2016

Nursing Attitudes towards Suicidal Patients in the Emergency Department: Assessment Interview Training

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Submitted in Partial Fulfillment of the Requirements

For the Degree of Doctor of Nursing Practice in

Nursing Practice

College of Nursing

University of South Carolina

2016

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ABSTRACT

This project sought evidence for the effectiveness of pedagogy in professional nursing continuing education and its effect on emergency department nurse attitudes towards patients seeking crisis intervention for suicide. Approximately 12 million emergency department (ED) visits annually were for patients suffering with mental illness and/or suicidal ideation. Emergency department staffs were often not adequately prepared to manage these problems. The purpose of this project was to examine the impact of an educational initiative on nurses' attitudes about patients expressing suicidal ideation in the emergency departments 2 rural southeastern towns.

The project question was; *in two different rural community emergency departments of the Greenville Health System, did suicide training positively affect self-reported nursing attitudes towards suicide ideation?* Respondents were asked to complete the Attitudes towards Deliberate Self- Harm Questionnaire (ADSHQ), participate in an educational program, and repeat the ADSHQ survey. Of 76 possible respondents, 33 nurses (43%) completed the study. Descriptive and inferential statistics, including matched paired *t* test and Pearson coefficient correlation, were used

Demographic information established a time interval of up to over a decade between suicide training in nursing school and actual practice. Sample size was too small to support full interpretation of nurse's attitudes. Results did not support the PICO question. Overall mean scores were slightly increased post intervention, but not statistically significant. Implications for nursing include a) the need for specialized

suicide training, b) identification of suicide training format; c) methods for closing the training gap between nursing school and practice; and d) examining was to decrease emergency department nurse's undesirable attitudes towards suicidal patients.

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CHAPTER 1

INTRODUCTION

Emergency departments have seen an increase in mental health and suicidal patients each year (Emergency Nurses Association {ENA}, 2013). Twenty nine to 50% of all emergency departments' visits in 2012 involved mental health diagnoses, and emergency department staff were not appropriately trained or prepared to handle this patient population (American College of Emergency Physicians [ACEP], 2012). The ENA (2013) reported as many as one in eight patients who visited the emergency department had mental health or substance abuse issues. This translated into approximately 12 million emergency department visits annually (Emergency Nurses Association {ENA}, 2013). Suicidal patients were among the many diagnoses seen in the emergency department (ED).

The emergency department was an important identification point for suicidal ideation, and became a lifesaving decision moment for many suicidal patients (Wilson, Nordstrom, & Zellar, 2014). Approximately 39% of those who completed suicide had presented to the emergency department for care within the previous 12 months (Wilson, et.al, 2014). As more emergency department nurses and physicians were required to manage suicide patients in crisis, they were compelled to assess their preparedness and overall understanding of these patients (ACEP, 2012). Emergency department physicians and nurses experienced discomfort, poor confidence, and lacked specialty skills to handle patients in suicide crisis (ACEP, 2012).This led to inadequate care (ACEP, 2012). ED

nurses were ambivalent and resentful about managing suicidal patients. They shared minimal, if any, agreement on standard of care related to assessment, psychological clearance, discharge, and nursing care provided to these patients (ENA, 2013).

Similar findings were noted in the emergency department of two small rural Greenville Health System (GHS) community hospitals. The mental health population seemed to be lower than ACEP (2012) and ENA (2012) predictions, but suicide crisis management in the emergency department became a serious healthcare challenge for these hospitals.

S.C. suicide death was 13.67%, higher than the national average (12.6%) (Department of Health and Environmental Control [DHEC], 2013). For the same year, suicide in the South ranked second in the nation at 13.4%, or 14,907 deaths per year and S.C. was ranked 26th in the U.S. for suicide, with 696 deaths (DHEC, 2013). Suicide incidence in SC had a major impact on these 2 rural hospitals.

Oconee and Laurens hospitals held an average of four mental health patients daily in the emergency department, with a range of one to ten. Often, at least two of the four patients being held because of suicidal ideation or a recent suicide attempt. Oconee and Laurens hospitals did not provide psychiatric services, but relied heavily on local and county resources for the care of mental health and suicidal patients. Placement, housing, and crisis care were very limited or non-existent on weekends and after hours. Therefore suicide crisis management in the emergency department at Oconee and Laurens hospitals became the norm.

Based on discussions among colleagues around the state of S.C., it became evident that ED nursing care and medical treatment of suicidal patients in crisis varied

greatly. In some cases, suicidal patients were held in the emergency department without follow up on co-morbidities, medications, or health issues. ED nurses, in particular, were intuitively inclined to focus on emergent intervention rather than social, environmental, or economic influences. At both hospitals, emergency department nurses expressed concern about their lack of preparation to care for suicidal patients. They talked about their mixed feelings such as apathy, detachment, and slight resentment towards suicidal patients who repeatedly came to the emergency department. To these nurses providing emergent care was their priority, and long term management of suicidal patients was not what they signed up for. The general focus of ED nursing at the 2 GHS hospitals was on placement and behavior control, rather than prevention and suicide risk management.

Early in 2016, suicide gained national attention. Accrediting organizations recognized that suicidal populations needed improved healthcare. In February 2016, The Joint Commission (TJC) published a Sentinel Event Alert regarding the care of suicidal patients and expectations of healthcare facilities. Sentinel Event Alert # 56 (TJC, 2016) specifically described a deficit in care, assessment, and follow up for suicidal patients. To maintain accreditation, all TJC hospitals were required to review policies and assessment processes. As an accredited hospital, GHS was required to review policies and treatment of suicidal patients, which included Oconee and Laurens hospitals.

Scope of the Problem

Treatment and protection of people who attempt suicide presented a complex, expensive, and frustrating challenge for Oconee and Laurens hospital. Not only did emergency department nurses re- assess their practice, insurers, and society as a whole, needed a better understanding of the dynamics surrounding suicide. Oconee and Laurens

emergency department nurses felt they had to do a better job recognizing these patients' needs, and gain necessary skills to make a difference in the suicide patient's health. At Oconee and Laurens, traditional methods for emergency department patient care did not fit this population. A paradigm shift was required. Treatment plans, even evidence based, had to be designed for each person's capacity and ability to comply (Montoro, 2014). Without further training or skill development, emergency department nurses continued to feel apathy and lack confidence in their ability to provide safe and appropriate care to suicidal patients (ENA, 2013). Emergency department nurses at Oconee and Laurens expressed agreement with this ENA statement.

How much of an issue was suicide during this study? Nationally suicide was a major cause of death, and had a rippling effect on millions of Americans (Davidson, 2015). One million Americans attempted suicide annually (American Foundation for Suicide Prevention [AFSP], 2015). According to AFSP (2015) on average, in 2014, an American died from suicide every 12.95 minutes. Uneducated, unemployed white males aged 45 to 64, who lived in poverty, served in the military, and had access to guns, were at highest risk for suicide attempts (Suicide Awareness Voices of Education [SAVE], 2014). Teenagers exposed to another teen's death by suicide, had increased risk, and were much more vulnerable to suicide ideation and death (Davidson, 2015).

In the same year, suicide death was highest among American Indians, Alaskan Native adolescents, and all races for young adults aged 15-24 (AFSP, 2015). According to the Centers for Disease Control and Prevention (CDC), (2013), veterans comprised 22.2% of the total death rate. Those who lived in violent homes with chronic depression were at higher risk (Oquendo, 2014) than those who did not. Additionally, those with

substance abuse history, exposure to a recent loss, history of trauma, disability, or physical illness, were at increased risk (Oquendo, 2014).

Suicide was the second leading cause of death for ages 10-24, third leading cause of death for ages 24 -35, and the fifth leading cause of death for ages 45-59 (ASFP, 2015). Suicide was ranked ahead of all homicides in the United States. Non-fatal attempts occurred almost every 24 seconds in the U.S. (Drape au & McIntosh, 2015). Risk factors, such as gender, race, and age led to suicide ideation as well as death. For every suicide death by a female, four male suicide deaths occurred. However, females "attempted" suicide threefold when compared to males (ASFP, 2015).

Table 1.1 shows outcomes of suicide among white males (23.4%) compared to black males (9%). Native Americans had the next highest completion rate (11.7%), and white females were three times higher than (6.5%) black females (2.0%) to commit suicide (Drapeau & McIntosh, 2015).

According to Suicide Awareness Voices of Education (2014) for every 25 suicide attempts in 2014, 1 ended in death. Males represented 79% of all suicides, while females were more prone to suicide ideation. One in every 65,000 children aged 10-14 committed suicide each year. Suicide was responsible for 2 times more deaths in 2014 than HIV/AIDS (SAVE, 2014). In the United States suicide deaths were higher in the spring (Suicide Awareness Voices of Education {SAVE}, 2014). Of those who completed suicide, 2 out of 3 had untreated depression, as well as other undiagnosed, under treated or un-recognized psychosocial issues.

The manner in which suicide was attempted varied based on accessibility. Firearms were the most common method used, accounting for 50.9% of all suicide deaths

per year. Suffocation, including hangings (24.8%), was the second most common method, while poisonings (16.7%) were ranked third (CDC, 2013). Regardless of the method used, treatment of suicidal patients in the emergency department (ED) had been on the rise and associated with two organizational issues of over-crowding and patient dissatisfaction (Bender, Pande, and Ludwig, 2008).

Both Oconee and Laurens hospitals saw an increase in mental health care provided in their ED. This included suicidal patients in crisis. Because of funding cuts, suicidal patients had less access to medications, and very little if any access to critical services. This drove suicidal patients to the emergency department for crisis management (ENA, 2013).

At Oconee and Laurens, suicidal patients were often held in the emergency department on commitment papers while waiting placement or disposition. Holding patients in the emergency department caused higher consumption of resources, prolonged wait times, increased length of stay, and decreased the number of beds available for other emergent patients (Bender, Pande, and Ludwig, 2008). Nursing staff at Oconee and Laurens hospitals reported similar concerns and were worried about the quality of care they provided to suicidal patients while being held in their emergency department. According to nursing staff, patients who were identified as suicidal would be placed in isolation with a sitter or security. Often they were not medically re-assessed. There were no published standards or polices on how to provide nursing care to suicidal patients while being held in the ED. Concerns about chronic illness management, routine medication administration, and general follow up were expressed by emergency department nurses at both hospitals.

In addition to care issues surrounding suicidal patients held in the emergency department, there were also financial implications? Emergency department overcrowding significantly affected medical cost, mortality rates, emergency department throughput, recidivism, and overall efficiency of the emergency department. Hospital administrators and clinicians at both Oconee and Laurens recognized these issues and made efforts to address this problem. However hospitals were limited by funding cuts and lack of standardized care options (Nicks & Manthey, 2012).

Nationally there was a financial impact as well. The National Alliance on Mental Illness (NAMI), (2011) expressed concern over funding cuts for mental health patients. At the national level, the cost of suicide was more than 44.6 billion a year. Medical cost in the United States for suicide was over 18 billion annually, and related work loss was 26 billion (CDC, 2015). Between 2009 and 2011, there were significant cuts in state and federal funding for mental health inpatient care and crisis management, including those who attempted suicide (NAMI, 2011). Services supporting patients to avoid crisis were cut, and this limited their ability to gain recovery (NAMI, 2011). S.C. was one of eleven states where the largest cuts by percentage of overall general funds were made from 2009 to 2011 (NAMI, 2011). These cuts were greater than the combined cost of homicide and medical malpractice (CDC, 2015).

