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Improving Emergency Department Nurses' Self-Perceived Self-Efficacy in Early Recognition of

Patients in a Mental Health Crisis

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Table of Contents

Abstract.....	4
Problem Description.....	6
Available Knowledge.....	12
Rationale.....	19
Specific Aim.....	21
Methods.....	22
Context.....	23
Intervention.....	27
Study of the Intervention.....	31
Measures.....	33
Analysis.....	36
Ethical Considerations.....	36
Results.....	37
Discussion.....	48
Summary.....	48
Interpretation.....	49
Limitations.....	49
Conclusions.....	51
Project Funding.....	52
Future Direction.....	53
References.....	54
Appendices.....	64

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My love in caring for the mental health community throughout my nursing career has brought me to this day in which I am proud to have been able to contribute in providing nurses with an increase in knowledge and awareness to improve the care, the understanding and the compassion while decreasing the stigma of those children and youth who are experiencing a mental health crisis.

Abstract

The two largest counties within Southwest Florida (SWFL) are Lee and Collier where mental health evaluations for children under the state's Baker Act have more than doubled between 2011 and 2017 (Gluck & Zeitlin, 2019, p. 4). Given the marked increase in mental health evaluations, early recognition, assessment with initiation of treatment by nurses in the pediatric emergency department (ED) who present with behavioral health complaints must be a priority for emergency department leaders. **Purpose:** This quality improvement (QI) project proposed to improve a nurses' self-efficacy through expanding knowledge in the recognition and identification of the signs and symptoms of patients in a mental health crisis. **Method:** All eligible ED nurses completed the Mental Health First Aid Youth (MHFAY) course and the MHFAY pre and post quiz as part of the mandatory department education. A pre and post self-efficacy questionnaire was completed by the nurses participating in the project post-intervention. Participants were asked to complete a qualitative debriefing questionnaire to gather data regarding the nurses' feelings and emotions about their self-efficacy in caring for a patient in a mental health crisis. The information was collected using open-ended questions. **Data Analysis:** Quantitative and qualitative descriptive analysis was performed. Descriptive, simple statistics, including Mean (*M*), Standard Deviation (*SD*), were used to assess how the overall participants performed on the pre and post intervention and self-efficacy questionnaires. Qualitative data was absent due to the lack of response to this portion of the project by any of the participants during the timeframe given for this portion of the project.

Project Relevance: There is a lack of mental health literacy and self-efficacy of nurses to recognize and identify the signs and symptoms to adequately provide early care, treatment and necessary medications to stabilize a patient during a mental health crisis. An evaluation of the educational program was used to determine the effectiveness in the expansion of the nurses' mental health literacy.

Keywords: mental health, pediatrics, emergency department, self-efficacy, nurse, psychiatric crisis

Improving Emergency Department Nurses' Self-Perceived Self-Efficacy in Early Recognition of
Patients in a Mental Health Crisis

Problem Description

Emergency Department (ED) utilization for mental health care and medical needs of children and adolescents continues to grow throughout the United States. National estimates indicate that 20% of children in the United States suffer from a debilitating mental disorder at some point during childhood (Williams, Levine, Ledgerwood, Amirsadri, & Lundahl, 2018, p. 317). Repeated ED visits for mental health concerns is an indicator that psychiatric care and treatment in pediatric patients related to acute and chronic symptoms are not addressed adequately. Between 2011 and 2015, there was a 28% overall increase (from 31.3 to 40.2) in psychiatric ED visits per 1000 youth in the United States (Kalb et al., 2019, p. 11). Visits to the ED for psychiatric complaints have been steadily increasing and are reported to be the fastest growing segment of ED visits across the United States (Rogers, Mulvey, Divietro, & Sturm, 2017, p. 488). According to the Center for Disease Control (CDC), the percentage of youths ages 8 to 15 with a diagnosable mental disorder is 13.1%, diagnoses include Attention-deficit and hyperactivity disorder (ADHD) 8.6%, and 3.2% major depressive disorders. The prevalence of mental health illnesses in youths is also estimated to be approximately 20% during a given year (Mental Health First Aid Youth, 2016, p. 5). Estimates nationally suggest that youths with mental health issues accounted for 2% to 5% of pediatric ED, visits, ranging from 200,000 to 825,000 visits per year (Holder et al., 2017, p. 311).

The increased incidence of psychiatric disorders has been described as a mental health crisis that is contributing to the worldwide burden of disease (World Health Organization (WHO), 2018). Suicide is ranked as the number one cause of death for children ages 13-18 years

making psychiatric awareness and early identification of symptoms a prime concern. In data reported by the National Council for Behavioral Health in 2014, more than 20% of children and adolescents either currently or at some point during their lives, will have a serious debilitating mental disorder such as depression, anxiety, or substance abuse (Mental Health First Aid Youth, 2016, p. ix).

Compounding this rise in ED visits, is limited mental health literacy among nurses specifically related to the recognition and identification of the signs and symptoms necessary to provide timely care and treatment in the acute phases (Burns, Crawford, Hallett, Hunt, Chih, & Tilley, 2017, p. 2).

WHO defines Mental Health “as a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community” (World Health Organization (WHO), 2018). While this and other definitions of mental health can be easily found, the focus is primarily on adults, whereas in children and adolescents, definitions are challenging to find. The Mental Health First Aid Youth (MHFAY) (2016) course and the American Psychiatric Association (2019) both define psychiatric conditions as a diagnosable illness that affects a person’s thinking, emotional state, and behavior as well as disrupts the person’s ability to work or carry out other daily activities and engage in satisfying personal relationships (p. 4).

Mental health literacy is defined as having the knowledge and belief in the ability to recognize and identify a MH issue to provide an early intervention (Burns et al., 2017, p. 2). Jorm (2015) defined mental health literacy as multifaceted of components that include the nurses’ or any member of the public’s basic ability in knowing how to prevent acute illness,

being able to recognize the symptoms, knowing self-help alternatives, and other treatment options. “Many members of the public cannot correctly recognize mental health illnesses or do not understand the meaning of psychiatric terms” (Jorm, 2015, p. 1166). The concept of mental health literacy includes knowledge of available professional resources, and consideration of attitudes that may promote help seeking behaviors (Ranahan, 2010, p. 15; Jorm, 2015). Ranahan (2010) suggested that there is a need in which child and youth healthcare professionals theorizes mental health literacy and to what extent the understanding can be incorporated into the care and treatment of youth (p. 19). Recommendations to improve mental health literacy among healthcare providers includes the use of multiple educational components such as interactive clinical scenarios and learning exercises as the primary source for assessing knowledge in mental health literacy. The Mental First Aid Youth (MHFAY) program presents a reliable format designed to increase mental health literacy (Jorm, 2015, p. 3).

Mental health literacy requires the knowledge of a range of signs and symptoms to identify and develop an appropriate treatment plan. The debilitating factors regarding the characteristics and symptoms of mental illness, if untreated, can affect activities and productivity of daily living. Although, mental illnesses and disorders can begin in early childhood, mental disorders often manifest in adolescence or early adulthood (MHFAY, 2016, p. 6). About half of mental disorders begin before the age of 14 years; similar disorders have been reported across cultures (WHO, 2019). The signs and symptoms will vary depending on the type of mental illness the child or adolescent is presenting and may range from feelings of sadness, loss of enjoyment or interest in activities, lack of energy, fatigue, irritability, panic, hallucinations and delusions. Mental health disorders in children can manifest as out of control or oppositional behaviors. While mental illness symptoms can appear at any age, onset is more likely during

puberty (Burke, Koot, De Wilde, & Begeer, 2016, p. 3092). Mental illness symptoms may also present in the guise of medical issues such as headaches, abdominal pain, chest pain, and weight loss and/or gain. Untreated mental health symptoms, over time, can exacerbate the level of severity of the mental illness symptoms and may contribute to co-occurring mental disorders. Untreated mental health symptoms can compromise the child's capacity for learning and socializing; relationships that involve feelings and emotions may be difficult to initiate and maintain, are associated with diminished functioning into adulthood (Mental Health First Aid Youth, 2016, p. ix). Delayed or lack of treatment can increase the risk for illicit substance usage, suicidal ideation, and attempted suicides. Approximately 16% of teenagers reported having seriously considered suicide in 2015, 12.8% reported having planned a suicide attempt, and 7.8% reported having attempted suicide in 2015 (Chun et al., 2016, p. 5). In addition, acute stress symptoms experienced by children and adolescents can cause life-long behavioral and mental health problems attributable to changes in neurodevelopment and function (Dolan & Fein, 2011, p. 1361).

Given the enormity of the risks associated with untreated psychiatric disorders, early recognition, assessment and treatment by nurses in the pediatric emergency department (ED) must be a priority for emergency department leaders.

The Bureau of Labor Statistics (2019), projected a 15% growth in the nursing profession from between 2016 and 2026; nursing is considered the fastest growing profession, compared to all other occupations. Despite current growth in the profession, there remains a significant and growing shortage of highly experienced nurses as many are approaching retirement age. Consequently, hiring new to practice nurses has become the norm across specialized areas of practice. Due to the national nursing shortage of highly experienced nurses, ED leaders across

the country are exploring innovative ways to prepare less experienced nurses to provide safe, high quality nursing care. In the subspecialty of pediatric emergency nursing new to practice nurses may be less knowledgeable and less confident in their ability to discern between a medical versus a mental health issue. Limited knowledge and experience can contribute to delays in establishing an immediate safe environment in the prevention of self-harm and the initiation of treatment for the acute crisis (Rutledge, et al., 2012).

Self-efficacy is essential to the ED nurse's capacity to deliver confident, competent and efficient care. Self-efficacy is the extent or strength of one's belief in one's own ability to complete tasks and reach goals (Bhandari, Pareek, Vashisht, & Kalia, 2016, p. 56). Self-efficacy has been shown to be a predictor of individual behavior in adverse situations, including learning how to implement new clinical nursing skills (Oetker-Black, Kreye, Underwood, Price, & DeMetro, 2014). Self-efficacy influences formulation of an action plan because structured perceptions are a major component in the motivation process. Self-efficacy has been associated with enhanced nursing care through modeling influences (Bandura, 1994). As Bandura (1994) explained, self-efficacy beliefs contribute to motivation in several ways: They determine the goals people set for themselves; how much effort they expend; how long they persevere in the face of difficulties; and their resilience to failures (p. 5).

Self-efficacy research performed with nursing students demonstrated significant improvements correlated with high performance and setting higher clinical goals in various practice domains (Bhandari, et al., 2016). Cheraghi, et al. (2009) described benefits to nursing focused on self-efficacy theory; a belief in higher clinical competence, ability to perform higher complex tasks, influences knowledge acquisition and skills development used in all types of nursing practice domains.

The theory of *Self-Efficacy* was a concept developed by Albert Bandura while at Stanford University. Bandura (1994) described his theory of perceived self-efficacy as a person's beliefs about capability to produce designated levels of performance to exercise influence over events that affect their lives. Bandura further identified that a strong sense of self-efficacy is associated with enhanced human accomplishment and personal well-being across many domains (Bandura, 1994). Self-efficacy is developed by the enhancement of knowledge. There are four main processes of influence that develops levels of self-efficacy including; Cognitive, motivational, affective and selection.

In cognitive processes, much human behavior, being purposive, is regulated by forethought embodying valued goals (Bandura, 1994). It is the personal goal setting that sets the level of self-efficacy and it is influenced by self-evaluation of personal abilities. The stronger the perceived self-efficacy, the higher the goal challenges people set for themselves and the firmer is their commitment to them (Bandura, 1994).

Motivational processes are created through cognitive processes. Meaning, a person's self-belief of their level of efficacy forms their belief on what he or she can accomplish. Cognitive beliefs provide the motivation of a person to set varying levels of goal setting based on what they can accomplish. Those who have a strong belief in their capabilities exert greater effort when they fail to master the challenge; strong perseverance contributes to performance accomplishments (Bandura, 1994).

