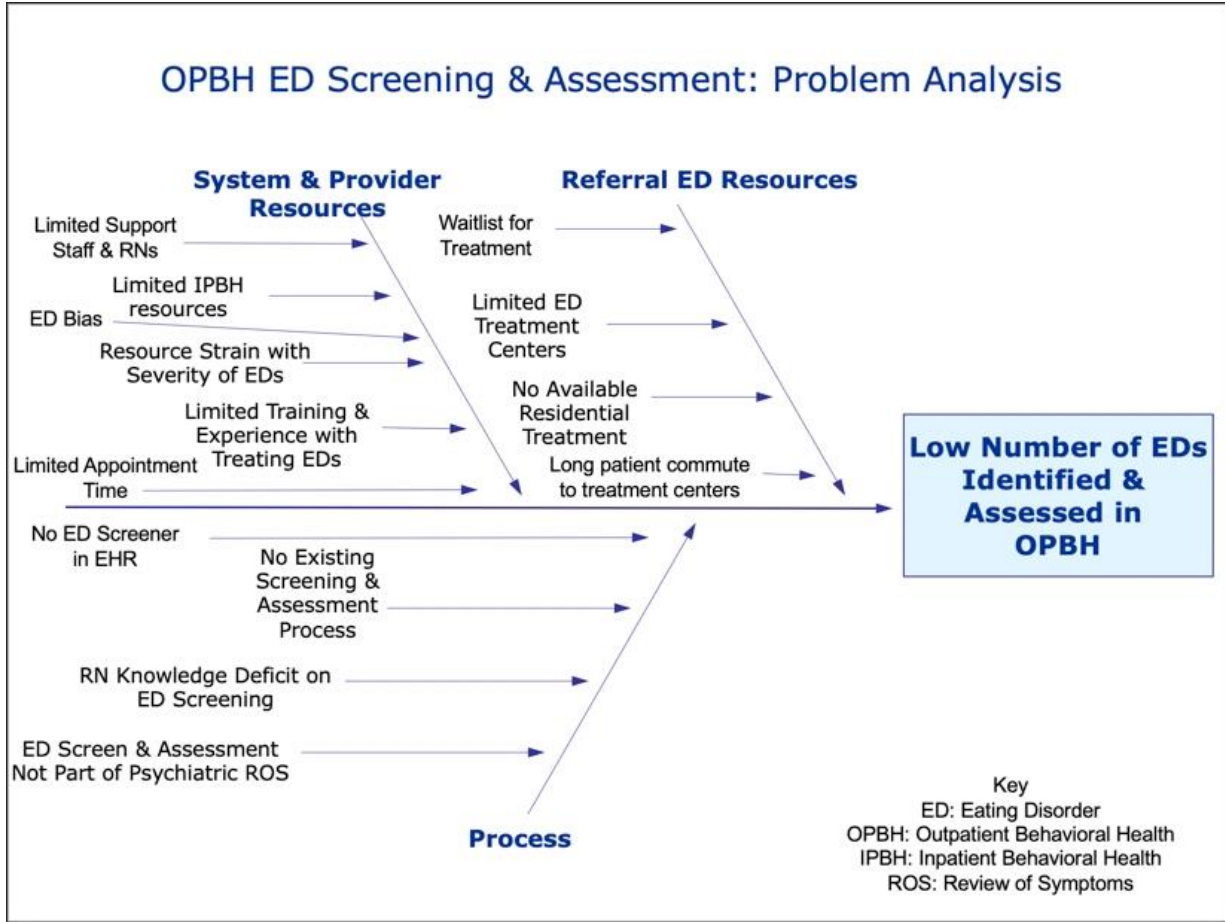
APPENDIX B

THE HEALTH BELIEF MODEL



APPENDIX C

FISHBONE DIAGRAM



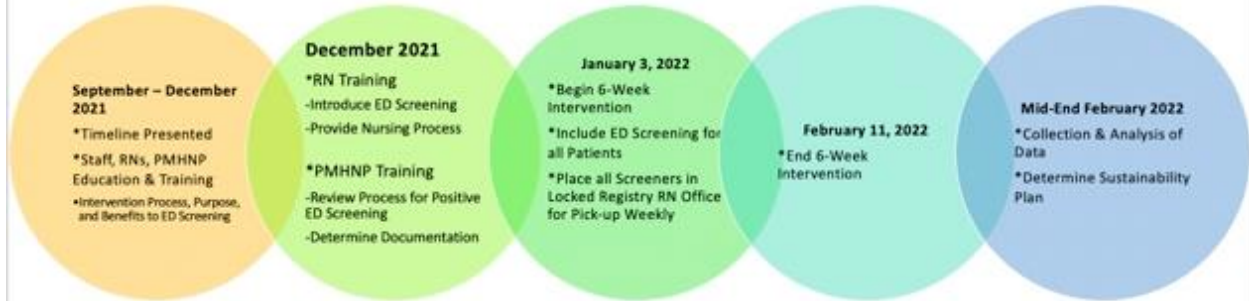
APPENDIX D

DNP PROJECT TIMELINE



The Implementation of Eating Disorder Screening & Assessment in the [Redacted] Clinic: A Quality Improvement Initiative

## Project Timeline



Created By: Alexandra Potts, BSN, RN, DNP-PMHNP-Student

Key:  
ED = Eating Disorder  
OPBH= Outpatient Behavioral Health

APPENDIX E

STAKEHOLDER EDUCATIONAL HANDOUT

## Eating Disorder Lifetime Prevalence Rate: ¶

Women: 8.4% ¶

Men: 2.2% ¶

In other words, approximately 8/100 women and 2/100 men have an eating disorder ¶

Source: (2) ¶

## Eating Disorder (ED) Information: ¶

- → EDs include: Anorexia Nervosa, Bulimia Nervosa, Binge Eating Disorder, Avoidant Restrictive Food Intake Disorder, Other Specified Feeding or Eating Disorder (1) Pica, & Rumination Disorder ¶
- → Anorexia Nervosa has highest mortality rate of any psychiatric illness (4) ¶
- → EDs are highly co-morbid with other psychiatric conditions, notably anxiety disorders but also mood, impulse, and substance abuse disorders (4) ¶
- → Causes believed to be genetic, biological, sociocultural, and psychological and affect diverse populations (6) ¶