Extended length of stay in the emergency department increased the cost of care for suicidal patients (AFSP, 2015). The average length of stay (LOS) for these patients was 17 hours, while the LOS for other patients was 3 hours (AFSP, 2015). Fatal suicide averaged $2596 per patient which included ambulance transport, Licensed Independent Provider (LIP) exam, and overall emergency department expense. Non-fatal suicide

attempt was estimated to be two times the fatal cost per patient (Corso, Mercy, Simon, Finkelstein, & Miller, 2007). The annual cost of suicide in the United States continued to rise, and was well over $44 billion in combined medical costs and work loss per year in 2015 (American Foundation for Suicide Prevention [AFSP].

Finally, managing suicidal patients in the emergency department became a serious concern for Oconee and Laurens Hospital. The impact of budget cuts, inadequate nurse preparation, long LOS, and emergency department overcrowding, on quality and patient satisfaction, was a major concern. Emergency department nurses were not adequately trained or prepared to handle this patient population (Cooke, 2015). Emergency department physicians and nurses experienced discomfort and lacked skills for early recognition of immediate suicide risk leading to undesirable nursing attitudes. ED providers were ambivalent about managing these patients (ENA, 2013). This led to inadequate care (ACEP, 2012). Emergency department nurses at both Oconee and Laurens hospitals described similar findings. Nurses did not feel confident, empathetic, or that they dealt effectively with suicidal patients. Their confidence in suicide risk assessment and protection of these patients was low.

Innovation and Best Practice

A major theme throughout the literature was a lack of suicide training for emergency department nurses. Lack of confidence, ineffective coping, decreased empathy, and feeling uncomfortable when screening suicide patients, was also found throughout the literature. Seven studies described a gap in training and education related to risk screening, and practice patterns (Betz, 2013; Clarke, 2014; Egan, 2012; ENA White Paper, 2011; Fleishmann, 2008; Plant, 2013; ENA, 2013). The ENA (2013)

recommendations called for training for suicide risk screening, interview skills, and prevention care. Specialized suicide training improved nurse's attitude, confidence, and their competency (Clarke, 2014; Egan, 2012; ENA, 2013; ENA White paper, 2011; McAllister, 2002; Plant, 2013). In a study by Betz (2013), nurses implemented additional suicide protections for patients when trained to more thoroughly screen for suicidal ideation. Specialized training increased the level of suspicion for suicide; they took further steps to protect patients. (Betz, 2013; Egan, 2012; ENA, 2013).

According to Giordano and Stichler (2009), Emergency department visits were life-saving if staff worked together to assess patients. McAllister, Billett, Moyle, and Zimmer-Gembeck (2009) studied the confidence level and ability of nurses to assess and recognize key factors of high risk suicide ideation. They found that nurses, who received adequate training, were more confident, empathetic, and skilled. These findings were also supported by a study conducted by Saunders, et al., 2012, who found that attitudes of ED nurses towards those who attempted suicidal patients were largely negative, but training improved confidence, positive attitudes, and patient interactions

In addition to evidence that focused on nursing and medical care of suicidal patients, some studies made recommendations about patient satisfaction as it related to length of stay and wait times (Little, 2011;Nicks, 2012; Nolan, 2015). Early recognition of suicide ideation, coupled with timely assessment, and intervention, was found to significantly decrease wait times (Chang, 2011; Clarke, 2011; Little, 2011). The research question for this project was: *In 2 rural community emergency departments of the Greenville Health System, did suicide training improve self-reported nursing attitudes*

towards patients with suicide ideation, was decidedly supported by the evidence found in the literature review.

Purpose and Project Question

This project sought to address a critical omission in emergency department nurses' preparation to care for suicidal patients in a rural, southeastern health system. The purpose of this study was to further investigate concerns expressed by emergency department nurses at Oconee and Laurens hospital about nursing care, assessment, and placement of suicide patients. A second purpose was to determine if suicide risk factors and interview training for emergency department nurses would improve their expressed lack of confidence, and decrease undesired attitudes towards suicidal patients. The aim of the study intervention was to improve emergency department nurses understanding of suicide and improve their confidence in recognizing patients at risk for suicide. The Chronological Assessment of Suicide Events (CASE) model was used as a training intervention (Shea& Barney, 2009).

The third purpose of this study was to work with GHS to develop a policy compliant to The Joint Commission Event Alert # 56 (TJC, 2016). Hospitals accredited by the Joint Commission were required to provide evidence of compliance to Sentinel Event Alerts. Study results were shared with the GHS suicide policy team and were incorporated into policy development.

This quality improvement project investigated the following quality improvement question*: In two rural community emergency departments of the Greenville Health System, did suicide training positively impact self-reported emergency department nursing attitudes toward patients who have suicide ideation?* The population (P) of

interest was Oconee and Laurens hospital emergency department nurses who manage suicidal patients in crisis. The quality improvement intervention (**I**) was application of suicide awareness and risk training as well as CASE model interview training. Study comparison (**C)** was self-reported nursing attitudes before and after training. Predicted outcomes (**O)** included improved self-reported nursing attitudes towards suicidal patients clinically managed in the ED. Study timeline **(T)** was from June 15, 2016 to August 15, 2016.

Definition of Terms

Suicide was defined as death caused by self-directed injurious behavior with intent to die as a result of the behavior (CDC, 2016).

Suicide Ideation meant thinking about or planning to commit suicide (CDC, 2016).

Attitudes were what someone thought and felt about someone or something, feelings that affected a person's behavior (Merriam-Webster, 2012). This included; confidence, empathy, coping, and dealing effectively.

Undesirable attitudes were feelings or way of thinking that was unfriendly, rude, resentful, apathetic, or dismissing. This included: judgmental, lack of confidence, inability to cope deal effectively, or lack of empathy.

Crisis was defined as a dramatic emotional or circumstantial disruption of a person's life --or a situation that had reached a critical phase (Merriam-Webster, 2012). Patients in crisis were suicidal and needed health care intervention.

Crisis management was defined as the use of necessary treatment to calm and de-escalate a suicidal event.

CASE Model was an interview technique used as the intervention in this quality Improvement project. It involved a sequential approach to patient interview.

Assumptions

The first assumption of this study was that emergency department nurses with strong emotions towards suicidal patients would have undesirable attitudes towards them (McAllister et al., 2002). Undesirable attitudes compromised the ability of nurses to appropriately assess, and provide care for patients, and in some cases, contributed to poor outcomes (Zun, 2012). Undesirable attitudes affected emergency department nurses ability to recognize immediate threats, and perform needed assessment in the emergency department (McAllister, 2002). Emergency department nurses at both Oconee and Laurens hospitals expressed similar concerns about their practice.

A second assumption was that undesirable attitudes affected nursing care provided to suicidal patients (McAllister, et.al, 2002). Caregivers in the emergency department did not feel comfortable providing care to these patents, leading to inadequate care, ambivalence, and delaying the development of care standards (ENA, 2011).Examples given by the Oconee and Laurens nursing staff included: patients held for 2-3 days without receiving repeat vital signs, having a care plan, or getting their insulin; patients held without being seen by the physician for 3 days; suicidal patents waited for placement for over a week without adequate medication management. Multiple examples were discussed among the emergency department nurses at Oconee and Laurens Hospitals.

A final assumption of this study was that participants would respond to the survey and demographic questionnaire in an accurate and truthful manner. It was reasonable to

assume that self–reported data contained some bias, and it was important to figure out which perspectives were most accurate and least biased (Donaldson, & Grant-Vallone, 2002). Respondents were assured that their survey responses were confidential.

Summary

Inpatient and outpatient mental health services have dwindled over the last 10 years causing a decrease in placement options for suicidal patients and increased use of the ED for crisis management (Chang, et al., 2011). Because of these changes, the emergency department became the default provider of choice, intensifying challenges facing emergency department nurses. Historically, emergency departments managed patients who attempted suicide because they required some component of medical care. However, within the last few years, increased numbers of suicide patients presented to the emergency department for early intervention and rescue. Lack of legislative support, funding, and unprepared emergency departments placed suicidal patients in a precarious position to receive inadequate health care. This led to deadly outcomes (National Alliance on Mental Illness [NAMI], 2011). Managing cost, and unavailable or inadequate services became formidable barriers to quality care within the emergency department for the suicidal patients (NAMI, 2011)

Oconee and Laurens hospitals have been affected by local, state, and national changes in funding and general lack of services for the suicidal population. Nurses in both settings have expressed concern about lack of skills, perceived misuse of the emergency department, and feelings of apathy and resentment when taking care of suicidal patients. Emergency department nurses were not comfortable with their ability to provide adequate care for these patients. This discomfort is supported by the literature

and not an uncommon concern. This study investigated the impact of suicide training on nurse's attitudes at Oconee and Laurens hospitals.

Table 1.1 USA Self-Harm Deaths 2013

Self-Harm Category	**Number of Deaths**	**Deaths per Day**	**Death Rate**
United States	41,149	112.7	12.6
Total Males	32,055	87.8	20.6
Total Females	9,094	24.9	5.7
Whites	37,154	101.8	14.9
Males	28,943	N/A	23.4
Females	8,211	N/A	6.5
Non-Whites/Non-Black	3,995	10.9	6.0
Males	3,112	N/A	9.7
Females	883	N/A	2.6
Blacks	2,353	6.4	5.4
Males	1,891	N/A	9.0
Females	462	N/A	2.0
Elderly (65 + years)	7,215	19.8	16.1
Young (15-24 years)	4,878	13.4	11.1
Middle Age (45-64 years)	15,756	43.2	19.0
Hispanics	2,865	N/A	5.3
Native American	521	N/A	11.7
Asian-Pacific	1,121	N/A	6.0

American Association of Suicidology by Christopher Drapeau & John McIntosh – January 2015 N/A =Not Available

CHAPTER 2

LITERATURE REVIEW

Evidence Search Strategy

An evidence search was done using the following databases: CINAHL, Science Direct, Psych info, MEDLINE, and PubMed. Initially search words consisted of: mental health, substance abuse, and emergency department. Search criteria included full text, abstracts, randomized clinical trials, and scientific articles not older than seven years. The initial search yielded 1,135 articles which was too extensive. Key words were again altered, adding self-harm, stigma, and nursing attitude scales, yielding 522 articles. All other search criteria and key words remained the same with one exception; the age of scientific articles was limited to 5 years unless the study was exceptionally strong. Search results were reduced to those that highly correlated with and supported the PICO question. Of the 522 articles, 42 were selected. Closer review of the 42 articles selected was narrowed down to a total of 31 articles based on their scientific quality and support of the PICOT question. These are demonstrated in Table 2.1

The *Johns Hopkins Nursing Evidence Based Practice: Models and Guidelines (2012*) (JHNEBP) were used to evaluate the quality of evidence resulting from this literature review. This tool provided a structured way to perform critical appraisals of evidence using a broadly defined quality rating scale (Newhouse, Dearholt, Poe, Pugh, and White, 2007). JHNEBP incorporated the foundations of nursing: practice, education,

and research. It includes a systemic review and synthesis of both research and non-research evidence to shape and assist decisions about evidence quality (Newhouse, et. al., 2007). This instrument differentiated evidence based on strength and quality, while allowing reviewers to use critical thinking skills, experience, and knowledge (Newhouse, et al., 2007).

Evidence-Based Practice Non- Research Appraisal

Of the 42 original articles, 31 selected findings were reviewed using JHNEBP. 14 of the final 31 findings were non- research findings and were rated on the *Johns Hopkins Nursing Evidence-Based Practice Non- Research Appraisal tool* (see Appendix A) (Agency for Healthcare Research and Quality {AHRQ}, 2013; Bolster, 2015; Cassidy, 2012; Chakravarthy, 2014; Clarke, 2014; ENA, 2013; ENA White Paper, 2011; Hawton, 2011; Kodaka, 2010; McAllister, 2002; Olfson, 2011; Owens, 2010; Saunders, 2012; Stanley, 2011). Of the 14 non-research findings those with the highest level of evidence were systemic literature reviews, clinical practice guidelines, and systemic critical analysis of literature (see Appendix A). Six of the 14 findings, were rated high quality due to their well-defined strategies, study design, and overall scientific strength (AHRQ, 2013; Chakravarthy, 2014; ENA, 2013; ENA White Paper, 2011; Owens, 2010; Saunders, 2012). Only one of the 14 findings was rated "good quality" due to its low response rate, isolated sample, and lack of generalization to other populations (McAllister, et al., 2002).