Affective states can be positive or negative that when experienced can affect ones coping skills and levels of motivation. People who believe they can exercise control over threats do not conjure up disturbing thought patterns (Bandura, 1994). Conversely, those who believe they are unable to manage threats produce high levels of anxiety. Anxiety arousal is affected by

perceived coping self-efficacy and by perceived self-efficacy to control self-defeating thoughts (Bandura, 1994). The art of managing disturbing thoughts from people with high levels of self-efficacy is a skill in regulating thought and helps to shape levels of stress and anxiety.

Recognition of mental health problems precedes and differs from diagnosis; it involves healthcare professional's *initial* evaluation of and concern about symptoms presented by a youth (Burke et al., 2016, p. 3083). The specific aim of this project was to increase the nurses' self-efficacy related to the recognition of the signs and symptoms of a patient in a mental health crisis by expanding the nurses' knowledge base. This was accomplished by nurses attending an established educational intervention in mental health youth with a program evaluation for effectiveness to provide earlier evaluation and care.

The project leader has addressed knowledge gaps and limited self-efficacy to improve the care of children and adolescents in the ED who present with symptoms of with a mental illness. Given the current environment within the setting of this project, it is the responsibility of the nursing leader (project leader) to investigate gaps in ED nurse's knowledge, experience, and self-efficacy related to mental health care, and to develop a quality improvement intervention to target identified gaps. Enhanced knowledge, skill and self-efficacy will contribute to improved mental health care and treatment outcomes.

Available Knowledge

For this project, when referencing the targeted age group, *youth* includes children and adolescents. The *Youth Mental Health First Aid USA* references youth and young adults or young people, which includes adolescents (National Council for Behavioral Health, 2019). The population of adolescence includes youth between the ages of 12 to 18. The MHFAY course recognizes that children develop at different rates, adolescence can start earlier than 12 years of

age and can continue through to the mid-20s; this age group is most inclined to present in a mental health crisis (National Council for Behavioral Health, 2019). All ages of children and youth were included in this quality improvement project with nurses using a debriefing tool to evaluate their sense of efficacy with patients, regardless of age.

Many mental illnesses become apparent for the first-time during adolescence. Adolescence is a time of monumental changes in emotional, physical, in cognitive growth and development. Emotional vulnerability is heightened because of the rapid changes in development and immaturity as well as an array of environmental and social factors. Development of childhood mental illnesses differ than those in adults due to the age of onset; one-half of all chronic illness begins by age of 14 and three-quarters by age of 24 (MHFAY, 2016, p. 18).

Adolescents may be at an increased risk for experiencing symptoms of mental illness related to hormonal changes. Peer group orientation can lead to high risk behaviors such as experimenting with substance use. Adolescence is also a time when many will explore sexual orientation, gender identity and concerns about appearance (MHFAY, 2016, p. 19). Family or caregiver circumstances such as extreme poverty, homelessness and parental illness can further accentuate a child's risk for experiencing mental illness (MHFAY, 2016, p. 19). Symptoms of some psychiatric diagnosis can be vastly different in children than in adults and may present during a variety of times throughout a youth's growth and development. For example, symptoms of depression in adults may present as insomnia, isolation, decreased socialization, sadness while adolescents may exhibit severe lethargy despite adequate sleep which may occur at odd hours. Adolescents may express their feelings and emotions through irritability and anger (Mental Health, 2019). Many youth patients may arrive to the ED with somatic symptoms and some

chronic medical illnesses, such as asthma and diabetes, can be exacerbated by stress and anxiety (Dolan & Fein, 2011, p. 1361). Clinicians may be challenged to differentiate presenting symptoms of a mental health crisis from behaviors associated with normal growth and development.

Limited access to care is a substantial obstacle that delays youths for obtaining early diagnosis and treatment; they also may not know they have a mental health problem; youth may feel they will be stigmatized by their peers or family, or they or their family may not know how and where to seek psychiatric or behavioral health care (Mental Health First Aid Youth, 2016, p. 6).

High rates of mental illness coupled with limited access have contributed to escalating rates of ED visits as a first point of contact for mental health care. More than one quarter of all ED visits are repeat visits; limited access and missed symptoms further contribute to this growing trend in mental health service. Improving access will contribute to better mental health outcomes and reduce repeat visits (Gill et al., 2017, p. 475). Therefore, nursing knowledge to identify mental illness symptoms on arrival and combining some level of trust that is established in the nurse patient relationship is essential in initiating care. Nurses who have the knowledge in outpatient services and self-help community resources is essential in assisting the patient and family to cope with the mental illness.

Within Southwest Florida, there are over 46,000 children with a mental health disorder and Florida is ranked 32-overall (the bottom half) among all the United States in mental health funding and resources (Zeitlin & Gluck, 2019). In the state of Florida, an involuntary mental health evaluation for those in crisis, falls under the Florida Mental Health Act of 1971 commonly known as the “Baker Act”. The details of this State Act consist of an involuntary commitment to

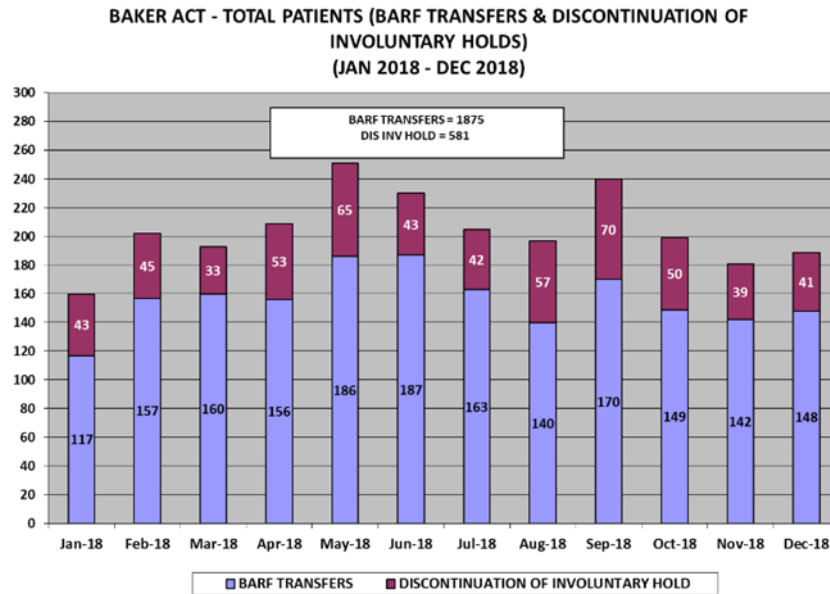
an inpatient psychiatric setting for up to 72 hours to complete a psychiatric evaluation. The involuntary act can be initiated by judges, law enforcement, physicians or psychiatric professionals. Involuntary commitments for children and adolescents do not require parental consent. In the state of Florida there are a very limited amount of Baker Act receiving facilities, especially those who accept children and adolescents. Psychiatric evaluations for children under the Baker Act have more than doubled between 2011 and 2017 (Gluck & Zeitlin, 2019, p. 4). The rise in psychiatric evaluations in children in the SWFL region has great impact on local health care facilities. Lee Health System serves five surrounding counties, with Lee and Collier as the two largest counties. Population growth in these SWFL areas has further strained the already limited mental health resources and access to timely care. The need for pediatric resources has escalated in relation to the extreme growth in population in Lee County, which grew over 17% during these years. There are long-waiting lists for services, which can exceed six months for intensive services; families and children of SWFL must travel hours throughout the state for age appropriate in-patient psychiatric treatment because local crisis units are at capacity. Ghandour and colleagues (2019) analyzed data from the 2016 National Survey of Children's Health (NSCH) to identify national prevalence estimates among children aged 3 to 17 years, 7.1% had current anxiety problems, 7.4% had a current behavioral/conduct problem, and 3.2% had current depression. The NSCH also reported an increase within each mental health disorder increasing the overall prevalence.

Locally within the SWFL community, this pediatric hospital is the only regional hospital for children within 150 miles north to Tampa or southeast to Miami. The Golisano Children's Hospital is one of five hospitals in the Lee Health system. In addition to a free-standing ED, this publicly funded, health system cares for over 46,000 children in need of mental health attention

in SWFL. The farthest north coverage is Hendry county which is approximately 30 miles from the Golisano Children's Hospital while the farthest south is Collier county at just over 35 miles. Local data related to pediatric mental illness reveals increases in cases year over year with no improvement or expansion of psychiatric services to meet this growth resulting in a local healthcare crisis. Between 2005 and 2015, more than 31,000 children arrived in the ED within Lee and surrounding counties with a diagnosable mental illness (Gluck & Zeitlin, 2019, p. 11). During this time, the number of youths who reported suicidal thoughts or had committed serious self-harm rose to 50% between 2005 and 2015; that translates to about 300 youths with suicidal ideation seen annually. The SWFL mental illness data reveals that on average 1-in-10 pediatric patients arrived with a mental health complaint or in crisis requiring an involuntary admission for safety and treatment to a Lee Health ED. The growth in youth presenting to the ED for psychiatric services includes the following top three diagnosis; anxiety, major depressive disorder, and autistic disorder, with 70% of these patients ranging in ages between 12 to 17 years.

In May of 2017, the Lee Health System opened a new 134 bed children's hospital with the first regional pediatric specific ED. To date, the overall ED volume has had a growth of over 7% in 2018 and 2019. In year ending 2018, the pediatric ED volume was 38,000 patient visits. This growth in overall ED volume has also brought with it a 5% growth in pediatric mental health visits of approximately 1,875 children and adolescents to the ED (*Figure 1*). Pediatric patients may present to any of the six Lee Health system-wide ED's, however those patients are then transferred to the Golisano pediatric ED.

Figure 1. Pediatric patients transferred to a Baker Act Receiving Facility (BARF) and Discontinuation of Involuntary Holds 2018



With the development of the children’s hospital and its first pediatric ED a workforce strategy for staffing was developed for this 24 bed ED by May of 2017. Golisano Children’s Hospital Emergency Department is staffed with 38 Registered Nurses with varying years of clinical experience. Refer to Table 1 which shows the nurses at various years of experiences as a registered nurse, various levels of education, and with national certification in emergency nursing.

Table 1

Demographic Data Descriptive Statistics: Nurse's years of experience, education, certification

Total RNs = 38	<1 year	1 to 3 years	3 to 5 years	5 to 10 years	10 to 15 years	>15 years
Years of Experience	4 (10%)	13 (34%)	4 (11%)	5 (13%)	6 (16%)	6 (16%)
Educational Level	ADN – 4 BSN – 0 MSN - 0	ADN – 4 BSN – 9 MSN - 0	ADN – 3 BSN – 1 MSN - 0	ADN – 2 BSN – 3 MSN - 0	ADN – 4 BSN – 2 MSN - 0	ADN – 1 BSN – 5 MSN - 0
National Certification	0	1	4	4	6	6

Note. Associates Degree Nursing (ADN), Bachelor's Degree Nursing (BSN), Master of Science Nursing (MSN), National Certification in Emergency Nursing

The need for ED nursing leaders to staff departments with new to practice nurses is believed to be a growing trend in the acute care setting (Fiedler, Breitenstein, & Delaney, 2012). Therefore, leaders need to develop creative ways for recruitment and retention efforts of the new to practice nurses. All new to practice nurses hired within the Lee Health system must attend a nursing residency program that focuses on clinical learning, evidence-based practices, and in supporting the nurse through the first year. This year-long learning and support encourages the growth of the nurses' self-efficacy and increases the nurses' confidence in the critical first year phase of clinical practice. Attention is given to expanding nursing knowledge, competence and self-efficacy through continuous educational opportunities in caring for the psychiatric pediatric patient. When there is an absence of essential knowledge regarding the symptoms of a mental health crisis it becomes increasingly challenging for nurses to anticipate care needs such as appropriate consultation and referrals.

For this project, the project leader defines nursing self-efficacy as their belief in the ability to perform a specific set of assessments and skills regarding a nursing function in the care of psychiatric patients. A nurse's confidence, strength, and self-efficacy (belief) that she or he

can perform a specific set of assessments and skill contributes to a positive patient outcome. Recognition of mental health problems is critical; for referral and diagnostic evaluation, and is largely dependent on the healthcare professional's judgment of symptoms present by the child (Burke, Koot, De Wilde, & Begeer, 2016, p. 3083). Early identification of at-risk youth who present in a mental health crisis, ensures patient and staff safety and assures patient and family confidentiality. Provisions for protecting confidentiality is very important in this patient population for maintaining Health Insurance Portability and Accountability Act (HIPPA) compliance. Youths may become embarrassed and humiliated by their feelings, emotions, and actions. They may struggle to understand what is happening to them, why they may be having confusing thoughts, why they are unable to control their thoughts, feelings and actions, therefore privacy of patient and family is imperative.

