Suicide Prevention in the Emergency Department: Implementation of a Safety Plan and Follow-Up with Postcards

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Abstract

Suicide has become a national concern due to the increasing rates across the country. The 2012 National Strategy for Suicide Prevention aims to improve the area of clinical prevention. Emergency departments (ED) play a key role in addressing this effort as they have multiple opportunities to connect with patients who are at risk. There exists a high-risk period of time immediately following a patient's discharge from emergency care. To address this period of concern, a review of the literature was conducted on the effectiveness of follow-up contacts as a means to prevent suicide and suicide related attempts in this at-risk population. Based on this review, a follow-up intervention was proposed to increase patients' social support and knowledge on suicide prevention through a safety plan and the use of caring postcards. The aim was to evaluate the degree to which implementation of a safety plan and follow-up using postcards reduces suicide risk in the ED. ED suicide prevention practices such as safety planning and caring contacts with postcards have shown to be feasible and cost-effective methods to reduce patients' risk of suicide as they provide education and address the high-risk period of time after discharge. Using a quasi-experimental pre and post-test design, English speaking adults 18 years of age and older, admitted to an ED in the Phoenix Metropolitan area with suicidal ideation, were voluntarily recruited for two weeks. The self-rated Suicidal Behaviors Questionnaire-Revised (SBQ-R) was used as a baseline assessment along with the introduction of a safety plan. Participants were then followed with the receipt of postcards with caring messages over a two-week period, and a final SBQ-R. The SBQ-R has shown beneficial reliability and validity measuring suicidality in the adult population. Data from the pre-SBQ-R was analyzed using descriptive statistics as no post-SBQ-Rs were received. Outcomes for this project included a reduction in suicidal ideation and suicide risk. This project provides insight

into the implementation of a safety plan and follow-up intervention in the ED and their attempts to reduce acute suicide risk as well as highlight the value that post-ED support provides.

Keywords: suicide, prevention, safety plan, caring messages, postcards, emergency department, follow-up, contacts, brief intervention

Chapter1

Introduction

Suicide currently ranks as the 10th leading cause of death in the United States. Approximately 45,000 Americans die by suicide each year and the costs are estimated to be 69 billion annually (CDC, 2016). In Arizona, suicides rates are also on the rise (AZDHS, 2016). Unfortunately, the stigma surrounding suicide raises the possibility of underreporting, and the number of suicides and suicide attempts are estimated to be higher (AFSP, 2018). These alarming statistics present a need to find effective clinical preventive solutions as part of a comprehensive approach to help save lives. From a clinical perspective, the use of safety planning and follow-up are important ways to make inroads in reducing suicide.

Background and Significance

Can a safety plan intervention combined with follow-up using caring postcards translate into less suicidal behavior in patients seen and treated in the emergency department? This is a clinically significant question as it relates to patient care in an emergency setting. To better understand this question, a look at the background of this issue, the population it affects, the different types of interventions that have been tried in the past and their outcomes, as well as the current state of practice should be evaluated.

Suicide is a complex issue due to the multitude of risk factors of suicide and the demographic variability. There is no singular approach to preventing suicide; it is likely that a comprehensive approach works best (Miller et al, 2017). Suicide is defined as the act or an instance of taking one's own life voluntarily and intentionally (Merriam-Webster's dictionary, 2018). The various factors that put patients at risk of suicide include a history of mental or emotional disorders, previous suicide attempt, history of trauma or loss, terminal illness, alcohol

and drug abuse, social isolation, and being recently discharged from inpatient psychiatric care (Joint Commission, 2016).