Of the non- research articles, the strongest correlation to the PICOT question among the non- research group was the ENA and AHRQ clinical practice guidelines (CPG's). For example, the ENA (2013) clinical practice guidelines for suicide risk

assessment had strong relevance to the PICOT question based on strength and the rigorous development. These guidelines were built using the CPG development guidelines which required a comprehensive literature search, critical analysis, and review by an expert panel. The ENA CPG's included a focus on patients who attempted suicide, and were unsafe to release from the emergency department, or needed protection. Along these same lines, the AHRQ CPG's were created based on critical review of the literature. Expert consensus and a weighted rating scale were used to identify best practice and recommendations (AHRQ, 2013). Although CPG's strongly supported best practice, they lacked the deeper view into nursing attitude and its impact on patient care (AHRQ, 2013).

The remaining non-research studies used similar approaches to the topic, but included additional evidence resources. These studies documented support for the association between suicide patient outcomes, staff training, staff skills, confidence level, attitudes, and practice patterns (Chakravarthy, 2014; ENA White Paper, 2011; Owens, 2010).

Evidence-Based Practice Research Evidence

Seventeen of the 31 selected articles were research based and rated on the *Johns Hopkins Nursing Evidence-Based Practice Research Appraisa*l tool (see Appendix B) (Betz, 2013; Chang, 2011; Clarke, 2005; Commons, 2008; Egan, 2012; Fleishmann, 2008; Little, 2011; McAllister, M., Moyle, 2009; Navneet,, 2005; Navarro, 2012; Nicks, 2012; Nolan, 2015; Plant, 2013; Posner, 2011; Tsai, 2010; Weiss, 2011). Studies with the highest level of evidence were experimental, meta-analysis, and quasi-experimental. Six of the 17 research studies were rated highest quality based on consistent results, sufficient sample size, adequate controls, consistent recommendations, and thoughtful reference to

scientific evidence (Fleishmann, 2008; Grimholt, 2013; Koniezcna, 2013; Navarro, 2012; Tsai, 2010; Sun, 2004). Thirteen studies were rated good quality based on reasonably consistent results, some control, fairly definitive conclusions, reasonable recommendations, and some reference to scientific evidence (Betz, 2013; Commons, 2008; Chang, 2011; Clarke, 2005; Egan, 2012; Little, 2011; McAllister, 2009; Navneet, 2005; Nicks, 2012; Nolan, 2015; Plant, 2013; Posner, 2011; Weiss, 2011).

The study with the strongest relevance to the PICOT question within this group was a randomized clinical trial. The results of this study correlated well with the PICOT question by demonstrating how staff training improved feelings of inadequacy, confidence in care, early recognition and intervention, This significantly decreased suicide deaths (Fleishmann, et.al. 2008). Findings from two studies provided support of the PICO, but not as robustly. They found an association between suicidal patients, emergency department length of stay, frequency of ED visits, and inappropriate use of the ED for suicide management (Nolan, 2015; Weiss, 2011).

Nine out of 17 studies provided reasonable or mild support of the PICOT question. (Betz, 2013; Chang, 2011; Clarke, 2005; Commons, 2008; Egan, 2012; Little, 2011; McAllister, 2009; Navneet, 2005; Nicks, 2012; Plant, 2013; Tsai, 2010). Gaps in routine nursing skills, confidence, and practice patterns were discussed in four different studies (Betz, 2013; Chang, 2011; Egan, 2012; Plant, 2013). Seven of the 17 studies focused on ED visit frequency, ED length of stay, and financial impact (Clarke, 2005; Commons, 2008; Little, 2011; McAllister, 2009; Navneet, 2005; Nicks, 2012; Tsai, 2010). Close to half of the 17 studies found a relationship between suicidal patient outcomes, staff confidence, training, skills, and ability to screen for suicide ideation(Betz,

2013; Bolster, 2015; Cassidy, 2012; Chang, 2011; Clarke, 2014; Commons, 2008; Egan, 2012; Fleishmann, 2008; Grimholt, 2013; Hawton, 2010; McAllister, 2009; Plant, 2013; Saunders, 2012; Tsai, 2010).

Four overlapping themes were described in the literature review conducted by Bolster, Holliday, O'Neal, and Shaw (2015). These included beliefs and undesired attitudes of nurses, lack of confidence, and related training. Similar themes were illustrated by Clarke, Sanderson, Giles-Smith, and Baker (2014), which included consumer perspective, and ED environment. These authors found that negative attitudes responded positively to educational intervention. Another study described how active and appropriate training led to consistent improvement in confidence, skills, and general knowledge about suicide ideation and prevention (Saunders, Hawton, Fortune, and Farrell, 2011).

The Chronological Assessment of Suicide Events (CASE) model was identified from the literature as a good fit for suicide patient. And it was a reliable instrument to use in the ED setting (Shea, 2009). CASE was created to minimize the potential for missing critical data during assessment of patients (Shea, 2009). The target of this approach was to use a practical and reliable interview strategy. This type of interview strategy would increase the validity of stated and reflected intent, while decreasing their withheld intent for suicide (Shea, 2009). The ultimate purpose of this tool was to assist clinicians in identifying patients actually were at a higher risk for suicide (Shea, 2009).

The CASE model was originally used to evaluate mental health patients in clinics at the University of Pittsburgh in the early 1980's. It was not until early 2000 that it was applied to the suicidal patient. Population. The CASE model was a core course for annual

meetings of the American Association of Suicidology and was also used as a telephone crisis intervention technique (Shea, S., & Barney, C., 2009).

Shea and Barney (2009) recommended video-taping students using the CASE model so they could critique themselves. However, Shea and Barney (2009) pointed out that the CASE model was an easily learned technique and demonstration was not required for clinicians to master the skill (Shea & Barney, 2009).

Table 2.1 Evidence Table

Brief Reference	Type of Study/Quality Rating	Methods	Threats to Validity/Reliability	Findings	Conclusions
Agency for Healthcare Research and Quality (AHRQ) Clinical Practice Guidelines (2013).	Literature Review and Clinical Practice Guidelines Rating = 4A	CPG's were developed after a review and critical analysis of the literature. Multiple databases were used to search the literature. Hand searches of Primary and Secondary Source literature was conducted.	1. There was room for error in criteria used when forming the CGG's. 2, Expert consensus and weighting was used to create a rating scale. Strength of the recommendation was dependent on use of the rating scale and expert opinion.	1. PICO formatting was used to guide the searches. A total of 35 randomized controlled studies and 38 systemic reviews were included. 2. Target population was adults 18 years or older with self-harm history or risk. 3. CPG's were rated based on strength of recommendation for practice, overall quality, and net effect of intervention.	1. CPG's were published in 2013. 2. Intended users include APRN's, Nurses, LIP's, Pharmacist, Hospitals, Public Health Departments, Social and Psychiatric workers.

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Brief Reference	Type of Study/Quality Rating	Methods	Threats to Validity/Reliability	Findings	Conclusions
Betz, M., Sullivan, A., Manton, A., Espinola, J., Miller, I., Camargo, C., & Boudreaux, E. (2013).	Cross Sectional Study Rating = 3B	A multistate NIH funded study where a sample of 800 ED providers, 631 completed an anonymous survey (79% response rate) from 8 different ED's across 7 states, between June 2010 to March 2011. The survey examined ED assessment and interventions for suicidal patients.	1. The study relied on self-reported behaviors without verification – introducing the possibility of bias. 2. The survey design did not include questions about safety plan or what constituted a safety plan allowing for provider interpretation. 3. Survey design did not include questions about patient characteristics such as previous suicide attempts. 4. Cross Sectional studies did not allow drawn conclusions about temporal or causal relationships between variables	1. ED providers described confidence in their ability to screen suicide patients. 2. Providers reported gaps in skills. 3. Over half of respondents felt that suicides were preventable and had confidence in their ability to create a safety plan. 4. Most respondents thought psyche staffing/support was insufficient for the patient load.	1. This study provided important information on the knowledge, skills and attitudes of practices in the care of suicidal patients. 2. This study supported the recent Joint Commission goals for suicide care which identified weaknesses in skills and practices for risk assessment and referral for suicidal patients.

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Brief Reference	Type of Study/Quality Rating	Methods	Threats to Validity/Reliability	Findings	Conclusions
			and or outcomes of interest.		
Bolster, C, Holliday, C., O'Neal, G., & Shaw, M. (2015)	Systemic Literature Review Rating = 4A	Key search words were used on the following search engines: PubMed, CINHAL, Psych-INFO, MEDLINE, and MEDLINE PLUS, and the search were limited to articles published within the last 7 years. If nurses were not a part of the research focus they were excluded.	1. This study only looked at adult populations but comprehensive coverage of this population. 2. This study focused on "nurse only" literature which narrowed the focus of this search.	1. 54 articles were found to be relevant to research topics. 2. Four relevant overlapping and interconnected themes were identified: beliefs and attitudes of nurses, lack of training related to suicide, training programs for nurses, and examples of success post training.	1. Four themes gave specific direction for designing suicide prevention and assessment guidelines for nurses. 2. Future research implications revolved around staff support and training. 3. There was a great need for evidence-based interventions that decrease suicide

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					rates and improve nurse assessment. 4. Implications for practice included a need for evidence-based clinical care practice and standards.
Cassidy, E., Arensman, E., Keeley, H., & Reidy, J. (2012)	Literature Review and Clinical Practice Guidelines Rating = 4A	Study conducted by the National Suicide Research Foundation formed a subgroup (Suicidal Behavior Working Group) to assess practices related to self-harm in Ireland ED's. Key documents were reviewed and existing guidelines were revised.	1. Guidelines for Ireland and not generalized for US. 2. Based on expert opinion.	1. Repeat visits to the ED were rising and presenting a significant problem. 2. Assessment and aftercare were inconsistent.	1. Minimum Assessment guidelines were used to determine risk. 2. Staff training was essential for improved skill to identify high risk patients.
Chakravarthy, B., Hoonpongsimanont, W., Anderson, C., Habicht, M.,	Retrospective study Rating = 5A	Using the national Hospital Ambulatory Medical Care	1. Use of a large national survey has inherent limitations such as assumptions	1. SA and SI patients were less likely to be discharged from	1. Results indicated that Hispanics had a higher discharge rate.

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Brief Reference	Type of Study/Quality Rating	Methods	Threats to Validity/Reliability	Findings	Conclusions
Bruckner, T., & Lotfipour, S. (2014).		Survey from 2006-2008, 2,314 subjects met criteria for depression, suicidal ideation (SI) and suicide attempt (SA) and were examined to look at predictors of discharge from the ED using logistic regression.	about the data. Secondly, errors in data collection and reporting were associated with such a large study. 2. This study used depression as a marker for suicide risk.	the ED than depression patients. 2. Discharge decreased with increased age. 3. Gender, race, vital signs, and housing type were not associated with discharge. .	2. SI and SA patents were treated with higher caution.
Chang, G., Weiss, A., Orav. Jones, J., Finn, C., Gitlin, D., et al (2011).	Prospective Cohort Study Rating = 3B	1.092 adults treated between June 2008 and May 2006. Data was abstracted from medical records looking at length of stay (Los), clinical information related to ED visit of those receiving psychiatric consultation in 5 study hospitals.	1. Potential sampling bias due to clinicians selectively completing logs. 2. Significant differences in organizational approach to psychiatric c and emergency services provided to this patient population very likely affected the results.	1. Significant differences in overall median ED LOS and median to complete psychiatric evaluation for those who received psychiatric consultation with a range of 6.7 hours to 10.8	1. More efficient hospitals had better throughput than others. 2. Availability of in-patient beds affected the LOS and evaluation process. 3. Hospitals in systems had more resources.