Rationale

Patients who arrive with a psychiatric emergency require a rapid, thoughtful response by the ED nurse to assess the degree of anxiety or level of mood changes for the safety of the patient and staff. Pediatric populations are not spared of psychiatric problems, in fact, within the United States, 21% to 23% of children and adolescents have a diagnosable psychiatric or substance use disorder (Chun, Mace, & Katz, 2016, p. 1). Timely initiation of medical stabilization, and the use of medications or interventions to alleviate the symptoms provides the patient and family the care, treatment, and comfort needed for this very confusing and sensitive illness (Dolan & Fein, 2011, p. 1359). The problem of mental health resources and access is compounded by the increase in psychiatric disorders among children and adolescence both nationally and locally within SWFL. The ED has become the primary point of contact to accommodate the increased incidence of children and adolescents with mental healthcare needs.

One reason for this is related to the lack of outpatient resources and access. One in five youths have a psychiatric condition, yet less than 20% of affected youths receive adequate services (Gill et al., 2017, p. 475). Specific to the project site, there are no available psychiatric mental health providers available for children and adolescents who present to the ED in acute crisis.

Therefore, pediatric providers and nurses evaluate, treat, and care for youths who present with acute psychiatric illness. Combined with common ED challenges such as patient flow and capacity, the use of EDs for mental healthcare raises concerns among nurses, physicians, and department leaders regarding ED staff members' ability to reliably screen, evaluate, stabilize and refer youths with acute psychiatric illness. Some of those challenges may be the result of seasonal influx of higher patient census which produce long wait times, inadequate pediatric psychiatric services and expertise, and nurses with limited knowledge and skill to recognize an acute mental health crisis. Knowledge of recent trends in ED resource utilization can be useful to guide allocation of investments in nursing education, mental health staffing, and infrastructure dedicated to mental health patients (Hoffman, Stack, Samnaliev, Monuteaux, & Lee, 2019, p. 386). To ensure that nurses are prepared to care for children and adolescents in a mental health crisis, Department and Institutional leaderships must allocate resources to ensure safe environments for patients; such resources would include regular education and training for staff, commitment to evidence-based clinical care pathways, and protocols that assist nurses with the immediate initiation of treatment once mental health symptoms are recognized.

The conceptual framework that was used for this quality improvement project was the Plan-Do-Study-Act (PDSA) model for improvement. The PDSA model for improvement is used widely throughout the health system and organization of the project site and assisted the project leader in achieving project goals. The PDSA quality improvement model was first introduced in

the United States by Edwards Deming, an engineer and statistician who believed the way to improving quality through making healthcare safer, more efficient, patient-centered, effective and equitable (Donnelly & Kirk, 2015 p. 281). Refer to Table 2 for a summary of the PDSA cycle and associated actions. The steps *Study* and *Act* may be repeated as often as needed until desired results and goals have been achieved.

Table 2

PDSA Step Definition and Action

Step	Definition	Action
Plan	Step where work group identifies the opportunity for improvement.	Planning of the change agent with desired goals are completed in this step.
Do	Testing of the change agent through action.	Implementation of the change agent is done as a pilot to test the change.
Study	Analyzing of results.	Work group analyzes results of pilot and revisions are made to change agent as needed.
Act	Step of learning from results analysis.	Implement revisions of change agent.

Specific Aim

The purpose of this project was to increase the ED nurses' self-perceived confidence level in his or her ability for early recognition of youths who present to the ED in an acute mental illness crisis. The intervention to achieve the purpose included the completion of the MHFAY educational program to expand the nurses' knowledge base in pediatric mental health. The scope of this project was limited to the evaluation of the outcomes of the educational program on the nurse participants. Using the PDSA model for quality improvement, an educational intervention was designed to increase nurses' knowledge, skill, and confidence to effectively respond when youths present in a mental health crisis leading to improved timing and safety for this patient population.

Method

The Golisano Children's Hospital of Southwest Florida Emergency Department is a part of the Lee Health System which is in Fort Myers, Florida and is the only regional pediatric hospital from Tampa (northwest) to Miami (southeast). The ED is a 24-bed, over 6,000 square feet department that has an annual patient volume of over 38,000 visits and cares for a seasonal average ranging from 90 to 115 patients per day. The ED is operational seven days a week, 24 hours per day, 365 days a year and is staffed with physicians, advanced providers, registered nurses (RN), ED technicians, patient care liaisons (PCL), and various ancillary supportive personnel. There is a total of 38 registered nurses that staff the ED through a variety of shift times throughout the 24-hour day, who are employed in full time, part time, or on an as-needed (PRN) basis positions.

Patients may present to the ED in a variety of ways, for example, by emergency medical services (EMS), by an ED to ED transfer from an outside facility, or via the walk-in entrance to the ED. Once the patient presents to the ED they are greeted by a nurse, no matter the mode of transportation or entrance into the facility. At this initial point of contact, the nurse must have the knowledge, self-confidence, clinical skills and expertise to make an immediate assessment to determine the level of care and safety precautions needed for the patient. The ED is separated into two areas which are defined as Lean Care Track and Acute. These names indicate locations where patients are placed for clinical evaluation based on triage criteria for presenting complaints. The pediatric ED utilizes the Emergency Severity Index (ESI) a triage tool to assign priority according to the severity of presenting complaints and symptoms (Agency for Healthcare Research and Quality (AHRQ), 2019). The ESI is divided into five levels ranging from one (most urgent), to five (least urgent). Factors considered in the prioritizing patients include acuity

and resources needed (Agency for Healthcare Research and Quality (AHRQ), 2019). Any patient who presents with complaints related to a mental health crisis meets an ESI triage level of a level two due to the immediate need for patient safety and the increased resources needed to treat this patient population. Triage level two patients require immediate rooming and initiation of nursing care. These patients are placed within the Acute side of the ED.

All patients, regardless of age, who present to the ED in a mental health crisis or complaint were included in this quality improvement project. All nurses within the pediatric ED were included in this project, regardless of position status (i.e.: full-time, part-time, PRN) or level of clinical experience. Clinical supportive personnel who do not perform patient clinical assessments were excluded from this project. This included ED technicians and patient care liaisons.

Context

Significant costs are associated with patient use of the ED for initial mental health contact. Higher ED costs for mental illness care are related to prolonged length of stay (LOS), boarding of patients needing admission, nursing patient-hours of care, and overall visit cost totals. ED LOS is prolonged when multiple attempts to locate an acceptable placement are required. Some patients waiting for inpatient psychiatric care could stay up to 12 hours in the ED. These costs emerge from inadequate mental health resources and demonstrates the burden of mental health resource utilization (Hoffman, Stack, Samnaliev, Monuteaux, & Lee, 2019, p. 386). These statistics are a national economical concern but not all the data are captured within national datasets. Concerned ED and hospital leadership need to look for creative ways to reduce the LOS of mental health patients, increase collaboration with community providers and

contain allocation of resources to improve care outcomes for children and adolescents who are in a psychiatric crisis.

The mental health resources in SWFL for youths in the acute care setting and within outpatient services are sparse. As of May 2019, there is evidence that mental health resources for youths in SWFL are associated with; months-long waiting lists for intensive services, local children being transported or referred hours from home for inpatient care, families outside urban areas driving hours just for basic counseling, and fierce battles with private insurance for coverage (Zeitlin & Gluck, 2019, p. 2). Access to youth inpatient psychiatric care is severely limited in SWFL, and as a consequence the patient may be admitted to Golisano Children's Hospital from the ED to secure safety while awaiting admission to appropriate regional facilities. Patient may be transferred to a mental health facility 130 miles north to Tampa or across the state to Fort Lauderdale which is 143 miles to the east coast.

Emergency Department leveling charges are based on the amount of treatment and care the patients receive while in the ED (Table 3). As previously mentioned, due to the lack of pediatric mental health resources and services, these patients may be admitted to an inpatient unit within the children's hospital or transferred to an inpatient psychiatric hospital from the ED. Other factors that contribute to rising ED mental health costs may include the increasing prevalence and complexity of psychiatric disorders in children, as well as limited access to mental health resources, prompting more ED referrals (Hoffman et al., 2019, p. 391). Often, Pediatric Intensive Care Unit (PICU) admissions, including associated personnel time and resources are utilized to commit the patient for evaluation. Once admitted to an acute care, medical-surgical unit, a patient may wait for three to five days for admission to a mental health facility, causing further escalation of healthcare costs. The determination of LOS data for

psychiatric patients in the acute care inpatient arena for youths who are awaiting a psychiatric inpatient bed is difficult to quantify. For instance, in 2017, public youth psychiatric inpatient hospital beds were not reported by agencies (Pinals & Fuller, 2017, p. 4). Therefore, inaccurate mental health LOS data nationally is a challenge in understanding the extent of the problem.

Table 3

Departmental/Organizational Costs

Source	Charges	Additional Days
ED	Level V.....\$1,110.00 Level IV.....\$2,125.00 Level III.....\$2,550.00 Level II.....\$3,135.00 Level I.....\$3,565.00 Critical Care 1 st 30 min.....\$3,869.00 ea. addt ^l 30 min.....\$470.00	N/A
PICU	\$3,685.00 per day	2 Days.....\$7,370.00 3 Days.....\$11,055.00 4 Days.....\$14,740.00 **approximates based on avg. LOS of 2-4 days R/T admitting diagnosis**
Sitter*	\$13.00/Avg. Hourly Salary x 12 hours per shift = 7am – 7pm = \$156.00 7pm – 7am = \$216.00 **additional \$5.00/hr/shift differential** *Sitter is a non-clinical role, assigned to monitor a patient experiencing a mental health crisis who may be at risk for harm to themselves or others.	7am- 7pm 2 Days.....\$312.00 3 Days.....\$468.00 4 Days.....\$624.00 7pm – 7am 2 Days.....\$372.00 3 Days.....\$648.00 4 Days.....\$864.00 **approximates based on avg. LOS of 2-4 days R/T admitting diagnosis**

Compounding the costs are the regulatory mandates to provide safety for patients from time of arrival to departure with one-to-one monitoring through a “sitter” program. The “sitter” program are attendants whose sole responsibility is to alert the assigned nurse when the patient does something which may compromise patient safety. Additional costs that are challenging to

quantify as it relates to an extended LOS are the costs lost due to the inability to refill the ED bed with another patient due to the long LOS of this patient population.

Investments in nursing and provider education, ED staffing, and systems changes will be necessary to adequately care for this growing patient population seeking emergency care (Hoffman et al., 2019, p. 392). This project leader recognizes the importance of expanding nurses' knowledge and confidence for the early recognition of children and adolescents' mental health needs to initiate treatment sooner. Ultimately, enhancing the nurse's knowledge and skill will contribute to earlier diagnosis, ordered treatment will decrease LOS in the ED.

Project costs were minimal with no costs to any of the nurse participants for the MHFA course or materials. Labor costs related to nurses who attended the course and were paid their regular hourly rate for the duration of the eight-hour course (Table 4). The course and materials were funded through the Lee Health System – *Kids' Minds Matter* mental health initiative, thus, anyone who registered for the course attended free of charge. Any additional costs including paper and other office supplies used to compile the project packets for nurses who participated in this project were incurred by the project leader (Table 5).