## References: ¶

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## Implementation of Screening Process for Eating Disorders in Outpatient Psychiatry ¶

A Quality Improvement Initiative ¶

Alexandra Potts, R.N., B.S.N., D.N.P., P.M.H.N.P., Student ¶

Montana State University College of Nursing,  
Bozeman, Montana, U.S.A. ¶

### Importance of Screening for Eating Disorders (EDs)

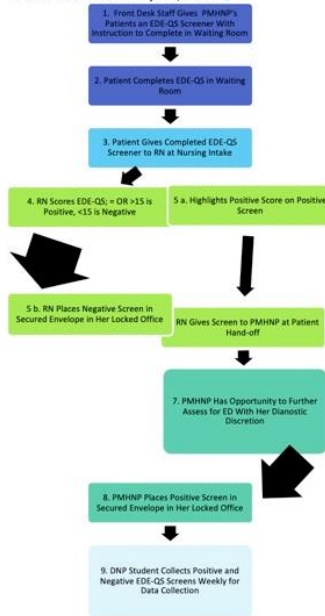
- The American Psychiatric Association recommends assessing for EDs with all patients (1)
- Patients may not self-disclose EDs due to risk of bias and stigmatization (5)
- EDs result in devastating physiological and psychological health outcomes which worsen without treatment (6)
- Early detection & treatment results in more positive patient health outcomes (6)

### EDE-QS Screener

- Printed screener that patients can complete independently in less than 10 minutes (3)
- Screener found to be significantly accurate and precise (3)
- Either comparable or higher validity than other ED screeners (3)
- Low cost & copyrighted for use in non-commercial settings (3)
- Provides more clinical information than other ED screeners (3)
- Score of 15 or greater is positive

### Implementation Process:

Start Date: January 3, 2022  
 Finish Date: February 11, 2022



### Questions or Issues?

Please Reach Out!