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Brief Reference	Type of Study/Quality Rating	Methods	Threats to Validity/Reliability	Findings	Conclusions
			3. May was not generalizable to other settings.	hours. 2. The largest variation was time from disposition decision to discharge.	
Clarke, D, Sanderson, U., Giles-Smith, L., & Baker, J., (2014)	Literature Review Rating = 5A	A thematic synthesis was used to extract information on professional staff attitudes and societal stigma that mental health patients feel when visiting the ED. Searches of CINAHL, PubMed, PsycInfo, SCOPUS and British Nursing Index were conducted by a professional Librarian. After screening over 720	1. Authors did not always use validated tools to assess changes in attitudes. 2. In some cases, attitudes were not the focus --but authors "hypothesized" about observable behavior that correlated to changes in attitudes.	1. Four themes emerged from this literature search: consumer perspectives, staff reported attitudes with influencing factors, the climate of the ED, and interventions that might be used to evaluate changes in attitudes.	1. Validated instruments needed to be used to strengthen the results of some studies. 2. Negative attitudes did respond to educational interventions. 3. There was a lack of MH specific protocols and triage instruments. 4. Staff attitudes were directly affected by their perception of

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		papers, the final count was 42 relevant papers.			efficacy and ability to manage these patients.
Commons, T., & Lewis, A., (2008)	Quasi-Experimental Study Rating = 2A	Demographic questionnaire and Attitude Towards Deliberate Self-Harm Questionnaire was given to 99 mental health and clinical personnel in emergency medicine Across 2 Australian health services and on New Zealand health service before and after education.	1. Potential sample bias due to small sample size. 2. Conducted in other countries and may not be generalized to urban and rural hospitals in the US. 2. Self-reported data	1. Statistically significant improvements were seen in attitude ratings among clinicians working with self-harm patients, following attendance at an educational event.	1. Results indicated that attendance at an educational program does improve attitudes of clinical staff.
Egan, R., & Sarma, K. (2012).	Cross Sectional Analysis Rating = 3B	ED staff from 5 hospitals was surveyed with a sample size of 60 medical staff and 217 nurses with a 45% response rate.	1. Self-reported data including attitudes -- validity and predictive abilities were not clear. 2. Probing sensitive topic may have	1. Self-reported effectiveness with dealing with self-harm patients in 24% of respondents showed decreased	1. There was gain of important information on staff perception related to self-harm patients. 2. Training was a

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			skewed findings.	confidence as well as negativity towards these patients. 2. The majority of respondents reported lack of training for management suicidal or self-harm patients.	common thread to improved staff perception.
ENA, Clinical Practice Guidelines (CPG's) , 2013	Literature Review and Clinical Practice Guidelines Rating = 4A	CPG's were developed after a review and critical analysis of the literature using the ENA Guidelines for Development of Clinical Practice Guidelines. Multiple databases were used to search the literature.	1. There was room for error in criteria used when forming the CGG"s. 2. Although a standardized reference table was used, ENA experts on the Emergency Nurses Resources Development Committee had the final approval of the CGPG's which might add bias to the final	1. CPG's were rated based on strength of recommendation for practice. Level A = High, Level B = Moderate, and Level C= weak. 2. If the recommendation did not have objective evidence (anecdotal notes,	1. The CPG's were published in 2013.

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			results.	etc.) they were not a part of the CPG's	
ENA: White Paper (2011).	Professional Organization Literature Review and Practice Recommendations Rating= 5A	Over 73 articles were reviewed by the Institute of Emergency Nursing Research Advisory Council to investigate variance in practice based on the literature and made recommendations as a professional organization. Recommendations were placed in categories such as staff attitude, Triage, and disposition.	1. Focus of the literature was predominantly on adults – with very little on adolescents and children. 2. Stigma, triage and assessment methods, as well as other variables were not addressed well in the literature.	1. Caregivers were not comfortable or well prepared in the ED. Triage in the US is not detailed towards the psychiatric patient. 2. Violent patients had negative effect on ED and can extend LOS. 3. MHSA patients were very resource heavy.	1. Multiple recommendations were included along with future research suggestions. 2. Example triage instruments were enclosed and specific suggestions for pediatric populations.
Fleishmann, A., Bertololet, JM., & Wasserman, D., (2008).	Randomized Controlled Trial Rating = 1A	Suicide Attempters (n = 1897) (2987 eligible with response rate of	1. Not all eligible candidates were included due to Inadequate recording	1. Significantly fewer deaths due to suicide occurred in the	1. Results indicated that providing psychosocial counseling and

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		63%) in the ED of 8 hospitals were given an intervention which included patient education and follow up from January 2002 to October 2005. Intervention effectiveness was measured by reducing subsequent suicide mortality among suicide attempters. Placebo group received treatment as usual while intervention group received treatment as usual and intervention.	of emergency department visits, intentional misreporting as accidental, and failure of the emergency department staff to notify research staff. 2. Study conducted in 5 countries not including the US. Results may not apply to other settings.	intervention group (0.2%) compared to the treatment group (2.2%).	education for suicidal patient along with supportive ongoing contact significantly reduced mortality due to suicide.
Grimholt, T., Haavet, O., Jacobsen, D.,	Quasi-Experimental Study	A randomized sample of providers	1. Self-reported data may have an inherent	1. Positive attitudes were	1. 43% had participated in a

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Brief Reference	Type of Study/Quality Rating	Methods	Threats to Validity/Reliability	Findings	Conclusions
Sandvik, L., % Ekeberg, O. (2013)	Rating = 2A	were given a questionnaire about suicide patients and asked to rate their answers on a 1-5 Likert scale to measure self-perceived competence, level of commitment, empathy and irritation felt towards these patients.	bias. 2. Close to half of the participants already had training prior to the survey, limiting the ability to test pre-intervention results.	noted towards suicide patients (USP = 20.3, 95%, CI: 19.6-20.9). Males were less positive. Physicians had more irritability towards those with substance abuse.	course of workshop on suicide patients which increased their self-perceived competence.
Kodaka, M., Postuvan, V., Inagaki, M., & Yamada, M., (2010)	A Literature Review Rating = 5A	An electronic search of 2 databases: PubMed and Psych info to assess for scales that measure attitudes toward suicide. Preference was for those that were psychometric, multidimensional, valid, and reliable.	1. Only 2 databases were used for this search. 2. Only English titles were used, excluding non- English research.	1. Of the 2,210 scales discovered, three were chosen that met all of the search criteria. 2. Each scale had pertinent characteristics that separated them from the others.	1. Three scales were identified and reviewed for reliability and validity as well as used for a varied population. 2. Of these 3 scales ATTS offered the most valid, stable, and reliable results.

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Brief Reference	Type of Study/Quality Rating	Methods	Threats to Validity/Reliability	Findings	Conclusions
Konieczna, A., Ejdsgaard, B., (2013)	Quasi-Experimental Rating = 2A	A Quantitative study using a 5 point Likert-scale questionnaire to assess differences in knowledge and attitudes of nurses and clergy towards self-harm patients	1. Self- reported data for both groups. 2. Study done in Denmark, and may be difficult to generalize to US based on difference in training and education.	1. 75.7% of clergy were not knowledgeable about self-harm 2. Nurses (39.3%) were more knowledgeable and were of the opinion that self-harm could be prevented (95.7%). 3. Only 9% of clergy compared to nurses (22.3%) thought suicide was a human right. 4. Ambivalence was prevalent among both groups but nurses expressed more anger at self-harm patients.	1. Clerical intervention with suicide patients once discharged from the ED was limited if they did not become more informed. 2. Anger and Ambivalence was be managed by increased training
Little, D., Clasen, M.,	Prospective Chart	Electronic Medical	1. Single center data	1. T-Test	1. Relocation of

Table 2.1 Evidence Table

Brief Reference	Type of Study/Quality Rating	Methods	Threats to Validity/Reliability	Findings	Conclusions
Hendricks, J., & Walker, E. (2011).	Review Rating = 3B	Record Review of ED visits for a community hospital between June 2008 to August 2008 based on ICD-9 codes. Sample size was 3,334.	with the need to expand to multiple centers for data collection to be able to generalize to other settings. 2, Many variables affected results but not identified or controlled: staffing & work flow.	resulted in statistical significance related to these findings; patients with mental illness stayed on average of 439 minutes compared to those without MH (237 minutes).	MH care outside the ED was more efficient. 2. Further research is needed to determine effect of other variables. 3. MH patients had longer LOS.
McAllister, M., Billett, S., Moyle, W., & Zimmer-Gembeck, M. (2009)	Quasi experimental Rating = 2B	A 'Think aloud" procedure was employed to explore the solution nature of nurses in their approach to self-harm patient in the ED. Before and after an interactive education program, information was audio-taped then transcribed. Sample size was 28	1. Very small sample size leading to potential sample bias. 2. Isolated site prevented generalization to other populations.	1. Significant improvement in attitude and confidence was noted in nurses after the interactive education. I2. There was improved ability to consider the patient's psychological needs.	1. Results indicated that nursing education for ED nurses who manage the suicide patient s improved their attitude and confidence. 2. Additional research was needed

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Brief Reference	Type of Study/Quality Rating	Methods	Threats to Validity/Reliability	Findings	Conclusions
		emergency nurses.			
McAllister, M., ., Moyle, W., Billett, S & Zimmer-Gembeck, M. (2009)	Quasi-Experimental Study Rating 2B	Thirty six nurses were interviewed to assess professional identity, clinical reasoning and self-awareness towards self-harm patients, before and after education.	1. Very small sample size leading to potential sample bias. 2. Study was conducted in a small hospital in Australia making it difficult to generalize to other populations.	1. Improvement was noted in nurses knowledge and understanding of self-harm. 2. There was a positive shift in attitude towards self –harm patient s	1. Educational intervention appeared to be the avenue to improved nurse's approach to self-harm patients. 2. Additional research was needed.
McAllister, M., Creedy D., Moyle, W., & Farrugia, C. (2002).	Questionnaire Validity and Reliability Analysis Rating= 5B	A questionnaire was developed over three phases: Review of the literature, focus groups, and then development of the tool. The Attitudes Towards, Deliberate Self – Harm questionnaire was designed and tested. This questionnaire	1. Sample size was adequate but response rate was low (35-42%) potentially causing response bias. 2. Validating the dimensions on a larger sample size, across time, and with different groups (managers, multidisciplinary teams and other	1. Nurses who scored higher on the scale on four dimensions – were more likely to feel positive towards self-harm patients. 2. If nurses perceived themselves as skilled to address these patients they were more	1. Nursing attitudes towards patients who deliberately self-harm was complex.