Table 4

Labor Costs

Role	Salary (Avg. per Hour)	Class Length	Preliminary Cost	Equals Overall Cost
Registered Nurse	\$35.00	X 8 hours	= \$280/RN/class x 38 RNs	\$10,640.00
MHFA Instructor	\$32.00	X 8 hours	= \$256/class x 4 classes	\$1,024.00
			Total Labor:	\$13,624.00

Table 5

Educational Materials and Supplies

Source	Cost	Equals Overall Cost
MHFA Book	\$25.00/person x 38 RN's	\$950.00
Paper, Supplies, etc.		~\$200.00
	Total Materials:	~\$1,325.00

In some instances, the return on investment within healthcare can be hard to quantify in real dollars. For example, quantifying the benefit of an enhanced patient mental health care experience related to the nurse's increased knowledge and confidence can prove challenging when considering other components that may influence costs. Caring for a child in a pediatric setting also includes care of the family members such as parents and guardians, therefore costs related to time missed from work, and child care of siblings in the home must be considered. In pediatric contexts, expanding the focus of care beyond the patient to the family inevitably means including the parents or guardians of the child in nursing interventions and as part of the care team (Montreuil et al., 2015, p. 856). The improvement in the connection to the patient and family increases patient satisfaction which results in patients returning to the ED for care.

Intervention

The *Mental Health First Aid – Youth* (MHFAY) course was chosen by the project leader as the educational intervention for nurse participants. The proposed outcomes were to increase knowledge, improve self-efficacy and increase strength of clinical confidence for nurse participants who care for children and adolescents in a mental health crisis. The project proposed that nurse participants would be able to recognize signs and symptoms and have the

confidence to initiate early care in patients who present to the ED in a mental health crisis. The *Do* phase of the PDSA conceptual framework for this project consisted of the MHFAY program and the questionnaire packets. This phase implemented the test of change (educational intervention) to improve the nurse's knowledge and self-confidence.

Mental Health First Aid (MHFA) was created in Australia in 2001 by Betty Kitchener, a nurse specializing in health education in collaboration with Tony Jorm, a respected mental health literacy professor in developing the program (National Council for Behavioral Health, 2019). The vision of the National Council for Behavioral Health is that MHFA becomes as common as Cardiopulmonary resuscitation (CPR) and First Aid training courses. Another goal of the creator's is that courses are held within all communities in the United States and internationally.

Reducing the stigma associated with seeking mental health care among children and adolescents is another goal behind the vision of MHFA. Stigma is defined as a deeply discrediting attribute associated with a given condition, directed towards those of considered lower social standing (Kaushik, Kostaki, & Kyriakopoulos, 2016, p. 470). It consists of three key components: Stereotypes, prejudice and discrimination (Kaushik, Kostaki, & Kyriakopoulos, 2016, p. 470). Stereotypes are learned, negative attitudes in society; prejudice are endorsed stereotypes, meaning they are accompanied by negative emotional reactions, this inevitably leads to avoidance and social distancing, resulting in discrimination (Kaushik, Kostaki, & Kyriakopoulos, 2016, p. 470). Stigma can be a substantial barrier to early recognition and initiation of treatment for youths experiencing mental health problems. Stigma occurs when family, friends, teachers, and healthcare professionals do not understand or have the knowledge to recognize that psychiatric symptoms may be associated with serious problems – that may end in a suicide.

Mental Health First Aid is an evidenced-based, 8-hour training program that teaches the nurse how to recognize the signs and symptoms of an emerging mental health problem or a mental health crisis (National Council for Behavioral Health, 2019). The aim of this course is to educate widely distributed community-based participants to recognize and responds to mental health problems and crises. MHFA training is designed for the public and, like conventional physical first aid training, it does not teach advanced clinical skills (Kitchener & Jorm, 2016, p. 313). Developed as a face-to-face training for bystanders, MHFA uses role playing and simulations to demonstrate how to assess a mental health crisis, provide initial help, and connect people to professional and peer sources for social support and self-help resources in the community (Baker, Dower, Winter, Rutherford, & Betts, 2019, p. 2). However, course instructors can teach the information in a way that is relatable to the class whether the audience consists of non-clinical community residents, nurses, social workers, physicians, or anyone interested in learning (Burns et al., 2017, p. 2).

The MHFAY course was chosen as an adjunct to education and training for nurses to enhance their knowledge of mental health literacy (MHL) and increase the nurse's self-perceived self-efficacy in caring for this patient population (Crawford et al., 2015). The training helps those who take the course identify, understand, and respond to signs of mental illnesses including substance use disorders. The course offers a variety of interactive exercises and education modules to increase participants' knowledge and ability to recognize the signs and symptoms experienced by youth during a mental health crisis. Upon completion of the MHFAY program participants will receive certification valid for three-years.

Mental Health First Aid was first introduced in the United States in 2008 and is offered to multiple audiences such as hospital staff, police officers, faith communities, day cares, schools

and other venues where providers would benefit from understanding how to recognize and offer help to mental health patients. MHFAY specifically for children and youth was implemented in 2010. The addition of MHFA focusing on youth was in response to the growing rates of mental illness among youths ages 10 to 15 years (National Council for Behavioral Health, 2019).

In 2015, Congress passed the Mental Health First Aid Act (*S.711/H.R.1877*) which authorized \$20 million for MHFA. This act provides those participants the training to recognize the symptoms of common mental illnesses and substance use disorders, to de-escalate crisis situations safely, and to initiate timely referral to mental health and substance abuse resources available in the community (National Council for Behavioral Health, 2019). The funding was provided to offer people to learn about mental health and the resources available, free of charge.

While the MHFA programs initial purpose was to educate non-clinical community residents; literature dating back to 2011 suggests this program may also be beneficial as an educational compliment to the structured clinical training within nursing programs. Rutledge and colleagues (2013) noted that hospital nurses working in general or other non-psychiatric units may lack the behavioral healthcare competency to manage disruptive behaviors associated with mental illness (p. 255). Nurses in general inpatient units who care for medical patients tend to care for patients medically and secondary their mental health care. Burns et al., (2107) advocated for the use of MHFA courses as a potential intervention for health care professionals including nursing, medical and pharmacy students as well as other support services to achieve improved mental health literacy and to increase the likelihood of providing mental health first aid to a peer experiencing a mental health problem (p. 2). Crawford et. al, (2015), found that mental health programs targeting nursing students in Australia positively influenced their attitudes towards mental health, and increased social supports and health literacy (p.3). Baker et al.,

(2019) described the benefits of the MHFA program for nurses working outside psychiatric settings who find it challenging to identify and respond effectively when patients exhibit behavioral health symptoms (p. 2). A major benefit noted in each study was the expansion in mental health literacy. The expansion in knowledge was shown to improve the recognition of mental health problems; nurses' beliefs about treatment aligned with those of mental health professionals, in the nurse's intention to help others, and their confidence in their ability to help patients who present in a mental health crisis (Baker et al., 2019, p. 3). Baker further noted that there is ample literature to support beneficial outcomes related to use of MHFA program with non-clinical participants, but more studies to document benefits of using MHFA with clinical and professional participants are needed.

The mental health professional workforce is experiencing a shortage of behavioral health specialists, psychiatrists, psychiatric nurse practitioners, psychologists and psychiatric social workers (Baker et al., 2019, p. 1). Registered nurses have been ignored as a potential resolution for some of these unmet challenges. The rationale for allocating a significant proportion of time and money to provide *in vivo* learning for nurses is that clinical experience provides the opportunity to develop a range of practice skills and the confidence to perform in the practice setting and learning environment (Bell, Horsfall, & Goodin, 1998, p. 184).

Study of the Intervention

The project was conducted with nursing participants who work in the Pediatric ED at Golisano Children's Hospital of SWFL (GCHSWFL). The Mental Health First Aid – Youth (MHFAY) course was held at GCHSWFL and sponsored by the *Kids' Minds Matter* program through the Golisano Children's Hospital of SWFL Foundation. All participants who completed the training received a MHFAY manual, an 8-hour educational training by a certified MHFAY

instructor, 8 continuing educational units (CEU's), and a 3-year certification in MHFAY training. The training did not address the signs and symptoms of those children that are under the age of twelve years who are exhibiting a mental health crisis.

The target population for this project were all clinical nurses working in the pediatric ED. The nurses were required to attend the MHFAY course as part of their Department clinical role educational requirements. Any nurse who previously completed the MHFAY course was considered ineligible to participate in the project. There are a total of 38 nurses who work in the ED. The sample size was comprised of 31 nurses who were eligible to attend the eight-hour educational course of MHFAY. This accounted for 82% of the nursing population participating in the program. Four nurses were deemed ineligible to participate in the project because they had previously taken the MHFAY course. Due to scheduling conflicts, the remaining three ED nurses notified the project leader of their inability to participate and did not attend the course.

Nurses were informed of the quality improvement project prior to the implementation of the *Do* step of the PDSA model. Prior to the start of the MHFAY course, all participants were given a project packet that included a description of the project, including the purpose, goals, intervention, and expected outcomes. While it was required that the nurses participate in the MHFAY course, it was voluntary for them to participate in the project. Each nurse who participated in the intervention received a voucher for a cookie at Subway© to acknowledge their contribution to the project outcomes. Recruitment of participants included information sessions about the project leading up to the scheduled MHFAY course dates and included the posting of flyers throughout the pediatric emergency department, refer to Appendix D.

Each packet was de-identified therefore the project leader was unable to know which nurses participated in the project and who declined participation. There were multiple parts of the project that was completed by each of the nurse participants including:

- Part I - Participant Demographics (Appendix F)
- Part II – Pre-Intervention Self-Efficacy in Mental Health Scale (Appendix G)
- Part III – Post-Intervention Self-Efficacy in Mental Health Scale (Appendix H)
- Part IV – Post-Intervention Mental Health Debriefing Survey (Appendix I)

The MHFAY course has been recognized with several awards for excellence. It is listed in the US Substance Abuse and Mental Health Services Administration's (SAMHSA) National Registry of Evidence-Based Programs and Practices (NREPP) and has been cited as the model of “radical efficiency” in the provision of social services (Hart, Mason, Kelly, Cvetkovski, & Jorm, 2016, p. 1). In 2018, SAMHSA closed the NREPP and redeveloped the site naming it the Evidence-Based Practices Resource Center. This new Evidence-Based Practices Resource Center aims to provide communities, clinicians, policy-makers and others in the field with the information and tools needed to incorporate evidence-based practices into communities or clinical settings (SAMHSA, 2018). The Resource Center contains a collection of scientifically-based resources for a broad range of audiences, including Treatment Improvement Protocols, toolkits, resource guides, clinical practice guidelines, and other science-based resources (SAMHSA, 2018).

Measures

When the nurses arrived for their scheduled MHFAY course, they were given instructions related to the project. Those nurses who voluntarily agreed to participate in the project were given a packet immediately prior to the start of the educational portion of the

course. Refer to Appendix F the nurses completed the demographic questionnaire, in addition to the Pre-Self-Efficacy (S-EAS) questionnaire in Appendix G. Appendix G and H of the self-efficacy assessment scales (S-EAS) consisted of a ten-question, 10-point rating scale that was administered before and after the MHFAY course. Refer to Figure 2 for the ten questions included on the questionnaires. According to Bandura (2012), efficacy scales are unipolar, ranging from zero to a maximum strength of belief. The S-EAS was used to measure the nurse's belief in his or her self-efficacy to measure differences in the level of knowledge in recognizing the signs and symptoms of patients who present in a mental health crisis. This scale was created by adapting question formatting from a validated tool constructed by Bandura to measure self-efficacy of nurses after an educational experience (Bandura, 2006, p. 213). Questions were developed and refined in collaboration with the pediatric psychiatric subject matter expert on the project team. Further review for understanding was provided by pediatric nursing educators, familiar with the project.

The nursing participants in the project were instructed to place the completed pre and post course questionnaires into the supplied envelope, seal it and return it to the MHFAY instructor who would then submit the envelopes to the project leader for data, analysis, and interpretation. These steps were taken to ensure anonymity.

Figure 2. Self-Efficacy Assessment Scale (Pre and Post) Questionnaire

1. You can recognize the signs and symptoms of a patient experiencing a mental health crisis?
2. You can list some typical signs and symptoms of a patient experiencing a mental health crisis?
3. You can distinguish between delusions and hallucinations?
4. You can distinguish between a panic attack and a heart attack?
5. You can identify a concerning change in child or adolescent's behavior?
6. You can distinguish normal adolescence from a mental health disorder?
7. You can identify the risk factors in adolescence associated with mental health?
8. You can identify the difference between a mental health disorder vs developmental disabilities or Autism Spectrum Disorders?
9. You can recognize the signs exhibited by the patient that they may do self-harm?
10. You can identify mental health resources to provide the patient and family?