Population

Certain populations such as military veterans and men over the age of 45 are more at risk than others (Joint Commission, 2016). A review from Reger et al. (2017) concluded the target population would be one that has multiple risk factors such as prior attempts or recent psychiatric hospitalization. Patients with a previous suicide attempt are likely to make another attempt, eventually 5-10% will die by suicide (Larkin & Beautrais, 2010). The average number of ED visits for attempted suicide and self-inflicted injuries in the U.S. from the 1990's to the 2000's has doubled, and a high proportion of these patients have mood disorders (Kawashima, Yonemoto, Inagaki, & Yamada, 2014). People with mood disorders may have experienced stressful events in their life such as a death or divorce and may have a higher genetic risk of becoming depressed. They may go through periods of depression where they feel guilt, helplessness, hopelessness, and may have lost interest in things they used to enjoy. Some people experience a lack energy making it difficult to get out of bed, let alone make it to an outpatient psychiatric appointment. These symptoms can affect a person's ability to function and lead to thoughts of suicide. Depression is typically treated and managed by psychotherapy, medications, and other health approaches (NAMI, 2017). However, these methods may not work immediately and can take several weeks or months to take effect, putting depressed patients at a higher risk of suicide and adding to the importance of follow-up with these patient's post-discharge from the ED.

Interventions

Over the last decade, brief contact interventions have been trialed in several settings with positive results. The interventions have included follow-up phone calls, post cards, emails, text messages that vary in design, the number of participants, methods, and follow-up period. Although some have been more effective than others, these interventions have been found to be easily implemented, low cost, and accepted by patients and staff (Falcone et al., 2017; Luxton, June, & Comtois, 2013; Reger et al., 2017). Follow-up contacts are one part of a brief intervention and contact (BIC) in which patients with suicidal ideation in the ED are provided with information, educated about suicidal behavior, and offered effective coping strategies before they are discharged. Supportive letters, phone calls or postcards are then sent over a period of time and used as a means to maintain contact with the patient and offer re-contact services if needed with the hope of reducing the suicide rate (Milner, Carter, Pirkis, Robinson, & Spittal, 2015).

A randomized clinical trial by Luxton et al. (2014) found follow-up contacts help patients connect socially and adds to a sense of belongingness for them. This thought is similar to Motto and Bostrom's (2001) point which emphasized how important human social connection is with preventing suicide. A study by Berrouiguet et al. (2014), stated the goal of their text message intervention was to facilitate human to human interaction by connecting patients with health care providers. They found that their therapeutic intervention allowed patients at-risk for suicide to feel continuously cared for the by ED staff. A review of the mechanisms of brief contact interventions suggested social support and increased suicide prevention literacy as the most likely reasons why contact interventions work (Milner et al., 2016).

The evidence reviewed supports that reaching out to at-risk patients who have committed self-harm or have had thoughts of doing so are receptive to a form of social support, whether

they be phone calls, emails, postcards or text messages. These interventions are well suited to the ED setting due to the time and staffing constraints many EDs face. Furthermore, focusing on a population that is considered higher risk may be more cost-effective due to the likelihood this population will make another attempt.

Current State of Practice/Comparison

Usual care for treating suicidal patients in the ED consists of assessing how serious the risk is, and then referring the patient to either a higher level of care (psychiatric inpatient facility) or outpatient mental health clinic depending on the level of risk. Other forms of clinical preventive services utilized by EDs have included universal screening, lethal means counseling and safety planning. Universal screening requires nurses to screen every patient that enters the ED, which is thought to identify more patients at risk. However, one study did not find any evidence that showed universal screening had improved outcomes (Miller et al, 2017).

Lethal means counseling is a part of the Joint Commission's recommendations to health care organizations advising them to address whether patients have access to firearms, medications or other means, as they increase the risk of suicide (Runyan, 2018). Fewer than half of EDs have discharge protocols which include lethal means counseling (Runyan, 2018). A safety planning intervention in the ED entails helping the patient to identify warning signs of a suicidal crisis, coping strategies, ways to make the environment safe, and people they can turn to for help (Stanley & Brown, 2012). A BIC combines a similar education intervention with a follow-up component. All of these interventions have potential and may add to a health care system's suicide prevention measures, but EDs must rely on the necessary staff and resources to provide the interventions.