Table 2.1 Evidence Table

Brief Reference	Type of Study/Quality Rating	Methods	Threats to Validity/Reliability	Findings	Conclusions
		identified dimensions of ED nurses' attitude towards client presenting with suicide. It had 33 items using a Likert scale. Nurses working in 23 major public and 14 private ED's in Queen land over a 6 month period were surveyed. Sample size was 352 nurses (42% response rate).	services) was needed.	likely to feel worthwhile working with them.	
Navarro, C., & Pichardo-Martinez, C., (2012)	Quasi-Experimental Rating = 2A	Attitudes questionnaire was administered to 81 nurses to assess their attitude and emotional intelligence towards Self-harm patients.	1. This was a non-probalistic incidental study and cannot be generalized to all nursing professionals. 2. The positive – significant correlation between perceived emotional	1. ED Nursing professionals displayed negative attitudes towards self-harm patients (63.3%) and 21.89 % reject the act of suicide as	1. Training and higher education among nurses improved their attitudes from negative to more positive towards self-harm patients. 2. Those nurses

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			intelligence and the social desirability scale indicate some bias in the nursing professional's answers.	immoral. 2. There were significant differences in those who received more than 30 hours of training than those who had not. 3. Spearman's test showed that there was a positive and significant relationship between those with higher education – displaying higher emotional intelligence and clarity.	with higher education were more aware of their emotions and more capable of regulating their behavior/emotions towards self-harm patients. 3. Emotions and attitudes were important in nursing activities towards self-harm patients. 4. The creation of protocols may standardize care and decrease emotional influence.
Navneet, K., Cooper, J., Rodway, C., Kelly, J., Guthrie, E.,	Cohort Study Rating 3B	Comprehensive assessment forms were given to	1. Case attainment for the database was good (80%0 there	1. Emergency nurses and physicians were	1. Predictive value of assessments after suicide was low

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Brief Reference	Type of Study/Quality Rating	Methods	Threats to Validity/Reliability	Findings	Conclusions
& Mackway-Jones, K., (2005).		physicians, nursing staff, and psychiatric trained staff in 4 hospitals that provide care to suicide patients. Manchester and Sanford suicide Project data t base on all patients who were 16b or older and presented to the ED for suicide or ideation was used. 7, 612 persons presented with suicide.	were very few men and no data on those who did not wait for treatment, therefore these populations are under-represented. 2. This study evaluation clinical assessment rather than actuarial risk assessment tools which are proven to be better at identifying repeat suicide.	more likely to rate suicide risk higher with repetition than those with psychiatric training. 2. The sensitivity and positive predictive value of assessment for both groups were higher for patients who had previous episodes of suicide compared to first time presenters.	2. ED staff was more cautious in their assessments of risk than those with psychiatric training. 2. Both groups assessed suicide patients higher if previous attempts had been made 3. Additional research was needed to understand organizational and individual influence on assessment. .
Nicks, B., & Manthey, D. (2012).	Retrospective Cohort analysis Rating= 3B	EMR review on adult psychiatric patients in a Trauma and Tertiary Referral Center between January 2007 and January 2008. Di-	1. Limited by single large academic center – difficult to uniformly generalize. 2. Data was from EMR instead of prospective data collection – which	1. Of the 1,438 charts reviewed, the total LOS for psychiatric patients was significantly longer (1089 minutes versus	1. Psychiatric patients remained in the ED 3.2 times longer than other patients when waiting for a bed. 2. There was financial loss

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		identified financial data was also harvested.	may skew exact time allotment. 3. Insurance status may affect longer boarding time which was not adjusted for.	340 minutes). 2. The calculated hourly rate for an ED bed was $99.50, and the loss per patient was $2,264.	associated with boarding patients in the ED.
Nolan, J., Fee, C., Cooper, B., Rankin, S., & Blegen, M. (2015)	Quantitative Analysis Rating = 3B	The 2008 National Hospital Ambulatory Medical Care Survey (NHAMCS) data were stratified by visit type, boarding status, and patient/hospital characteristics	1. Lack of standard definition of boarding 2. Data included patients who were discharged home after 6 hour stay which may have caused over-estimation of boarding times. 3. Limitations of using NHAMCS survey data	1. Of the sample (34,134) 8 million (6.5%) were psychiatric visits and 11% had stays longer than 6 hours. 2. Psychiatric patients stayed on average 2.8 hours longer than other patients.	1. Boarding patients in the ED was a problem since there was more pressure on ED's to serve as primary care providers for these patents.
Olfson, M., & Marcus, S., (2011)	A Retrospective Longitudinal Cohort Analysis Rating = 5B	National Medicaid claims data were blended with county level social and demographic variables were	1. Study only included Medicaid adult patients 2. No evaluation of other payer source patients.	1. Most (62.5%) of these patients were discharged to the community and discharge was directly	1. Attention to policies and procedures for the management of suicide patients was needed.

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Brief Reference	Type of Study/Quality Rating	Methods	Threats to Validity/Reliability	Findings	Conclusions
		used. Adults aged 21-64 who were treated in the ED for deliberate self-harm were reviewed with a focus on their return to the community. 7, 355 episodes were reviewed.	3. No clear definition of "MH assessment" was given. Tools and process varied throughout the study.	related to age (younger patients were discharged more often). 2. About ½ of the patients received a mental health assessment in the ED. 3. Most adult Medicaid beneficiaries seen for self-harm were discharged to the community without receiving a mental health assessment or follow up appointment.	2. Triage scales, MH screening, and training were needed to improve attitudes of ED staff towards suicide patients.
Owens, P., Mutter, R., & Stocks, C. (2010).	Literature Review Rating = 5A	A statistical brief with summary of data from Healthcare Cost and Utilization Project, Nationwide	1. Only looked at adult population but was comprehensive	1, In 2007, 12.5 % of ED visits were related to mental health or substance abuse in the US.	1. Community support for MHSA patients was ineffective. 2. The number of MHSA patients

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		Emergency Department Sample on MHSA ED visits.		2. Substance Abuse conditions accounted for 24.4% of all MHSA visits. 3, Women were the majority (53.9%) of MHSA ED visits 4. Medicare (30.1%) was the highest billed for MHSA followed by private insurers (25.7%) then un-insured (20.6%) and Medicaid (19.8%).	treated in the ED was increasing over time. 3. ED over-crowding is affected by this rise in MHSA patients in the ED.
Posner, K, Brown, G., Stanley,B., Brent, D., Yershova, K., Oquendo, M., Currier, G., Melvin, G. Greenhill, L., Shen, S., & Mann, J.,	Cross-Sectional Study Rating = 3B	This was a multi-site study testing the validity and internal consistency of the Columbia-Suicide Severity Rating Scale (C-	1. The studies used were not prospectively designed to examine psychometric properties of the instrument.	1. Good convergent and divergent validity. 2. High sensitivity and specificity for	1. The C-SSRS was successful at predicting suicide attempts during the study. Participants with the 2 highest level of ideation

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(2011)		SSRS) on suicide ideation and behavior.	2. Incidence of aborted, interrupted, and actual attempts at suicide was very low which limits the precision of sensitivity and specificity estimates. 3. Adolescent population used only which limits generalizability to other populations.	suicide classifications compared to other behavior scales. 3. The intensity of ideation subscale demonstrated moderate to strong internal consistency.	severity at baseline had higher odds of attempting suicide during the study.
Plant, D., & White, J. (2013).	Qualitative Study Rating = 3C	Focus Groups were coded, analyzed and placed into categories. An interview guide was used to capture information from focus groups. N= 10.	1. Small sample size landed itself to sampling bias. 2. Those who participated may have had some degree of affinity towards mental health illness, skewing the discussions. 3. Due to the small numbers in each focus group the range	1. Four themes were identified among participants: powerlessness, lack of confidence in triage and care of mentally ill (MI) patients, multiple barriers to providing care to MI patients	1. There was a need for education on psychiatric topics. 2. A Nurse educator was a better solution than MI specialist in the ED. 3. MI patients needed a separate area within the ED.

Table 2.1 Evidence Table

Brief Reference	Type of Study/Quality Rating	Methods	Threats to Validity/Reliability	Findings	Conclusions
			of experiences they shared was limited and it was too late in the study to change design or intent such as interview instead of group work.	exists, and hopelessness related to inadequacy to decrease barriers. Powerlessness was the dominant theme.	
Saunders, K., Hawton, K., Fortune, S., & Farrell, S. (2012).	Literature Review Rating 4A	A comprehensive search of 6 different electronic databases with a systemic review of qualitative and quantitative English only studies. Two independent reviewers screened titles, abstracts, and full reports, extracted data, and gave each paper a quality rating	1. Based on 2 independent reviewers leading to reviewer bias. 2. Only used English language – did not search other international sources. 3. There was little research on the impact of ethnicity or social status on attitudes towards self-harm patients. These were not listed as affective variables. 4. Self-reported data may have associated	1. Attitudes of staff towards suicide patients were generally negative especially those who were repetitive. 2. Attitudes were improved after staff after specialized training 3. Attitudes towards these patients were significantly higher than	1. Studies that employed specialized training showed an improvement and understating among clinical staff in the ED managing suicide patients. 2. Active Training led to consistent improvement in attitude and knowledge in all groups. 3. Recommendation was that hospitals used agreed upon

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Brief Reference	Type of Study/Quality Rating	Methods	Threats to Validity/Reliability	Findings	Conclusions
			bias.	attitudes towards other ED patients --except those who abused alcohol and/or drugs. 4. Female staff had more positive attitudes than male staff, but gender difference was not that clear among physicians.	guidelines and tools to manage these patients.
Stanley, B., & Brown, G., (2011)	Case Example Rating = 5A	A case example using Safety Planning Intervention (SPT) for patients evaluated in the ED.	1. Extremely small sample size limits generalizing to other populations.	1. Case example was successful as this patient did not attempt again at 86 month follow up.	1. Intervening in the ED was lifesaving with self –harm patients because a high percentage of them refuse outpatient treatment or drop out of therapy. 2. The standard assess and refer approach was still

Table 2.1 Evidence Table

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					effective but many times the patient was not compliant.
Tsai, W., Lin, L., Chang, H., Yu, L., & Chou, M. (2010).	Randomized Controlled Trial Rating = 1A	A Randomized Controlled Trial with 98 nurses in the experimental group and 97 in the control group. A questionnaire was used before and after educational intervention was applied. N= 195	1. The sample was taken from one hospital. 2. Gender affects could not be determined with only 4 males in sample. 3. Even after the educational intervention, 38% indicated that they would not suggest professional implying training deficiencies.	1. Education failure may have occurred. Participants did not change their referral habits after training. 2. 38% of the intervention group indicated a poor appreciation for follow up.	1. Educational intervention improved staff confidence in the experimental group. 2. Training had to be comprehensive so patients receive appropriate follow up. 3. Staff attitudes affected or may have skewed the effect of the training.
Weiss, A., Weir, L., Stocks, & Blanchard, J., (2011).	Statistical Brief - a Descriptive Summary Report Rating = 3B	Data on ED utilization from The Healthcare Cost and Utilization Project National ED Sample collected across the	1. Poor data collection method control, which was dependent on each state agency process.	1. 421 ED visits per 1000 population and 359/1000 discharges. (N= 131 million) 2. Females had	1. ED stats showed that ED visits had increased since 2009, with more use in rural areas. 2. ED utilization was the only

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		50 United States were statistically tested.		20% higher use of ED. 3. Rural Areas had higher ED use.	healthcare resource for those who could not find care in other settings.

CHAPTER 3

METHODS

This quality improvement project examined nursing attitudes towards emergency department patients who had suicide ideation. The PICO question for this improvement project was*: In 2 rural community emergency departments of the Greenville Health System, did suicide training improve self-reported nursing attitudes toward patients who had suicide ideation?* Self-reported nursing attitudes were assessed before and after education. These assessed attitudes included confidence, empathy, dealing effectively, and coping.

This study was a descriptive cross-sectional analysis of self-reported data. Results were collected at a single point in time while looking at different variables pre- and post-intervention. Survey methodology was utilized by applying the Attitudes towards Deliberate Self- Harm Questionnaire (ADSHQ) to a cohort of emergency department nurses working in two separate rural community emergency departments within the Greenville Health System (GHS).