Standard to the protocol of the MHFAY course is a pre-session *Youth Mental Health Opinions Quiz* and a post-session *Youth Mental Health First Aid Quiz*, all attendees, regardless of project participation, completed both the questionnaires. This pre and post testing provided the MHFAY instructor and the project leader with information to evaluate the nurses level of mental health understanding prior to the course and the level of knowledge gained at the completion of the course.

The Youth Mental Health Opinions Quiz (pre-session) asks the participants fifteen questions based on whether they *agree, disagree, or don't know* related to statements about mental health. This pre-quiz documented a baseline of participants' current knowledge about mental health in youths. The MHFAY pre-questionnaire was not scored and were retained by the nursing participants. The MHFAY quiz at the completion of the educational intervention consisted of ten scenario-based questions. Participants were asked to select the best of three possible actions as it is related to the scenario presented in each question. Based on the knowledge gained from participating in the MHFAY, the nurse was expected to select the most helpful action. The passing score is at least six correct responses out of ten to receive the 3-year certification in MHFAY.

Appendix I shows open-ended, five-question, Mental Health Debriefing Survey was the last survey in the packet to be completed by the project participants. The descriptive tool was included to elicit nurse's knowledge, skills and feelings related to their experiences caring for this patient population after completion of the educational intervention. The Mental Health Debriefing Survey was included to determine if the MHFAY course was helpful at the bedside. The mental health Debriefing Survey was available for completion from September 25, 2019 through October 14, 2019.

Participants were instructed to complete the survey after the MHFAY course AND after caring for a patient in the ED who presented in a mental health crisis. The completed survey was to be placed into a drop box available in the department staff lounge. Email reminders to complete the Debriefing Survey were sent out to all nursing staff in the department. Information related to the questionnaire/survey, date deadlines, and confidentiality were included in the email reminders. All participants were aware that completing any portion of the questionnaires/survey was voluntary.

Analysis

Each project participant packet was identified by a number. There were 35 total participant packets. Data were collected and entered in Microsoft Excel[®] program for analysis. A combination of a quantitative review using descriptive statistics were performed on all data collected. Qualitative review was initially planned. Analysis of the data occurred during the *Study* step of the PDSA cycle. Pre-program scores (baseline) were compared to post-program scores to determine if an improvement in nursing self-efficacy occurred following the educational intervention.

Ethical Considerations

The project leader conducted this quality improvement project in compliance with the ethical principles of respect for humans and human rights to confidentiality, privacy, and anonymity. Refer to Appendix A and B regarding approval for this project which was obtained from the Lee Health System, the University of New Hampshire, Institutional Review Board, and the Nursing Research Council to ensure the protection of the project participants.

All potential nursing participants received an invitation letter to the project that described their participation as voluntary. Their responses to any of the questionnaires, quizzes or survey

would have no negative effect on their current employment within the pediatric ED. No personally identifying information was included on any of the questionnaires, quizzes or survey and all documents were assigned participant numbers. There were no conflict(s) of interest or financial gains for the project leader.

The project leader made every effort to convey to the participants that their participation in the project was voluntary. In addition, every effort was made to ensure that the nurses understood that they could withdraw from the project at any time. Nurses were aware that they could choose which questions they wanted to answer. Confidentiality and anonymity were a priority and incorporated throughout the design of the project.

Results

Results

The Demographic and the pre and post Self-Efficacy (S-EAS) questionnaires were submitted according to the instructions and on time by the nurse participants. However, none of the participants completed or submitted the Debriefing Surveys. Demographic data were collected and analyzed. The pre and post Self-Efficacy questionnaire data were collected and analyzed to identify improvements in nurse self-perceived confidence.

Of the 38 nurses employed within the pediatric ED, 82% of nurses ($n = 31$) were eligible to participate in the project (Table 7). Four eight-hour sessions were made available for the nurses to select a session that was convenient for their schedule. Nurses completed the demographic information except for participant number eight; who did not complete questions six through ten. Of the total number of nurses, 87% were female ($n = 27$) as compared to males ($n = 4$) at 12% (Table 7).

Table 7

Demographic Data Descriptive Statistics: Variables of respondents that completed the MHFAY Program

Variable	<i>n</i> = 31	%
Gender		
Female	27	87
Male	4	12.9
Age		
20-30	11	35.4
30-35	6	19.3
35-40	5	16.1
40-45	2	6.4
45-50	4	12.9
>50	3	9.6

Nurse's *years of experience as registered nurses and years working in an ED* ranged from less than 1 year to more than 15 years (Table 8). Slightly more than half of the nurses ($n = 16, 52\%$) had *less than five years' experience*, with 29% ($n = 9$) having *one to three years of nursing experience*. Where 35% of the participating nurses ($n = 11$) have *one to three years of clinical experience working in an ED*. These characteristics are consistent with the literature that reports the number of new to practice nurses working in the ED (Bhandari et al., 2016).

Table 8

Responses related to employment

Variable	<i>n</i> = 31	%
RN - Years		
<1	1	3.2
1-3	9	29
3-5	6	19.3
5-10	4	12.9
10-15	6	19.3
>15	5	16.1
Years Working in ED		
<1	2	6.4
1-3	11	35.4
3-5	6	19.3
5-10	4	12.9
10-15	6	19.3
>15	2	6.4

Table 9

Responses related to education

Variable	<i>n</i> = 31	%
Certification		
None	18	58
Certified Emergency Department Nurse (CEN)	4	12.9
Certified Pediatric Emergency Nurse (CPEN)	6	19.3
Other	3	9.6
Level of Education		
Associates Degree Nursing (ADN)	6	19.3
Bachelor's Degree Nursing (BSN)	21	67.7
Non-Nursing Bachelor's	3	9.6
Currently Enrolled in School		
Master's Degree Nursing (MSN)	9	29
Doctorate (DNP)	1	3.2
Not currently enrolled	20	64.5

The majority of the nurses in this project had educational preparation at the BSN level 67.7% (*n* = 21), while 29% (*n* = 9) were actively enrolled in an MSN program. Professional certifications were held by 41.8% (*n* = 13) of nurses. Nurses reported their educational readiness

in caring for mental health patients (Table 10). The majority of nurses (n = 19, 63%) reported receiving *some mental health education* of psychiatric education during their nursing program.

Table 10

Descriptive Statistics: Nurses feelings related to psychiatric education

Variable	n = 31	%
Nursing Psychiatry Education Rotation		
Not prepared at all	7	22.5
Somewhat prepared	11	35.4
Neutral	6	19.3
Prepared	6	19.3
Overall Nursing, Amount Mental Health Education		
Not at all	2	6.4
Some education	19	61.2
Neutral	7	22.5
Adequate amount	2	6.4

Two copies of the Self-Efficacy Assessment Scale (S-EAS) were included in the packet to be completed before and after the educational intervention. Each nurse was asked to complete the ten-item questionnaire rating their level of certainty regarding ability to perform selected mental health care skills. Each of the ten questions had a certainty value which ranged from 1- *Certain Cannot Do* to 10 - *Certain Can Do*. Mental health skills included symptom identification and recognition, and capacity to distinguish behaviors associated with mental illness from normal adolescent development shown in Appendix G. The nurses were asked to assess their confidence level immediately before and after the MHFAY course. All nurses returned questionnaires. One questionnaire was discarded due to incomplete data.

Analysis of the pre and post questionnaire data occurred during the *Study* step of the PDSA cycle. Pre-program scores (baseline) were compared to post-program scores to determine if an improvement in nursing self-efficacy occurred as a result of participating in the educational intervention (Table 11).

Table 11

Descriptive Statistics: Overall Pre and Post Self-Efficacy Results

Pre Self-Efficacy		Post Self-Efficacy	
Mean	7.753	Mean	7.801
Standard Error	0.406642	Standard Error	0.405549
Median	7.95	Median	7.85
Mode	#N/A	Mode	6.67
Standard Deviation	1.285916	Standard Deviation	1.282458
Sample Variance	1.653579	Sample Variance	1.644699
Kurtosis	-1.8819	Kurtosis	-2.33199
Skewness	-0.28097	Skewness	-0.07378
Range	3.23	Range	3.07
Minimum	5.87	Minimum	6.1
Maximum	9.1	Maximum	9.17
Sum	77.53	Sum	78.01
Count	10	Count	10
Confidence Level (95.0%)	0.919889	Confidence Level (95.0%)	0.917415

The greatest improvement (53%) was seen in response to the first question about the nurse's ability to recognize the signs and symptoms of a patient experiencing a mental health crisis (Table 12). Nurses reported increased confidence, in their ability to recognize a patient presenting to the ED in crisis (Table 13). Post intervention results revealed that nurse's felt increased confidence in distinguishing between delusions and hallucinations (47%), and in their ability to list some typical signs and symptoms of a patient experiencing a mental health crisis (34%). Finally, nurses reported improvement (22%) in their ability to distinguish between a panic attack and a heart attack (Table 12).

The nurses reported a high self-efficacy initially on questions one through five with a mean of 6.59 in the pre-intervention self-efficacy scale. Post-intervention results in questions one through five shows improvement in self-efficacy with a mean of 9.0; a mean difference of 2.41. Outcome results for questions six through ten revealed a considerable decrease in self-

efficacy scores post-intervention (Table 12). Questions six through ten; revealed a significant difference in the overall mean results in the pre-questionnaire ($M=8.91$) as compared to the post-questionnaire ($M=6.60$). With a negative mean difference of 2.31. The lower scores are contrary to what the project leader anticipated after the educational intervention. Questions six through 10 were related to the nurse's perceived ability to:

- *distinguish normal adolescence from a mental health disorder,*
- *identify risk factors in adolescence associated with mental health,*
- *identify differences between a mental health disorder versus developmental disabilities or Autism Spectrum Disorder,*
- *recognize the signs exhibited by the patient that they may do self-harm,*
- *and identify mental health resources for the patients and families.*

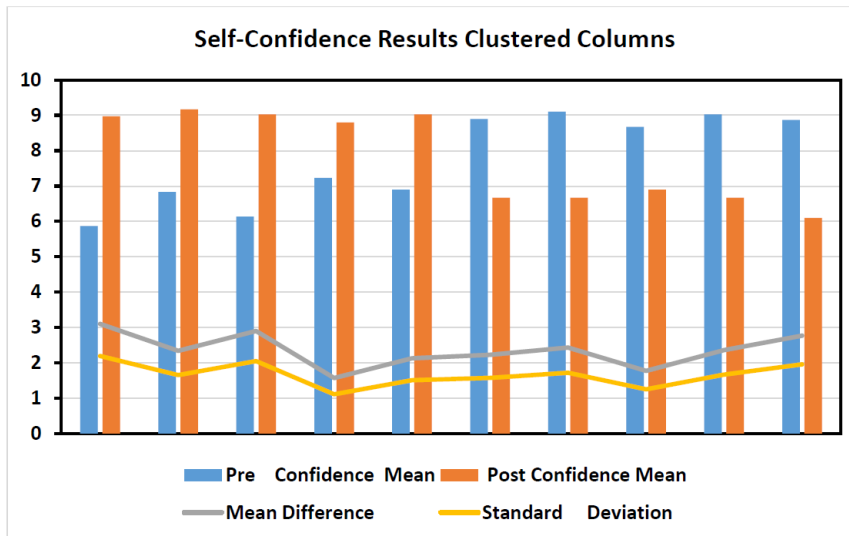
Table 12

Descriptive Statistics: By Question for Self-Efficacy Pre and Post Questionnaire

Question #	Pre Self-Efficacy Mean	Post Self-Efficacy Mean	Mean Difference	Standard Deviation	Percent Change
1	5.87	8.97	3.1	2.19	↑53%
2	6.83	9.17	2.34	1.65	↑34%
3	6.13	9.03	2.9	2.05	↑47%
4	7.23	8.8	1.57	1.11	↑22%
5	6.9	9.03	2.13	1.51	↑31%
6	8.9	6.67	2.23	1.58	↓25%
7	9.1	6.67	2.43	1.72	↓27%
8	8.67	6.9	1.77	1.25	↓20%
9	9.03	6.67	2.36	1.67	↓26%
10	8.87	6.1	2.77	1.96	↓31%
Total Summary	7.753	7.801	0.048	0.03	6%