Outcomes of Follow-Up Interventions

Overall, there are common themes in the data showing benefits of implementing follow-up contacts as a way to prevent suicide. Suicide rates after discharge are an area of particular concern due to the elevated level of risk. Follow-up contacts are one way to address this period of risk, as they have shown to be promising interventions in mitigating suicide risk after discharge and reducing the risk of repeat suicide (Inagaki et al., 2014; Luxton et al., 2013; Reger et al, 2017; Riblet et al., 2017). One study tested the efficacy of a postcard intervention over 12 months on the number of repeat episodes of deliberate self-poisoning and found the intervention had cut in half the number of self-poisoning events over the time period (Carter, Clover, Whyte, Dawson, & E'Este, 2005). The intervention comprised of a postcard sent to participants at 1, 2, 3, 4, 6, 8, 10, and 12 months after discharge, with messages expressing concern that someone still cares and is thinking about the patient. After five years, this intervention was shown to also have reduced the number of psychiatric admissions by a third, representing a cost savings to the hospital (Carter, Clover, Whyte, Dawson, & D'Este, 2013). A study by Denchev et al. (2018) also found adding postcards, compared with usual care, was shown to reduce costs and improve outcomes. The fact that these interventions are cost-effective provides additional support for implementation.

Internal Evidence

At an ED in the Phoenix metropolitan area, there were multiple opportunities to identify clinical needs in the care of patients in a mental health crisis. The current practice of this ED is to perform a suicide risk screening for patients that have a primary complaint of an emotional or behavioral disorder. Patients that are identified as at-risk receive a consult with a social worker who performs a risk assessment and helps determine the patient's disposition and course of treatment. Emergency medicine physicians are responsible for the medical clearance of these

patients. Once medically cleared and in coordination with the social worker's assessment, patients will either be transferred to an inpatient psychiatric facility or discharged. Patients that are discharged will receive resources such as a crisis line, lethal means counseling, and referrals for outpatient treatment. Patients that are transferred from the ED to an inpatient psychiatric facility may be discharged several days later in a similar fashion. Data on how many patients are discharged home versus how many are transferred to an inpatient setting was difficult to discern as there were limitations with the electronic health record.

There is no guarantee that patients will follow-up with the referrals they are given; it is the patient's responsibility. Thus, some may not connect with outpatient services due to the nature of depression; depressed persons may have difficulty initiating follow-up because of lack of motivation, which is a symptom of depression. This ED implements many of the suicide prevention strategies that is currently recommended by the Joint Commission (Joint Commission, 2016). However, the increase in the rate of suicide in the State of Arizona begs the question of what more can be done to stop suicides from occurring?

Problem Statement

The 2012 National Strategy for Suicide Prevention (USDHHS, 2012) provides several recommendations for suicide prevention actions in the United States over the next decade. One part of this strategy focuses on increasing clinical and community preventive services. Several national organizations have issued position statements and partnered together to address gaps in suicide related care identified by the 2012 National Strategy for Suicide Prevention. The American Psychiatric Nurses Association (APNA, 2018) developed suicide competencies that educates nurses who provide care to persons with mental health needs that will improve outcomes in suicide risk assessment, prevention, and intervention. The American Association for

Suicidology (AAS, 2018) made recommendations to ensure mental health professionals are properly trained and competent in managing suicidal patients. The Substance Abuse and Mental Health Services Administration has partnered with the National Action Alliance for Suicide Prevention to advance the national strategy for suicide prevention (SAMHSA, 2017; Schmitz et al., 2012).

Healthcare organizations have been encouraged to develop and implement programs that prevent suicide and related behaviors to meet these objectives and recommendations. In implementing these programs, healthcare organizations are taking responsibility to address the gaps in care that occur when a patient transitions from an inpatient setting to an outpatient one without a follow-up plan or established appointment with a mental health provider. Filling this gap in care is important because research has shown that patients with a history of suicide attempts and comorbid psychiatric disorders are at a higher risk of suicide following discharge from a psychiatric inpatient or emergency department (ED) setting (Bickley et al., 2013; Murphy, Draper, & Mckeon, 2010).