For all research studies conducted at GHS, Institutional Review Board (IRB) and Nursing Research Council approval were required. The electronic Institutional Review Board application was completed on March 14, 2016 and submitted for Institutional Review Board approval. Once the application was submitted it was sent to the chairperson of the GHS Nursing Research Council. The Nursing Research Council required investigators to be credentialed as GHS students. The University of South

Carolina IRB approved this quality improvement project at the same time as GHS Institutional Review Board. Verification of immunization clearance, completion of Health Stream modules, and identification of a preceptor were completed. A preceptor was required for each GHS clinical site. A preceptor for Oconee and Laurens hospital was identified. The investigator made contact with the manager for the Laurens ED and the Clinical Educator for Oconee hospital. GHS also required signed agreements between preceptors and students, even if contact was only with the nursing staff. This was completed and forwarded to the Nursing Research Council.

In addition to being credentialed as a student at GHS, the Nursing Research Council required a presentation of the study at their council meeting. On April 2, 2016, this study was presented and approved by the Nursing Research Council and forwarded to the GHS Institutional Review Board.

Consent was not required for this study; however a standardized invitation letter was required. IRB approved the proposed letter and sent the study to committee for review and approval. On May 12, 2016 this study was approved by the GHS Institutional Review Board.

The ADSHQ survey used in this study was created from an extensive literature review, focus group discussions, and then tested in Queensland Australia. Over a thousand nurses (n = 1008) were included in the initial study. Statistical Package for the Social Sciences (SPSS) was used for all data analysis (McAllister, et al., 2002). Categorical variable relationships were examined using chi-square analysis and between continuous variable relationships were examined using Pearson coefficient correlation. Relationships between categorical and continuous variables were examined using one-

way ANOVA (McAllister, 2002. Permission to use the ADSHQ survey was obtained from Margaret McAllister by email on January 25, 2016. See Appendices C and D.

Initially the investigator presented key study concepts during staff meetings at both Oconee and Laurens hospitals. Nurses were given an opportunity to ask questions and gain an understanding of the study purpose. The investigator provided encouragement was done intermittently throughout the study. An additional site visit was made mid-study to encourage participation.

The ADSHQ survey had 33 individual questions that were statistically analyzed. One of the biggest study decisions was survey administration method. Online access was used, rather than a mail out or telephone approach. Online access was easier for employees. They were familiar with online education making this method more attractive. An introductory letter and email notification alerted participants that the study was open for participation, and provided a link to the actual survey site.

A computer- based training CBT) session was provided to participants after initial ADSHQ survey was done. The Chronological Assessment of Suicide Events (CASE) interview model for suicide assessment, risk factors, and information on suicide ideology was taught using a CBT. The goal of training was improved confidence, empathy, and coping skills with suicidal patients. Greenville Health System used this education format for previous continuous education modules so nursing staff were comfortable with this approach. Once participants completed training, they repeated the ADSHQ survey and were asked to complete a demographic questionnaire.

Instrument

The Attitudes towards Deliberate Self-Harm Questionnaire (ADSHQ) consisted of 33 items using a 4 point Likert scale (1-4) rating. Responses ranged from strongly disagree to strongly agree, with no neutral response. The ADSHQ was originally created by collecting items from a literature review and focus group discussions among emergency department nurses. After the original pilot, ADSHQ was tested in 23 major public and 14 major private emergency departments in Queensland, Australia (McAllister, et. al, 2002). McAllister, et al, (2002) reduced ADSHQ response bias by phrasing one third of the items in a negative direction.

Four factors were measured using the ADSHQ; a) perceived confidence in assessment, b) dealing effectively, c) empathy, and d) ability to cope effectively with legal and hospital regulation (McAllister, et.al, 2002). These four dimensions were tested for reliability using Cronbach's alpha coefficient: Dimension 1 = 0.7129, Dimension 2 = 0.7381, Dimension 3 = 0.6747, and Dimension 4 = 0.5706 (McAllister et al., 2002).

Nurses who scored higher on the ADSHQ were more likely to feel confident and positive, than those who scored lower (McAllister, et.al, 2002). Previous studies examined the relationship between nursing attitudes and demographic information such as age and gender. Very few studies researched the effect of negative nursing attitudes on practice patterns in the United States (Plant & White, 2013). Most of the studies in the United States evaluated the effect of medical surgical nurse attitudes, and did not include emergency department nurses (Plant & White, 2013).

Setting and Sample

This study was conducted in two separate rural community emergency departments of Greenville Health System (GHS). GHS, a public not-for-profit academic healthcare delivery system, was governed by a volunteer board made up of 12 members representing Greenville County, and two seats outside the county. Greenville Health System has evolved from a single free-standing hospital to a highly integrated tertiary delivery system, and academic medical center. GHS was the largest not-for-profit healthcare system in S.C. with over 12, 000 employees. GHS consisted of 1,188 licensed acute care beds, 293 nursing home beds, 45 long term acute care beds, 53 rehabilitation beds, and 45 psych beds. Seven GHS hospitals had emergency services; Greenville Memorial, Oconee Memorial, North Greenville, Greer Medical, Pate wood, Laurens Memorial, and Baptist Easley hospital.

Laurens and Oconee were much smaller hospitals than the main GHS campus. Both hospitals had an average of 30-40,000 emergency department visits a year. Both hospitals offered emergent nursing and medical care but excluded trauma, cardiac surgery, neurosurgery, and other similar specialties. Oconee and Laurens hospitals provided care for suicidal patients in the emergency department and did not have an inpatient psychiatric unit for placement. Oconee had 44 registered nurses working in the emergency department at the time of this study. Laurens emergency department had 32 registered nurses working full or part time. All 76 registered nurses were invited to participate in the study.

The targeted population for this study was 76 registered nurses working in the emergency departments of Oconee and Laurens hospitals. Inclusion criteria for

participation were; a) working as a registered nurse, b) providing direct patient care in the emergency department, and c) working full or part time. There were no exclusions based on age, gender, race, or years of experience. All members of this population who met the inclusion criteria were eligible to participate in this study.

Outcomes to be measured:

The outcomes measured in this study were; a) attitudes of nurses towards suicidal patients seen in the emergency department before intervention; and b) attitudes of nurses towards suicidal patients seen in the emergency department after intervention.

Conceptual framework

Healthcare has been in a perpetual state of change. Healthcare reform has been affected by multiple factors such as increased cost, media coverage, medical malpractice, workforce shortages, technology, and regulating bodies (Mitchell, 2012). Change is a component of improvement, and often difficult to accomplish. Sustaining change has been an even a bigger challenge in health care (Mitchell, 2012). Emergency department nurses were not immune to this, especially those practicing for a long time in the same specialty (ENA, 2013). Providing nursing care for chronic patients became a barrier for emergency department nurses at Oconee and Laurens Hospitals.

These emergency department nurses found change to be difficult. Nursing assessment of suicidal patients was influenced by many patient centered elements such as gender, employment status, working conditions, housing, and neighborhoods (Davidson, 2015). Emergency department nurses were accustomed to assessing patient's immediate and emergent needs rather than looking at their entire social, economic, and long term

medical needs. As suicidal patients continued to flow into the emergency department s at Oconee and Laurens, nurses had to reconsider the care they provided for these patients.

A holistic approach to caring for suicidal patients in the ED offered the best effort towards change within this population (Davidson, 2015). The Triple Aim framework employed a holistic approach and was chosen for this improvement project. This framework required simultaneous pursuit of three cornerstones: patient experience, improved health, and cost control (Berwick, Nolan, & Whittington, 2015). Socio-economic determinants affected the suicide population at all levels of this model (Berwick, Nolan, & Whittington, 2015).

Triple Aim was designed by the Institute for Health care Improvement (IHI) depicted the IHI approach to performance in healthcare across a continuum. Triple Aim was the model used by IHI to drive their initiative for decreased cost of care as well as the right patient in the right setting. Suicide care has been pushed into the emergency department, which was not the best or most cost effective location for this patient population.

There were three main principals of Triple Aim, getting the a) right patient, to the b) right setting, at the c) right cost (Berwick et al., 2015). Elements of Triple Aim were not independent of each other, and changes in one element affected other elements. (Berwick et al., 2015). The first step in Triple Aim is to identify population. Populations could be geographic, disease specific, behavior specific, or have other identifying features. Emergency department nurse providing nursing care to suicidal patients in crisis represented the population in need of change.

The second element of Triple Aim was to address patient health care experiences. Suicidal patients were seeking healthcare in the emergency department, but due to unpredicted issues, were not receiving adequate care (ENA, 2013). Getting the patient to the right nursing skills significantly affected suicidal patient's health care experience. Nurses in the emergency department were not prepared to take care of suicidal patients. The emergency department was an inadequate location because nurses were not specifically trained to take care of suicidal patients, and emergency departments were created for emergent patients not chronic long term care (ENA, 2013).

Recent efforts to improve heath quality when focused on reduction of defects in a single site of care were not successful because they progressed slowly with minimal success (Berwick, et al., 2015). Triple Aim focused on defects across a continuum, so the improvement can be made on a broader scale. It was important to train ED nurses at both Oconee and Laurens hospitals, but to gain the desired change along a continuum, GHS, policy change was required.

The third and final element of Triple Aim supported the hypothesis that suicide deaths can decrease, as appropriate resources and attention on suicide are aligned with those who attempt suicide (Berwick et al., 2015). Appropriate resources and attention included making sure the emergency department was the right setting and that nursing staff had increased confidence, empathy, ability to cope, and deal effectively with suicidal patients (McAllister, 2002).

The emergency department became the main setting for suicide crisis management in the United States (NAMI, 2011). Accesses to other types of care were limited by legislation and funding cuts (1.8 billion). Unprepared emergency department

nurses significantly affected the quality of care (NAMI, 2011). Nurses reported a lack of preparation, skill, and standardized practices for assessment, counseling, and general management of suicide (Betz et al., 2013). Suicidal patients, seen in health care systems with inadequate or poor care, had increased risk for repeated attempts, and insufficient prevention (NAMI, 2011). The emergency department was not the right setting or the right type of care. The challenge for Oconee and Laurens hospitals was to adjust to national and statewide trends in suicide management. This would require changing emergency department nursing practice to match suicidal patient needs (Davidson, 2015).

Triple Aim emphasized suicide prevention through population transformation. Decreased death rates, improved access, decreased cost, best practices, and improved patient experiences characterized success. The symbiotic elements of this model offered an opportunity for major gains in care. Early recognition, specialized training, and improved nursing skills were critical to changing practice and providing safe care.

Description of Intervention:

The intervention for this study required that specialized training be provided to nursing staff working in the Oconee and Laurens hospital emergency department. Nurses were provided information on risk factors for suicide as well as the etiology of suicide. This training was provided to increase general knowledge about suicide. The second portion of the training consisted of teaching nurses improved interview skills and tools for recognizing high risk suicide ideation. The CASE model was chosen for this intervention because it had already been used in the suicide population and was easy to learn.

When using the CASE model nurses were taught to use an organized approach to patient interviews. This approach assisted nurses to decrease "errors of omission" and made suicidal patients feel safer during interview or assessment. The CASE interview style made patients feel more comfortable talking about their personal feelings related to suicide (Shea & Barney, 2009). The hallmark of this approach was using four different interview techniques and sequential exploration of suicide events. This technique used four chronological regions. Patients were asked about these events in this particular order:

1. Presenting Suicide Event (last 48 hours)
2. Recent Suicide Events (previous 2 months)
3. Past Suicide Events (beyond 2 months)
4. Immediate Suicide Ideation (Now)

Each region prompted the patient to think about their suicide desires on a timeline and helped clinicians obtain information that guided their plan of care as well as patient safety needs. Flexibility was important based on individual differences in patients. Each patient had a unique reason for suicide and the interviewer had to recognize this in order to ascertain real intent (Shea, 2002). The use of open ended questions was encouraged. Often clinicians had to re-phrase questions to solicit true answers. Gaining trust and promoting a sense of safety for the patient was crucial to success (Shea & Barney 2009). Success meant identifying ED patients who were in imminent danger of committing suicide and developing a safety plan for them.