Table 13

Descriptive Statistics: Pre and Post Self-Efficacy results



In order to gain insight and an understanding regarding the post-intervention decrease in perceived self-efficacy on questions six through ten; the project leader conducted a focus group with ten nurses to facilitate a discussion about these questions. Results of the pre and post self-efficacy questionnaires were shared with the nursing focus group. When asked if they understood the content of the questions; they responded they did. A common theme among the nurses questioned was they felt the psychiatric education they received in nursing school was sufficiently robust to support confident recognition of a patient in a mental health crisis. The nurses' explanation is consistent with the higher self-efficacy scores on the pre-intervention questionnaire. The project leader asked the nursing group why their answers would then be lower on these questions in the post-intervention questionnaire. The anticipated outcome would be that the level of confidence would be even higher following the educational intervention. Half of the nurses stated that, *"they may have over scored their level of self-confidence"* on the pre-questionnaire. Results of the pre and post self-efficacy questionnaires were again shared

with the nursing focus group. The nurses were unable to specify the rationale for the lower scores in questions six to ten in the post self-efficacy questionnaire. In addition, the nurses felt they had a better understanding of the questions post-intervention, and therefore felt they answered the questions more realistically. In further speaking to the nurses, they felt the MHFAY course was beneficial to their clinical knowledge; it refreshed their psychiatric knowledge previously gained in nursing school, and provided them with the tools to identify, recognize and initiate treatment immediately upon the patient's arrival to the ED. The nurses also stated that due to attending the MHFAY program they felt they were more likely to ask more detailed questions regarding what patients were feeling in order to identify and recognize a mental health crisis. However, all of the nurses agreed they felt the program was beneficial to their clinical practice and the quality of care provided to youths who present in a mental health crisis. All nurses ($n = 31$) who completed the MHFAY course successfully passed the post-quiz and were eligible to receive the 3-year MHFAY certification.

The final questionnaire in the project packet was the Debriefing Survey. Participants were asked to answer the questions following the MHFAY course AND after caring for a patient who presented to the ED in a mental health crisis. The questions were developed to elicit nurses' feelings and self-efficacy after caring for a patient with mental health needs (*Figure 3*). Once completed the debriefing surveys were to be placed in an envelope, sealed and then deposited into a drop box located in the department staff lounge. Emails were sent to all nursing staff by the project leader each week between September 25, 2019 through October 14, 2019 as a reminder to complete the debriefing survey. The drop box was removed from the department staff lounge on October 15, 2019. The project leader checked for completed survey's each week; no surveys were completed or deposited.

Figure 3. Debriefing Survey Questions

- Describe your **feelings** about the first interaction you had with a mental health patient following completing the Mental Health First Aid – Youth course? Please describe:
- Do you **feel** you have an improvement in your ability to recognize and identify key signs and symptoms about your first mental health patient following completing the Mental Health First Aid – Youth course? Please describe:
- Do you **feel** that you have gained more knowledge about youth mental illness following the completion of the Mental Health First Aid – Youth course than you had prior to taking the course? Please describe why:
- Describe your **feelings** completing the Mental Health First Aid – Youth course was it beneficial to the care you provide as a nurse to mental health patients in the ED?
- Describe your **feelings** regarding if you think that all ED nurses would benefit in completing a Mental Health First Aid course and that it would be applicable in the acute clinical care setting? Please describe why:
- Can you think of any other information or resources that would have been helpful to prepare you in caring for this patient? Please describe:

Chart reviews were conducted by the project leader to identify all patients seen in the ED for a mental health crisis between September 25, 2019 through October 14, 2019, during the time the project was conducted. Five patients presented to the ED with a mental health crisis during the project period (Table 14). Nearly twice as many patients were evaluated for mental health complaints during the same time period in 2018 (Table 15).

The most prominent psychiatric diagnosis for these patients in years 2018 and 2019 was suicidal ideation with intentional drug overdose. These patients were admitted to the inpatient pediatric intensive care unit or the medical/surgical inpatient units related to the drug overdoses. Patients are cared for within Golisano until they have been medically stabilized to be transferred to an inpatient psychiatric facility.

Table 14

Peds ED Mental Health Patients (2019)

Date of Arrival	Patient	Age	Diagnosis	Admit/DC/Transfer
9/25/2019	#1	16yo	SI, Drug Overdose	Transfer to Psych Facility
9/28/2019	#2	13yo	SI, Drug Overdose	Admit
9/30/2019	#3	14yo	SI, Drug Overdose	Admit
10/7/2019	#4	11yo	Hallucinations	DC – Outpt Services
10/14/2019	#5	18yo	SI, Aggressive Behavior	DC – Outpt Services
Total Patients: 9/25-10/14/2019	5			

*SI-Suicidal Ideation; DC-Discharge

Table 15

Peds ED Mental Health Patients (2018)

Date of Arrival	Patient	Age	Diagnosis	Admit/DC/Transfer
9/26/2018	#1	17yo	SI, Drug Overdose	Admit
9/28/2019	#2	17yo	SI, Substance Abuse	Admit
9/28/2019	#3	12yo	SI, Drug Overdose	Admit
10/2/2019	#4	15yo	SI	Admit
10/2/2019	#5	18yo	SI	Admit
10/3/2018	#6	19yo	Anxiety	DC – Outpt Services
10/8/2018	#7	17yo	SI	DC – Outpt Services
10/9/2018	#8	17yo	Anxiety	DC – Outpt Services
10/11/2018	#9	14yo	Anxiety	DC – Outpt Services
10/13/2018	#10	15yo	SI, Drug Overdose	Admit
10/14/2018	#11	17yo	SI, Substance Abuse	DC – Outpt Services
Total Patients: 9/25-10/14/2018	11			

*SI-Suicidal Ideation; DC-Discharge

During the chart review, it was noted that, at least some nurses who participated in the project worked on the dates and times the patients in crisis presented to the ED. However, due to provisions for anonymity, the project leader could not link nurses who cared for the patients with mental health needs and participation in the project. The lack of participant completion of the Debriefing Survey was a limitation in the project design.

In comparing the data from September 9th through October 14th in years 2018 and 2019; it is difficult to speculate reasons for the marked decrease in mental health patients coming to the ED during the project period. One explanation may be increased mental health awareness and improving resources within Lee County. *Kids' Minds Matter* is a nonprofit organization advocating for children's mental and behavioral healthcare that was established in 2017 in SWFL. A Vice President of Mental and Behavioral Health for Golisano Children's Hospital of Southwest Florida was hired in 2017. The expectations of this leadership role is to align the tiered model of care with existing and developing resources both at Lee Health and in the greater SWFL community. In addition, educational awareness is a large part of this initiative to both clinicians and community residents.

The focus is on delivering the right care at the right place and at the right time across the full continuum of services offered within the community. The improvement plan combines a tiered model of care that includes evidence-based practices to create a wellness plan for children and youth in need of mental health services. Services provided include; Digital Cognitive Behavioral Therapy, Tele-Psychology, in-person counseling, and community based and acute care services (Kids' Minds Matter, 2019).

There have been multiple regional (SWFL) accomplishments in mental health care and resources in 2018 and 2019 by the *Kids' Minds Matter* organization. This was achieved in collaboration with the Lee Health system behavioral and mental health department. These accomplishments included: Regional mental health resource fair, providing the MHFAY courses throughout the community and Lee Health system, reducing the stigma and creating awareness for mental health, and the impact of substance use on children and families.

The efforts resulted in improved patient and family awareness, treatment, with compliance and consistency of ongoing mental health care in 2018 and 2019. As demonstrated by the increase of outpatient pediatric mental and behavioral health visits since 2017. Outpatient mental and behavioral health professionals evaluated over 6,500 children and adolescents in 2017; while year ending 2018 had an over 45% increase at just over 10,000 patients evaluated. And as of August 2019, the increase continues at 26% with over 12,800 children accessing mental and behavioral outpatient services. The increase in children and adolescents accessing psychiatric services and resources is measurable in this SWFL data. Therefore, the need for education for all is the key to public and clinical awareness for quicker care and treatment all valid reasons for the noted 2019 reduction in ED visits for mental health crises at Golisano Children's Hospital.

Discussion

Summary

The specific aim of this project was to increase the ED nurses' self-perceived confidence level in his or her ability for early recognition of youths who present to the ED in an acute mental illness crisis. Further, this project attempted to evaluate results of the nurse's increased knowledge, skill, and self-efficacy on clinical practice at the bedside. This was to be accomplished using an educational intervention. The literature suggests that there is some evidence that increasing self-efficacy and the transfer of new skills into clinical practice remains an opportunity to further research (Oetker-Black et al., 2014, p.256). While there appears to be some improvement within several areas of nurses reported self-efficacy, others revealed little to no improvement. Given that this improvement project resulted in small changes overall for

nurse's self-efficacy, a different approach to improving care of patients in a mental health crisis may prove to be beneficial.

Interpretation

Results from this project, albeit small improvements, were consistent with the literature. Bandura (2006) stated that self-efficacy beliefs differ in strength and level; meaning the nursing participants may have had higher or lower self-efficacy beliefs depending on the questions being asked. Thus, the answers on the post self-efficacy questionnaire did not yield obvious higher levels of perceived efficacy. The overall pre-intervention mean of 7.753 and the post-intervention mean of 7.801 results have shown that the nurse's perceived improvement in self-efficacy was minimal. While the results of this project did not produce an overwhelming improvement in the outcomes, more intensive education strategies are needed to increase the knowledge base of nurses in all related mental health diagnosis.

Without the qualitative data from the debriefing survey it is challenging to understand the feelings and emotions of the nurses following the educational intervention when caring for a patient in a mental health crisis. Considering the mixed results on pre and post self-efficacy questionnaires, nurses nonetheless agreed; that they felt that the program would be beneficial in the clinical practice setting.

Limitations

There were several limitations identified to this project. First, the self-efficacy tool developed was not formally tested for validity and reliability. Further testing could strengthen the tool. The absence of completed debriefing surveys after attending the course and caring for a patient with mental health needs was another limitation for this quality improvement project and

may be attributed to several factors. A contributing factor is the timeframe the nurses were allotted to complete the debriefing tool. The drop box for the completed debriefing tool was available from September 25th through October 14th. The educational sessions were held on September 24th, September 27th, September 30th and on October 1st. Therefore, if a nurse attended the September 24th class they would have 20 days available to complete the debriefing tool, however, if the nurse attended the last available educational session on October 1st; they would only have 13 possible days to complete the tool. The project leader considered extending the time for returning the survey to the drop box, but due to time constraints and deadlines for completion of the project this was not an option.

One factor that may have accounted for the nurses not returning the final questionnaire was the increased volume of ED patients seen in 2019 as compared to 2018. In 2018, the average daily census was 95 patients per day but in 2019 the average census increased more than 20%, to 115 patients visits daily. Nurses are caring for an additional two or three patients each day, therefore, the urgency of the request to complete the Debriefing Tool may have been diminished in the context of the larger caseload and caring for a patient in crisis.

Another limitation could be related to the lower anticipated volume of psychiatric patients coming to the ED in crisis. This could have been attributed to enhanced alignment of outpatient mental health care and availability of resources by the support of the *Kids' Minds Matter* organization and model of care within SWFL.

This project was conducted in the pediatric ED within a six ED health system. This is perceived as a limitation due to the lower number of psychiatric patients who presented to the pediatric ED during the time the project was being conducted. Had the scope of the project included all system-wide ED nurses; there may have been a greater number of pediatric patients

presenting to the ED in crisis. Expanding the scope of the project could have included any pediatric patient in a mental health crisis presenting to any ED in the health system.

Finally, all participating nurses in the project directly report to the project leader within the ED. Although the project leader provided substantial support to all participating nurses regarding employment and their roles within the ED; the influence the leadership role had on the project cannot be discounted; the nurses may have felt compelled to participate in this project so not to disappoint their leader.