Call/Text: [Redacted]

Email: [Redacted]

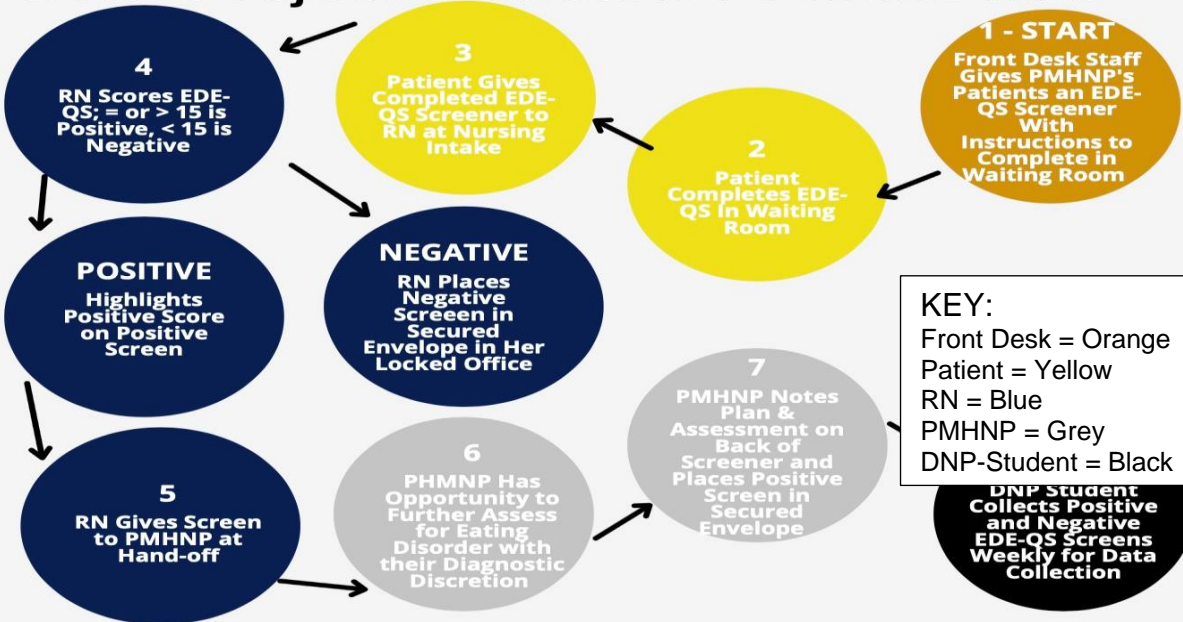
### Stakeholder Roles:

- Front Desk Staff: [Redacted]
- Nursing: [Redacted]
- PMHNP: [Redacted]
- DNP Student: [Redacted]

APPENDIX F

CLINICAL WORKFLOW PROCESS MAP

# DNP Project Workflow Process MAP



APPENDIX G

DATA ANALYSIS SPREADSHEETS

## Qualitative & Quantitative Excel Data Analysis Spreadsheets

	A	B	C	D	E	F	G	H
1	Weeks	1	2	3	4	5	6	TOTAL
2	Number of patients seen by PMHNP							0
3	Number of EDE-QS Screeners Completed							0
4	Number of EDE-QS Screeners Completed / Number of patients seen by PMHNP	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
5	Number of Positive EDE-QS Screens							0
6	Number of Negative EDE-QS Screens							0
7	Number of Positive EDE-QS Screens Given By Nursing to PMHNP							0
8	Number of Positive EDE-QS Screens Given By Nursing to PMHNP / Number of Positive EDE-QS Screens	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
9	Number of Charted ED Assessments Completed by the PMHNP on Patients with Positive EDE-QS Screeners							0
10	Number of Charted ED Assessments Completed by the PMHNP on Patients with Positive EDE-QS Screeners / Number of Positive EDE-QS Screens Given By Nursing t	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

	A	B	C	D	E	F	G
1	Week	1	2	3	4	5	6
2	General Observations & Feedback by DNP Student & Stakeholders						
3	Process Issues Identified by DNP Student & Stakeholders						
4	Solutions to Process Issues Identified by Stakeholders & DNP Student						