Barriers and Support

Poor response to the survey was one of the biggest barriers. The goal was to get as many of the 76 emergency department nurses as possible to complete all portions of the survey, and participate in the education session. Online access helped facilitate participation and made it easier. However, the online approach to administration had its own set of inherent barriers. Computer access for online surveys can have many limitations. If respondents did not understand the question or instructions they would not be able to ask for clarification (Hart, & Van Den Berg, 2002). To increase response rates, survey questions needed to be understandable, simple, and measure specific things (Hart, & Van Den Berg, 2002). Instructions needed to be clear and easy to understand. They were discussed in email, in writing, and in person at staff meetings at both Oconee and Laurens Hospitals.

Computer administered surveys can have high cooperation rates with minimal cost. Computer administered surveys had the advantage of automatic data entry, but respondents needed computer access (Hart and Van Den Berg, 2002). It was vital to this study to gain hospital administration's permission for participants, without home computer access, to use their worksite to complete surveys. Administration supported this approach and encouraged nurses to participate while at work.

The accuracy of self-reported data was a concern. Self-reported bias was a real possibility with survey methodology (Donaldson, & Grant-Vallone, 2002). Research participants, completing self-reported surveys or questionnaires, tended to answer in a way that made them look good. Biased reporting increased the risk of under-reporting

inappropriate behaviors, and over-reporting appropriate behaviors (Donaldson & Grant-Vallone, 2002).

Self-reported bias was not uncommon when assessing organizational behavior, especially if respondents thought their employer had access to their responses (Donaldson, & Grant-Vallone, 2002). Fear of retaliation for responding honestly can negatively influence responses. Self–reported data was criticized over the last few years because researchers believed inferences made about weak correlational and causal relationships (Donaldson, & Grant-Vallone, 2002), Assuring confidentiality for each participant was critical. The Identity of all respondents was coded and protected. It was not possible to relate individual responses to the resulting data.

For this study self-reported bias was minimized as much as possible by using a coding or number system to protect participant identity. One factor that helped decreased self-reported bias was that this study was conducted in two different hospitals across a complex healthcare system. This complexity met the required data sources and improved validity threat (Donaldson, & Grant-Vallone, 2002).

Procedure

This was a DNP quality improvement project. Prior to intervention, participants completed the ADSHQ surrey which measured their attitudes towards suicidal patients prior to participating in an intervention. Participants also completed a demographics questionnaire to provide information about years of nursing, type of nursing, age, and gender. After completing the ADSHQ survey and the demographics portion of this study, participants viewed an 8-10 minute slide presentation containing training on suicide risk factors etiology, and the CASE model for interviewing.

The CASE model taught nurses how to begin interview assessments by asking patients "how they ended up in the emergency department", and "what prompted their most recent (last 48 hours) attempt." This also opened the door for any other pertinent information patients were willing to share. Nurses were then taught to ask about suicide feelings patients experienced within the last 2 months, and any suicidal feelings beyond the last 2 months. Nurses were instructed to specifically ask about all suicide attempts or ideation even if their family and friends did not know about it. Lastly, nurses were taught to ask patients how they felt about suicide at the present time. This approach was designed to help nurses focus on immediate suicide ideation and develop protection plans for suicidal patients.

Once the slide presentation was completed, participants took the ADSHQ survey again. This measured their attitudes post- intervention to see if training improved their confidence level, ability to cope, deal effectively, and increase empathy. At the end of the slide presentation, all 33 respondents were thanked for taking time to participate in the study

Data Analysis

A teaching program used by GHS was used for this study. Health Stream was a program that allowed employees of GHS to complete educational modules on line. Data was collected from Health Stream when the study was completed. Each Item was analyzed and reported in a percentage or rate per item. Data could not be documented for each individual respondent therefore, raw data was unavailable.

The Statistical Package for the Social Sciences (SPSS) was used for data analysis, SPSS DESCRPTIVES and SPSS FREQUENCIES searched for values that were missed

as well as fit between variable distributions. Descriptive Statistics included frequency procedure, means procedure, and Pearson's Coefficient Correlation. Additionally - matched paired t-test were run. Table 3.1 shows the results of these tests.

Table 3.1 Pre and Post Results

		Pre- Intervention			***Post- Intervention***		
Factors	***Items***	***N***	***Mean***	***SD***	***N***	***Mean***	***SD***
Factor 1	*8*	*8*	*3.17 .*	*0.20*	*8*	*3.21*	*0.40*
Factor 2	*6*	*6*	*2.41*	*0.44*	*6*	*2.74*	*0.29*
Factor 3	4	4 4	2.20	0.38	4	2.13	0.36
Factor 4	6	6 6	2.51	0.18	6	2.46	0.20
Not Loaded	9	9	2.70	0.38	9	2.67	0.39

CHAPTER 4

RESULTS

Interest was high on both campuses. Nurses at both hospitals expressed agreement on the need for additional and regular suicide education. Nurses at Oconee and Laurens Hospital discussed their feeling of inadequacy and discomfort when taking care of suicidal patients in the ED. Nurses reported feeling apathetic or detached from these patients. They reported that suicide patients were not their "usual" ED patient. From these conversations it was clear to this investigator that ED nurses, at both sites, wanted more training and understanding of suicidal patients. It was also clear that they did not think the ED was the best place to care for these patients.

Response rates became a problem early on in the study. The investigator checked participation rates weekly through the GHS education office, Midway through the study there were only 14 participants. Since identify of the nurses was confidential, it was not known who had and had not participated. Therefore all 76 emergency department nurses were sent another email reminding them of the study and asking for participation. The investigator made another site visit to the Oconee and Laurens emergency departments, allowing more interaction with nurses. Both sites were included in a pizza competition, where the hospital with the highest participation rate would receive a pizza dinner from the investigator.

Although the response rate was reasonable (43%) (n = 33), the targeted population size (76) was small. Response rate was misleading and camouflaged the fact

that sample size (n =33) was not adequate. Sample size made it difficult to fully interpret data, and generalize about emergency department nurse's attitudes towards suicidal patients.

Four dimensions were identified within the ADSHQ, and gave insight into existing variation in nurse's attitude, (McAllister, et.al. 2002).The four dimensions were: a) confidence in assessment and referral, b) dealing effectively with clients d) empathy, and d) working within legal and hospital structures. There was no significant difference between dimensions based on the mean and standard deviation. If raw data had been available, further data analysis would have been possible.

Description of Sample

Study population consisted of 76 nurses working in Oconee and Laurens hospitals. Sample was thirty three nurses who completed the pre-intervention ADSHQ survey, computerized education, and the post- intervention ADSHQ survey, resulting in a 43% response rate. Demographic information was requested from each respondent, however one respondent failed to provide their age, and 1 respondent did not complete the demographic survey at all (Table 4.1).

Nursing experience among the respondents was four to 15 years (n = 15). ED nursing experience 40.64% (n = *13)* corresponded to the same number of four to 15 years. On average, the respondent (n = 16) age was between 31-49 years (57.14%), with a mode of 43 years. 90.93% of respondents were female (n =29). The most common degree earned among the 32 respondents was Associate Degree in nursing (53.13%) (n =17) while 43.75% (n= 14) completed a Baccalaureate in Nursing, and one respondent was Masters in Nursing (3.13%) prepared. When asked about the timing of their last

suicide management training, 62.5% (n = 20) had not participated in training since nursing school, and a smaller number 21.88% (n= 7) reported suicide training within the last 2 years.

Analysis of PICOT Question

Nurses working in the emergency departments of Oconee and Laurens hospitals had clearly expressed concerns about their ability to adequately and safely care for suicidal patients. Their concerns were the driving force behind this improvement project and helped the investigator create the study question: *In 2 rural community* emergency departments *of the Greenville Health System did suicide training positively impact self-reported nursing attitudes toward patients who had suicide ideation?*

The data showed only a slight increase in the ADSHQ survey overall mean from pre-intervention to post- intervention. Computerized based training did not allow nurses to return- demonstrate their learned skills. Information in the CBT was not as extensive as it could have been in a classroom setting, and study sample was too small. The PICOT question was not supported statistically. The training provided in the intervention only slightly improved respondent's confidence, empathy, ability to deal effectively, and coping skills.

The ADSHQ survey contained 33 questions using a Likert score of 1-4, with some of the questions scored in a reverse manner 4-1 respectively. The total score on the ADSHQ was represented as a sum of ratings for the 33 items yielding a possible score of 33–132. Four common threads or factors accounted for a large portion of the variance. In the original study done by McAllister (2002), 5 of the 33 items did not load on any factor, and 2 other items were deleted for other reasons (McAllister, et. al, 2002).

Table 4.2 identifies those items that were included in each factor.

In the ADSHQ survey, only 25 items were used in defining the four factors, 8 items were deleted as described earlier. The four factors were: Factor 1: perceived confidence in assessment and referral of patients, Factor 2: dealing effectively with patients, Factor 3: Empathetic approach and Factor 4: ability to cope effectively with legal and hospital regulations that guide practice (McAllister, et.al. 2002).

Factor 1 had 8 variables (items 25, 23, 27, 12, 30, 20, 31, and 18) that demonstrated how respondents felt about their confidence level in performing adequate assessment. Factor 1 also showed how respondents felt about their ability to provide an appropriate referral based on their current knowledge. Higher scores on this factor indicated an enhanced perceived ability to perform these functions, while lower scores indicated a perceived lack of confidence and skill. The pre- intervention mean score for Factor 1 was 3.17. The post-intervention mean score was slightly higher (3.21) indicating slight improvement of nursing confidence levels.

Factor 2 contained 6 variables (items 24, 15, 17, 5, 8, and 8) that reflect how well respondents thought they dealt with suicide patients. Higher scores on this factor indicated a perceived increased ability to cope, and lower scores implied poor coping skills. The pre- intervention mean score for Factor 2 was 2.41. The post-intervention mean score was 2.72 indicating a slight improvement in nurse's ability to cope.

Factor 3 had 5 items (items 33, 11, 2, 28, and 14) that relate to empathy, and respondent's perception of empathy. Having higher scores on this factor indicated a higher level of empathy. The pre-intervention mean score for Factor 3 was 2.20. The

post-intervention mean score was 2.13 indicating a slight decrease in nurse's empathy towards suicidal patients.

Factor 4 consisted of 6 variables (items 4, 16, 6, 26, 9, 19 and 21) reflecting respondent perception of dealing with legal and hospital policy. Higher scores in this dimension indicated an elevated perception of success when working within the legal system and applying hospital policy. The pre-intervention mean score for Factor 4 was 2.51. The post intervention mean score was 2.46, indicating a slight decrease in how nurses felt about working within the legal and hospital structure. Pearson's correlation coefficient procedure demonstrated a positive correlation between pre and post testing but was not statistically significant. Table 4.3 identifies the pre and post means.

The overall *t- test* value was 0.4523. Even though there was a slight increase in the-overall means between pre- survey (2.66) and post survey (2.71), results did not reflect statistically significant changes after intervention per matched *t-test.* The study question: *In two rural community* emergency departments *of the Greenville Health System, did suicide training positively impact self-reported* emergency department *nursing attitudes toward patients who had suicide ideation;* was not supported by these results. Overall mean scores were slightly increased post intervention (2.66) when compared to pre- intervention mean (2.71), but not statistically significant.