Conclusions

To conclude the PDSA framework for this project; *Act* is the final step. In this step of the model; learnings from the analysis or *Study* step are considered for the continuum of the test of change (educational intervention). Ongoing use of the PSDA cycle allows for continuous improvement in the quality of care delivered to pediatric mental health patients.

Nearly half of all children and youth who present to the ED have no previous psychiatric history or contact with the mental health system; it is crucial for nursing to have knowledge and self-perceived confidence to care for these patients who arrive in crisis (Gill et al., 2017 p. 475). National surveys document alarming increases in prevalence of psychiatric disorders for children and adolescents; limited resources and access to appropriate mental health services further accentuate this health crisis especially in regions with growing populations such as in SWFL. Since the ED has become the primary point of contact to children and adolescents with mental healthcare needs, ED staff must be prepared to quickly recognize and treat symptoms to limit adverse impact on families, the public health system and society (Zeitlin & Gluck, 2019, p. 3).

The MHFAY course is an evidenced-based educational program endorsed by the National Council for Behavioral Health and the Substance Abuse and Mental Health Services Administration (SAMHSA). This course was selected to enhance nursing knowledge in caring for mental health patients. The program is geared to all members of the community with or without any clinical knowledge. Kitchener & Jorm (2017) explained that the use of MHFA course materials could be tailored to suit the audience of nursing or other clinicians. It is for these reasons that the project leader chose this educational intervention as an adjunct course in mental health. Broad use of MHFAY is consistent with national calls for integrating mental health in all acute and primary care clinical settings, and for nurses to work to the full scope of practice. It is one strategy to address, the urgent need to expand the mental health workforce in the United States, and it supports (Baker et al., 2019; IOM, 2010).

The overall mission of *Kids' Minds Matter* focuses on the delivering the right care at the right place and at the right time across the full continuum of services offered within the community. That full continuum of services includes the ED in the acute care setting. The small evidence of improvement in nurse's confidence in caring for a psychiatric patient follows the overall mission of *Kids' Minds Matter* of providing the right care, at the right place, at the right time by nurses.

Project Funding

There was no funding needed to implement this project. The MHFAY course is funded through the Lee Health Systems Kids' Minds Matter program and is offered free of charge to anyone who completes the course. Any expenses or supplies used for this project were paid for by the project leader.

Future Direction

The project site organization and administrative team was extremely supportive of this project. Their interest and concern for both nursing and this patient population go beyond this project. As the only, regional pediatric center in our community, we are committed to serving and protecting all of children in SWFL with emergent health needs, including those in mental health crises (Gluck & Zeitlin, 2019). This includes our responsibilities as leaders to provide educational exposure, professional development opportunities, and supportive resources to ensure the bedside nurses are empowered, confident, and competent to provide high quality care to our patient population with mental health needs.

This project within the pediatric ED has heighten the desire of nursing staff to become more knowledgeable and skilled to meet the mental health needs of our patients. This project reinforces the use and development of evidence-based nursing practices when evaluating adjunct educational protocols for the care for specific patient populations. Educating all nurses throughout the system ED's in mental health needs presented by patients of all ages, and further development of nursing competencies will elevate nursing self-efficacy in caring for mental health patients. Next steps will include further refinement of the self-efficacy assessment nursing tool, continued monitoring ED metrics related to time of arrival to the initiation of care of this patient population, and partnering with the pediatric mental health department to connect the care that is being delivered from the acute care arena through the continuum of care into the outpatient and home setting.

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Appendix A

Nursing Research Council Project Approval Letter



College of Health and Human Services
Department of Nursing

Hewitt Hall
4 Library Way
Durham, NH 03824

V: 603.862.2271
F: 603.862.4774

August 19, 2019

Dear Mary Kay,

The UNH Department of Nursing Quality Review committee has reviewed your DNP proposal.

Titled: "Improving Emergency Department Nurse' Self-Perceived Self-Efficacy in Early Recognition of Patients in a Mental Health Crisis." Based on the SQUIRE 2.0 guidelines for determination of quality improvement and research activities, the proposal meets the standards for a quality improvement project. The Quality Review committee determined that this project does not constitute research, and therefore does not need review by the UNH Institutional Review Board for the Protection of Human Subjects, and there are no potential conflicts of interest (financial, professional, or institutional). You may implement your project as proposed. If you make any changes to your approved proposal please update the committee for further review.

Good Luck,

Pamela P DiNapoli PhD, RN.CNL

Assistant Professor and Graduate Programs Coordinator

247 Hewitt Hall

Durham NH 03824

cc. M. Shepard

D. Pelletier

Appendix B

Nursing Research Council and IRB Project Approval Letter



Cape Coral Hospital
 Gulf Coast Medical Center
 HealthPark Care Center
 HealthPark Medical Center
 Lee Convenient Care
 Lee Memorial Hospital
 Lee Physician Group
 Golisano Children's Hospital
 The Rehabilitation Hospital
 Lee Memorial Health System DBA Lee Health

Institutional Review Committee
 636 Del Prado Boulevard
 Cape Coral, Florida 33990

Phone: 239-424-3383
 Fax: 239-424-4005
 Email: pam.fowler@leehealth.org

IORG# 0000442
 FWA# 00000167
 Registration# IRB00000752

September 12, 2019

Mary Kay Silverman MSN RN CEN NEA-BC - Improving Emergency Department Nurses' Self-Perceived Self-Efficacy in Early Recognition of Patients in a Mental Health Crisis- A Quality Improvement Project

The Lee Memorial Health System Institutional Review Committee determined that the above referenced protocol is not human subject research but is considered a performance/quality improvement project and therefore is exempt from IRC review and oversight. However, you must still follow Lee Health's policy and procedures for PI/QI projects.

The Committee recommends that you make the following revisions to your QI project prior to beginning the project.

- 1) Address the incentive – either remove it all together or everyone gets the incentive in their project packet. This will enhance the process of anonymity.
- 2) Provide enhanced instructions for the debriefing survey and provide the debriefing survey along with a separate envelope in the initial packet with instructions to complete the survey after they have cared for a patient in a mental health crisis, then deposit the survey in the envelope provided in the drop off location in the lounge- again improves anonymity
- 3) Have all willing participants complete the pre and post-test surveys at the initial education and deposit the survey in the drop off location in the lounge.

Once these revisions are made, you may begin your project without further reporting to this office.

Thank you for keeping the committee informed of your activities.

Sincerely,

Pam Fowler, RN, BS, CIM
 Administrator
 Lee Memorial Health System
 Institutional Review Committee

APPENDIX C

Permission Granted Letter from National Council – MHFA

Silverman, Mary K.

From: Silverman, Mary K.
Sent: Friday, June 14, 2019 12:53 PM
To: 'infoage@infoagepub.com'
Subject: Permission for the use of the Dr. Bandura's Self-Efficacy Scale Properties

To Whom It May Concern;

I am a doctoral student at the University of New Hampshire (UNH) in the school of nursing and am working on my dissertation. My quality improvement project focus is on pediatric mental health patients who present to the pediatric emergency department in a mental health crisis.

My project is titled; *“Improving an Emergency Department Nurse’ Self-Perceived Confidence in the Early Recognition of an Acute Pediatric Patient Who Presents in a Mental Health Crisis”* as part of my educational intervention to expand the knowledge base of these pediatric ED nurses, they will be attending the *Mental Health First Aid – Youth* course that will be held here at our facility by one of our certified trainers. In addition to using the MHFA Youth tools and educational intervention, I am asking for permission to be able to use properties within Dr. Bandura’s *Self-Efficacy Beliefs of Adolescents -Guide For Constructing Self-Efficacy Scales* as part of my project.

This scale will provide me with the guidance in building my own self-efficacy scale to determine the pediatric ED nurses confidence in their ability to recognize and identify children and adolescents who arrive to the ED in a mental health crisis – this expanded knowledge base will also improve their self-perceived confidence in their ability to quickly initiate care and treatment and to provide a higher quality and safer care to the youth in our SWFL community.

If you need any additional information, please feel free to reach out to me at the contact information provided below so that I may assist you. I am on a very tight timeline and am hoping for this permission as soon as possible. Thank you so very much for your attention to this request.

Sincerely,
Mary Kay Silverman MSN RN CEN NEA-BC
Doctoral Student, UNH

Mary Kay Silverman MSN RN CEN NEA-BC

*Director of Pediatric Emergency Services and
Pediatric/Neonatal Transport Team*



Live the Promise. Be Exceptional.

Golisano Children’s Hospital of SWFL

9981 S. Healthpark Drive
Fort Myers, FL 33908
Cell: 215.990.5707
Office: 239.343-6830

mary.silverman@LeeHealth.org

LeeHealth.org



Silverman, Mary K.

From: Sanjana Bhakta (MHFA Info) <info@mentalhealthfirstaid.org>
Sent: Friday, June 7, 2019 4:05 PM
To: Silverman, Mary K.
Subject: [National Council for Behavioral Health] Re: RE: Permission for use of MHFA Quizzes and Course

***** This message came from outside of Lee Health – please use caution when opening attachments or links *****

##- Please type your reply above this line -##

Your request (61907) has been updated. To add additional comments, reply to this email.

Sanjana Bhakta (National Council for Behavioral Health)

Jun 7, 4:04 PM EDT

Hi Mary,

Thank you for your email. We are excited to hear you are using YMHFA in your dissertation. This email is confirmation that you have received permission to use the program/course, opinions quiz, and YMHFA quiz for your dissertation. If you have any questions along the way, please do not hesitate to contact me at SanjanaB@TheNationalCouncil.org.

We'd also love to hear the results of your dissertation!

Best,
Sanjana

Sanjana Bhakta
Mental Health First Aid

APPENDIX D

MHFAY Course Flyer



Pediatric Emergency Department Nurses

Dates and Classes Have Been Set!!!

Please sign up for only ONE of the classes below and register online through Learn@Lee

To register please use the promo code MHFA and this will allow you to defer payment – this will be covered by Lee Health.

<http://www.leehealth.org/classes.asp> go to this page – press *Women and Children* tab – scroll down to Mental Health First Aid Youth to register

Tuesday, Sept 24th	GCHSWFL Community Room
Thursday, Sept 27th	SHARE Computer Lab – CCH
Monday, Sept 30th	SHARE Computer Lab – CCH
Tuesday, Oct 1st	GCHSWFL Community Room

Thank you!! Mary Kay

Appendix E

Intervention Participant Packet Letter

Pediatric Emergency Room Nurse,

Thank you for expressing interest in this quality improvement project, "*Improving an Emergency Department Nurse' Self-Perceived Self-Efficacy in Early Recognition of a Patient in a Mental Health Crisis*". The purpose of the project is to evaluate the impact of the Mental Health First Aid Youth (MHFAY) course on expanding the nurse's knowledge base, improve self-perceived self-efficacy with early recognition and identification of the signs and symptoms of a child or adolescent who presents to the emergency department in a mental illness crisis.

You are being invited to take part in this project because you currently work as a nurse within the Pediatric Emergency Department and are taking the MHFAY course. If you have already taken the MHFAY course, you are not eligible to participate in the project.

Approximately 38 registered nurses who work within the Golisano Emergency Department are being asked to participate in this project.

The person completing this project is Mary Kay Silverman MSN RN CEN NEA-BC, a graduate student at University of New Hampshire (UNH) College of Nursing and an employee of Golisano Children's Hospital of SWFL within the Lee Health System. Because the project leader is a graduate student, she is being guided by Margaret Shepard PhD, PMHNP-BC, a University of New Hampshire faculty supervisor in the College of Nursing.

What you should know about a quality improvement project:

- A quality improvement project is something you volunteer for.
- Whether or not you take part is up to you.
- You should take part in this project only because you want to.
- You can choose not to take part in the project.
- You can agree to take part now and later change your mind.
- Whatever you decide it will not be held against you.
- Feel free to ask all the questions you want before you decide.