Table 4.1 Demographics

Variables	n	Percentage
Years of Nursing Experience		
< 3years	3	9.48%
4-15 years	15	46.5%
> 15 years	14	43.75 %
Years of ED Nursing Experience		
< 3 years	11	34.38%
4-15years	13	40.64%
> 15 years	8	25.0%
Age		
26 –30	4	14.28%
31 – 49	16	57.14%
50 – 66	8	28.57%
Gender		
Female	29	90.63%
Male	3	9.38%
Highest Nursing Degree		
AND	17	53.13%
BSN	14	43.75%
MSN/MN	1	3.13%
Suicide Training History		
< 1 year	6	18.75%
< 2 years	1	3.13%
Not Since Nursing School	20	62.50%

Note No statistical differences were found + p-value for matched paired Ttest

Table 4.2 Attitudes towards Deliberate Self- Harm Questionnaire

ADSHQ	Factors Item Numbers
Factor 1 Perceived confidence in assessment and referral	25, 23, 17, 12, 3(
Factor 2 Dealing effectively with suicide clients	4, 15, 27, 5, 1, 8
Factor 3 Empathetic approach	33, 11, 2, 28, 14
Factor 4 Ability to cope effectively with legal/hospital regulations	

CHAPTER 5

DISCUSSION

Evidence review clearly supported the need for ED nurses to have specialized training on the care of suicidal patients. According to McAllister et al (2002), focused skills, and suicidal training increased knowledge and understanding of suicidal patients. Without specialized training, nurses provided inadequate emergency care (McAllister, et al., 2002). The results of this intervention did not indicate a statistically significant increase or improvement in nurse's attitudes towards suicidal patients after receiving specialized training. However there was a slight increase in the post -intervention (2.66) mean when compared to the pre-intervention mean (2.71).

The goal of improved patient care delivery was improved patient health outcomes. This quality improvement project attempted to verify the effectiveness of interventions with nursing care delivery that impacted patient outcomes. Even though evidence supported specialized training, the format, length and content of training was not clearly defined in the literature. There were many ways to teach nurses appropriate care for these patients. Classroom education, with return demonstration was one method that was often used in healthcare and suggested by Shea and Barney (2009). Other methods include article review, and training in workshop settings.

But this project used a computerized based training approach. Although the response rate (43%) was very good, there were limitations to this training format. It was

not interactive and did not allow participants to ask questions that might increase their understanding and engagement.

Individual responses were not available because of the approach that was chosen for the surveys and intervention. The ADSHQ survey was installed onto the GHS Health Stream's educational module. This allowed employees to have easy access to the survey and interventional CBT. At the time of this study, using Health Stream was the most cost effective and user friendly approach for the investigator and participants to use. However, the significance of accessibility of raw data was not predicted at the start of the study. Therefore there was no correlation between age, gender, or years of nursing experience.

Additionally, at the recommendation of the GHS education staff, the CBT was purposely kept short. CBT content was not as extensive as it could have been. It was not possible for respondents to demonstrate back or practice what they had learned about interviewing using the CASE model. Adult learners presented a different challenge in terms of comprehension and learning styles. Presenting complex concepts and information in a computerized format may have been a larger barrier for some of the respondents than the reviewer expected. Altering the teaching method could have resulted in improved outcomes for this quality improvement project. Improved outcomes for suicidal patients include; a) identification of imminent suicide ideation, b) accurate medication management, c) appropriate monitoring, and d) timely disposition.

Early in the study, CBT access became a barrier. Several nurses reported difficulty accessing the study and difficulty getting into the webpage. The investigator met with GHS education staff and a screen shot of the access procedure was sent by

email to all 76 nurses. Once this was done, nurses at both hospitals reported that access had improved.

Lack of raw data limited any conclusions about demographic information. Demographic information was not surprising in terms of gender, age, and years of experience, but a large percentage of nurses (90.25%) (*n* = 20) had not received specialized suicide training since nursing school. Based on years of experience, 46.50% (n= 15) of the respondents, had a 4 - 15 year education gap since nursing school, while 43.75% *(n* = 8) had greater than 15 years. This information correlated well with the literature. These results show a significant break in training ED nurses received between nursing school and practice.

Policy Development

This quality improvement project offered a small glimpse into perceptions of nurses who worked in the Oconee Memorial and Laurens Memorial emergency departments. It provided a springboard for future research and policy development. It was imperative for future researchers to determine format, content, length, and method of training for ED nurses. Suicidal patients presented a special problem for nursing. As suicidal patients continued to seek crisis management in the ED, nursing was challenged to find acceptable solutions. Unfortunately the literature had limited recommendations on training parameters, methodology and pedagogy to teach nurses about suicide care.

Structured training for management of suicide patients is recommended by the Joint Commission. Their goal was to assist accredited hospitals to improve identification and treatment of suicidal patients (The Joint Commission, 2016). The Joint Commission specifically stated that accredited hospitals were to review policies and assess training

provided to those who are first responders to suicidal patients. TJC required accredited organizations to develop policies to support standardized assessment, screening, and specialized training for suicide.

GHS formed a team to review suicide policies and training for the entire system. The type of training offered in this project will be included as an option in the future for staff training at GHS. Even though the CASE model did not improve nurses' attitudes in this study, it was well documented as a viable teaching tool for nurses taking care of suicidal patients. The investigator for this study is a member of the suicide policy review team at GHS and will be instrumental in developing suicide policies. The Joint Commission Sentinel Event #56 also re-directed policy design at GHS. These combined efforts, on behalf of patients, can improve organization and patient health outcomes.

Future Research

The premise behind this study was very strong. ED nurses had limited exposure to suicide training. The demographic data from the surveys demonstrated this limited exposure to suicide training. Lack of training affected their ability to identify high risk patients and provide safe, appropriate care. Future research should include repeating this study with a larger sample size, altering the training model, and employing a better data mining system. Both Oconee and Laurens hospitals were small and rural community facilities. In the original ADSHQ study, outcome differences were noted between nurses working in small rural hospitals versus larger urban centers (McAllister, 2001). Future research suggestions should include studying the entire large hospital system, and include both levels of acute care. Additionally, correlating nurses' attitudes with gender, age, and years of experience can provide a better understanding of ED nursing staff and attitudes.

Information about age, gender, and years of experience could re-direct and improve pedagogy and teaching strategies.

Future research should include evaluation of nurses in practice and best educational techniques for teaching critical information. This could improve opportunities for changing practice patterns. Future research might assess which nursing practice patterns are modifiable, and what change management instruments would work to achieve the best results (McAllister et al., 2002).

The Joint Commission (2016) suggested using standardized evidence- based instruments to improve suicide patient outcomes. TJC did not dictate a specific tool so each accredited hospital had the flexibility of choosing what met their needs. Little information was in the literature to direct policy makers on which screening instrument was best. Research of evidence-based tools was still needed.

The Joint Commission (2016) conveyed their concern about the lack of suicide suspicion at the point of care. Most often the point of care was in the ED. Many patients who committed suicide in the past, were recently seen in the ED, and received health care services for issues unrelated to suicide. But at the follow up ED visit, healthcare providers did not identify them as at immediate risk of suicide (TJC, 2016). There was a need to identify patients who are at high or immediate risk of suicide. Hospital policies needed to require improved methods of suicide assessment and increased level of suspicion (TJC, 2016).

More work was needed in evaluating ED nurses comfort level and knowledge based about the care of suicidal patients. McAllister et al. (2002) suggested that future

researchers study a comparison between nurse's empathy and confidence levels. This would increase researcher's insight into nurse's perception of successful suicide care

Conclusion

Healthcare has been in a continuous state of change. Legislation, funding, and lack of resources forced suicidal patients into the ED for crisis management. ED nurses needed better preparation for this patient population, which presented a major challenge for nursing. McAllister, et.al. (2002) recommended uncovering factors that influenced nursing practice, and identify modifications which promoted appropriate intervention. Nurse's attitudes influenced nursing practice towards suicidal patients and improvement of that care was possible. Practice modification through training was possible and important to gaining successful screening and protection for suicidal patients. Successful screening, protection, and nursing care management for this vulnerable population improved patient health outcomes.

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APPENDIX A

Johns Hopkins Nursing Evidence Based Practice Non-Research Evidence Appraisal

Level 4	Systematic Review Clinical Practice Guidelines
Level 5	Organizational Expert Opinion, Case Study, Literature Review
A (for summative reviews)	High quality: well-defined, reproducible search strategies; consistent results with sufficient numbers of well-designed studies; criteria-based evaluation of overall scientific strength and quality of included studies, and definitive conclusions
B (for summative reviews)	Good quality: reasonably thorough and appropriate search; reasonably consistent results, sufficient numbers of well-designed studies, evaluation of strengths and limitations of included studies, with fairly definitive results
C (for summative reviews)	Low quality or major flaws: undefined, poorly defined, or limited search strategies; insufficient evidence with inconsistent results, conclusions cannot be drawn
A (for expert opinion)	High quality: expertise is clearly evident
B (for expert opinion)	Good quality: expertise appears to be credible

APPENDIX B

Johns Hopkins Nursing Evidence Based Practice Research Evidence Appraisal

Level 1	Experimental study (randomized controlled trial or RCT) Meta-analysis of RCTs
Level 2	Quasi-Experimental Study
Level 3	Non-Experimental Study Qualitative Study
A	High Quality: consistent results, sufficient sample size, adequate control, and definitive conclusions; consistent recommendations based on extensive literature review that includes thoughtful reference to scientific evidence.
B	Good Quality: reasonably consistent results, sufficient sample size, some control, and fairly definitive conclusions; reasonably consistent recommendations based on fairly comprehensive literature review that includes some reference to scientific evidence
C	Low Quality or Major Flaws: little evidence with inconsistent results, insufficient sample size, conclusions cannot be drawn.

APPENDIX C

Request letter for use of the ADSHQ Instrument

From: Lindy Beaver [mailto:LBeaver@ghs.org]
Sent: Tuesday, 26 January 2016 6:46 AM
To: Margaret McAllister
Subject: ADSHQ permission

Dear Dr. McAllister;

I am a Doctoral student in nursing in the United States at the University Of South Carolina College Of Nursing. I am writing you today to ask permission to use the Attitudes towards Deliberate Self-harm Questionnaire (ADSHQ). I am doing my dissertation on the care provided by emergency department nurses and how their attitudes toward self-harm patients affect that care.

I recently emailed you at your Griffith campus address, but did not realize you had changed work locations. I plan to complete my DNP this spring or summer and am very excited about this project. It is my belief that some nurses have negative attitudes towards self-harm patients who seek crisis management in the emergency department --- and this can skew the type of care and assessment provided to them. I have witnessed this and want to validate my hypothesis. Your tool is an excellent way to measure the attitudes of ED nurses and I am hoping you will grant me permission to use it with my RN participants.

If you do grant permission, can you also tell me how to get an electronic copy of the tool so I can use a computer based survey administration methodology?

Thank you for your response to my request. You can contact me via email at lbeaver@ghs.org , write to me at 220 West ridge Court, Chapin, S.C. 29036, or call me at 803-422-5757. I look forward to hearing from you.

Sincerely,

Lindy Beaver MSN RN
DNP Student
USC college of Nursing

APPENDIX D

Email Response to Request for use of the ADSHQ Instrument

Dear Lindy, thank you for your email. You may use the scale; it is attached, as long as you acknowledge all authors. It is pretty old now. You may also want to contact Nienke Kool in the Netherlands, who has reanalysed the tool's validity recently. She may now have a new version. You can find her on Research gate.
https://www.researchgate.net/profile/Nienke_Kool

If there is a new scale, could you send it to me?

Margaret