What you will be asked to do in the project:

I ask that you carefully review all information included in this packet. You will be asked by the project leader, prior to beginning of the MHFAY, if you have any questions regarding details of the project. If you choose to participate, you will be completing the following questionnaires:

- Demographics Questionnaire
- Pre-Intervention Self-Efficacy Scale Questionnaire
- Post-Intervention Self-Efficacy Scale Questionnaire
- Pediatric Mental Health Emergency Nurses Debriefing Survey

In total, the questionnaires and quizzes should only take up to approximately 15 to 20 minutes to complete while you are attending the 8-hour MHFA course. The debriefing survey will be completed after completion of the MHFA course AND after caring for a patient in an acute mental health crisis. This survey should take approximately 15 minutes to complete. All questionnaires, quizzes, and survey used in this project have no identifying features. No one, including the project leader, will be able to associate your responses with your identity.

The alternative to participation is to choose not to participate. If you choose not to participate, you simply do not complete any of the forms in the packet. Participation in this quality improvement project is entirely voluntary. You may refuse to participate or *withdraw at any time*.

Risks:

Your participation will have no impact on your employment at Lee Health. Participation in this project is unlikely to be associated with risks to you other than the possible loss of confidentiality if you reveal something that you wish to be kept confidential. You are free to skip any questions on the questionnaires that you do not wish to answer. To minimize risk to you, all questionnaires will be de-identified to the extent possible, and questionnaire will be kept confidential to the extent allowed by law. If any new risks become known in the future, you will be informed of them.

Benefits:

While there may not be any direct benefit to you from participation in this project, it may provide insight to the benefits to the MHFAY course.

Compensation or Payment:

Your attendance at the MHFAY course is paid as part of the mandatory department education. You will not receive any additional compensation from the project leader for your participation in the project; however, you will receive a gift card for a free cookie at Subway© as a token of thanks for your time and participation. The gift card will be distributed to all project participants at the end of the project beginning on October 15, 2019 by the department secretary. There will be no ability to connect the anonymous results to the participant by the project leader.

Signed consent has been waived for this project. **If you choose to participate, please follow the instructions within your project packet and complete all requested questionnaires and seal the envelope that is provided. There will be a designated drop box in the staff lounge where you can return your completed questionnaires. The drop box will be available from Wednesday, September 25th through Monday, October 14th.**

If you have any questions, please contact the project leader as noted below. Thank you in advance for your time.

Sincerely,

Mary Kay Silverman MSN RN CEN NEA-BC

Doctoral Candidate, University of New Hampshire &

Director of Emergency Services and Pediatric/Neonatal Transport Team

at Golisano Children's Hospital of SWFL, Lee Health System

mary.silverman@leehealth.org Office: 239- 343-6830

APPENDIX F
Participant Demographics Questionnaire

Participant # _____

Demographic Questions

1. Gender
 - _____ Female
 - _____ Male

2. Age
 - _____ 20 – 30 years
 - _____ 30 – 35 years
 - _____ 35 – 40 years
 - _____ 40 – 45 years
 - _____ 45 – 50 years
 - _____ >50 years
 - _____ I'd rather not say

3. How long have you been a registered nurse?
 - _____ < 1 year
 - _____ 1 – 3 years
 - _____ 3 – 5 years
 - _____ 5 – 10 years
 - _____ 10 – 15 years
 - _____ >15 years

4. How long have you worked within an Emergency Department?
 - _____ < 1 year
 - _____ 1 – 3 years
 - _____ 3 – 5 years
 - _____ 5 – 10 years
 - _____ 10 – 15 years
 - _____ >15 years

5. Do you currently hold a national certification?
 - _____ I currently do not hold a national certification
 - _____ Certification in Emergency Nursing (CEN)
 - _____ Certification in Pediatric Nursing (CPEN)
 - _____ Certification in Critical Care Nursing (CCRN)

Participant # _____

6. What is your highest completed level of education?
- _____ Diploma
 - _____ ADN
 - _____ BSN
 - _____ MSN
 - _____ Doctorate
 - _____ Non-Nursing Bachelor's
 - _____ Non-Nursing Master's
7. Are you currently in school? If so, what is the level of education of the program in which you are enrolled?
- _____ BSN
 - _____ MSN
 - _____ Doctorate
 - _____ Non-Nursing Bachelor's
 - _____ Non-Nursing Master's
 - _____ Currently not enrolled in school
8. From what you can recall from the Psychiatry rotation of your nursing program, how prepared do you feel you were to care for patients in an acute mental health crisis?
- _____ 1. Not prepared at all
 - _____ 2. Somewhat prepared
 - _____ 3. Neutral
 - _____ 4. Prepared
 - _____ 5. Really Prepared
9. Overall in nursing, do you feel that you have been provided an adequate amount of mental health education to care for patients who present in an acute mental health crisis?
- _____ 1. Not at all
 - _____ 2. Some Education
 - _____ 3. Neutral
 - _____ 4. Adequate Amount
 - _____ 5. Extensive Amount

Thank you for our participation!!!

APPENDIX G

Emergency Nurses Self-Efficacy Scale (Pre-Intervention)

Participant # _____

Emergency Nurses Self-Efficacy Scale (Pre)

Instructions: This scale, that is completed at the beginning of the program, is a series of statements regarding your perceived **self-efficacy (belief)** of strength that you **can** do them as of **now**.

The questions below are related to children and adolescents. There are no right or wrong answers. You will probably agree with some of the statements and disagree with others. This is anonymous with the results being compiled as a group, not individually.

Please rate your strength of confidence by recording a number from 1 to 10 using the scale provided for each of the below 10 questions. Please clearly circle your choice.

Please give thoughtful consideration as you answer the following questions. Describe your strength of confidence as it really is and not what you would like for it to be.

The following scale lists various nursing recognition, and identification related to pediatric mental health patients. Please rate your level of strength in confidence.

As of today, how confident are you that:

1. You can recognize the signs and symptoms of a patient experiencing a mental health crisis?									
Certain Cannot Do									Certain Can Do
1	2	3	4	5	6	7	8	9	10

2. You can list some typical signs and symptoms of a patient experiencing a mental health crisis?									
Certain Cannot Do									Certain Can Do
1	2	3	4	5	6	7	8	9	10

3. You can distinguish between delusions and hallucinations?									
Certain Cannot Do									Certain Can Do
1	2	3	4	5	6	7	8	9	10

4. You can distinguish between a panic attack and a heart attack?									
Certain Cannot Do									Certain Can Do
1	2	3	4	5	6	7	8	9	10

5. You can identify a concerning change in a child or adolescents' behavior?									
Certain Cannot Do									Certain Can Do
1	2	3	4	5	6	7	8	9	10

6. You can distinguish normal adolescence from a mental health disorder?									
Certain Cannot Do									Certain Can Do
1	2	3	4	5	6	7	8	9	10

7. You can identify the risk factors in adolescence associated with mental health?									
Certain Cannot Do									Certain Can Do
1	2	3	4	5	6	7	8	9	10

8. You can identify the difference between a mental health disorder vs developmental disabilities or Autism Spectrum disorders?									
Certain Cannot Do									Certain Can Do
1	2	3	4	5	6	7	8	9	10

9. You can recognize the signs exhibited by the patient that they may do self-harm?									
Certain Cannot Do									Certain Can Do
1	2	3	4	5	6	7	8	9	10

10. You can identify mental health resources to provide the patient and family?									
Certain Cannot Do									Certain Can Do
1	2	3	4	5	6	7	8	9	10

Bandura, A. (2006). Guide for Constructing Self-Efficacy Scales. In *Self-Efficacy Beliefs of Adolescents* (pp. 307-337). Retrieved from <https://www.uky.edu/~eushe2/Bandura/BanduraGuide2006.pdf>

Thank you very much for your participation!!

APPENDIX H

Emergency Nurses Self-Efficacy Scale (Post-Intervention)

Participant # _____

Emergency Nurses Self-Efficacy Scale (Post)

Instructions: This scale, that is completed at the beginning of the program, is a series of statements regarding your perceived **self-efficacy (belief)** of strength that you **can** do them as of **now**.

The questions below are related to children and adolescents. There are no right or wrong answers. You will probably agree with some of the statements and disagree with others. This is anonymous with the results being compiled as a group, not individually.

Please rate your strength of confidence by recording a number from 1 to 10 using the scale provided for each of the below 10 questions. Please clearly circle your choice.

Please give thoughtful consideration as you answer the following questions. Describe your strength of confidence as it really is and not what you would like for it to be.

The following scale lists various nursing recognition, and identification related to pediatric mental health patients. Please rate your level of strength in confidence.

As of today, how confident are you that:

1. You can recognize the signs and symptoms of a patient experiencing a mental health crisis?									
Certain Cannot Do									Certain Can Do
1	2	3	4	5	6	7	8	9	10

2. You can list some typical signs and symptoms of a patient experiencing a mental health crisis?									
Certain Cannot Do									Certain Can Do
1	2	3	4	5	6	7	8	9	10

3. You can distinguish between delusions and hallucinations?									
Certain Cannot Do									Certain Can Do
1	2	3	4	5	6	7	8	9	10

4. You can distinguish between a panic attack and a heart attack?									
Certain Cannot Do									Certain Can Do
1	2	3	4	5	6	7	8	9	10

5. You can identify a concerning change in a child or adolescents' behavior?									
Certain Cannot Do									Certain Can Do
1	2	3	4	5	6	7	8	9	10

6. You can distinguish normal adolescence from a mental health disorder?									
Certain Cannot Do									Certain Can Do
1	2	3	4	5	6	7	8	9	10

7. You can identify the risk factors in adolescence associated with mental health?									
Certain Cannot Do									Certain Can Do
1	2	3	4	5	6	7	8	9	10

8. You can identify the difference between a mental health disorder vs developmental disabilities or Autism Spectrum disorders?									
Certain Cannot Do									Certain Can Do
1	2	3	4	5	6	7	8	9	10

9. You can recognize the signs exhibited by the patient that they may do self-harm?									
Certain Cannot Do									Certain Can Do
1	2	3	4	5	6	7	8	9	10

10. You can identify mental health resources to provide the patient and family?									
Certain Cannot Do									Certain Can Do
1	2	3	4	5	6	7	8	9	10

Bandura, A. (2006). Guide for Constructing Self-Efficacy Scales. In *Self-Efficacy Beliefs of Adolescents* (pp. 307-337). Retrieved from <https://www.uky.edu/~eushe2/Bandura/BanduraGuide2006.pdf>

Thank you very much for your participation!!

APPENDIX I

Post-Intervention Debriefing Survey

Participant # _____

Debriefing Survey

Instructions: This debriefing survey, is to be completed after you have completed the MHFA program **AND** have cared for a patient in a mental health crisis. These are open-ended questions regarding your **feelings and emotions** related to the care you give to children and adolescent mental health patients in the emergency department.

There are no right or wrong answers. Your answers are based on your **feelings and emotions** in the care you are **currently** providing to patients in a mental health crisis. Describe your feelings and emotions as they are today regarding caring for a patient in a mental health crisis.

This is anonymous with the results being compiled as a group based on themes found, not on any individual answers.

Please give thoughtful consideration as you answer the following questions.

As of today, please describe your feelings and emotions to the following questions:

1. Please select the date in which you completed the Mental Health First Aid – Youth course? Please check one:
___Tuesday, Sept 24th ___ Friday, Sept 27th ___Monday, Sept 30th ___Tuesday, Oct 1st
2. Describe your **feelings** about the first interaction you had with a mental health patient following completing the Mental Health First Aid – Youth course? Please describe:
3. Do you **feel** you have an improvement in your ability to recognize and identify key signs and symptoms about your first mental health patient following completing the Mental Health First Aid – Youth course? Please describe:
4. Do you **feel** that you have gained more knowledge about youth mental illness following the completion of the Mental Health First Aid – Youth course than you had prior to taking the course? Please describe why:
5. Describe your **feelings** completing the Mental Health First Aid – Youth course was it beneficial to the care you provide as a nurse to mental health patients in the ED?
6. Describe your **feelings** regarding if you think that all ED nurses would benefit in completing a Mental Health First Aid course and that it would be applicable in the acute clinical care setting? Please describe why:
7. Can you think of any other information or resources that would have been helpful to prepare you in caring for this patient? Please describe:

Once completed, put into the envelope that has been provided, seal and place within the project drop box located in the staff lounge. ***The drop box will be available for submissions between Wednesday, September 25th through Monday, October 14th.***

Thank you very much for your participation!!