Suicide risk is particularly high the first few days and weeks after discharge. One study found a greater incidence of suicide occurred in the first week following discharge, half of the suicides occurred before the first outpatient appointment, and patients were more likely to commit suicide if they had a short hospital stay and experienced an adverse life event following discharge (Bickley et al., 2013). Another study found that the suicide rate was highest within 3 months after discharge among patients admitted with suicidal ideas or behaviors (Chung et al., 2017). Clinical preventive services that provide a follow-up plan can help address this high-risk period of time after a patient is discharged.

ED visits provide healthcare organizations with opportunities to intervene and help save lives (SPRC, 2018). The number of mental health related visits to EDs has increased which provides healthcare organizations with more patient contacts (Simon & Schoendorf, 2014). People that have attempted suicide will likely seek medical treatment in the ED. They will initially receive a psychiatric evaluation in the ED, and after the patient is evaluated, they are likely to be discharged with referrals or transferred to an inpatient psychiatric facility. There needs to be a system in place to follow-up and connect with patients to make sure they are safe after they have been discharged, and to confirm they have followed up with their referrals. Sending a follow-up email, telephone call, postcard, or text message to the patient are several ideas. Research has shown promising findings that follow-up contacts reduces the number of episodes of self-harm and/or suicide attempts after patients have been discharged from the ED (Falcone et al., 2017).

PICO

This leads us to the clinically relevant PICOT question, "In adult patients that present to the ED for suicidal ideation and behavior, how does follow-up contacts compared to no follow-up contacts, affect readmission rates to the ED for suicidal behavior over a period of 4 weeks?"

Search Strategy

The goal of the initial search strategy was to determine if follow-up contacts affect readmission rates for suicidal ideation, attempts, and behavior in the ED. An extensive search for literature related to this PICOT question was conducted. The databases searched included the Cumulative Index of Nursing and Allied Health Literature (CINAHL), the Psychological Information database (Psych INFO), and Public/Publisher Medline (PubMed). Keywords used in the searches were *suicide, ideation, prevention, emergency department, follow-up, post-*

discharge, outpatient, aftercare, intervention, email, text, service, theory, and recidivism. Criteria was narrowed to peer-reviewed studies with a focus on randomized controlled trials, systematic reviews, and meta-analyses.

The initial CINAHL search with the terms *suicide, prevention, and emergency department* yielded 147 results. Adding the Boolean phrase *outpatient* to the prior search combination yielded 33 results and adding *intervention* yielded 56 results. Combining *suicide, prevention, emergency department, and post-discharge* yielded just 3 results. Search terms *suicide, prevention, emergency department, and follow-up* then yielded 22 results. Searching PsychINFO initially had a higher number of results than the CINAHL search. The search began with the terms *suicide* and *prevention* which yielded 15,463 results. By adding in the terms *emergency* and *attempts*, the yield resulted in 267 results. Further adding the term *follow-up* yielded 62 results, and finally adding the search term *contacts* yielded 17 results. PubMed had the largest initial yield of results at 76,227 for the term *suicide*; 16,478 for *suicide* and *prevention*; 801 for *suicide*, *prevention*, and *emergency department*; 144 for *suicide*, *prevention*, *emergency department*, and *follow-up*; and 7 for *suicide*, *prevention*, *emergency department*, *follow-up*, and *contacts*. Other studies were identified through the ancestry method by reviewing the reference lists within the retrieved articles. Studies were identified through review of abstracts and whether the intervention employed the use of follow-up methods such as telephone contacts, emails, or postcards/letters with patients discharged after an ED visit. After combining these search methods, 10 studies were chosen to be evaluated (appendix A).

Evidence Synthesis

Of the ten studies evaluated for this review, two studies were systematic reviews, six studies were randomized controlled trials (RCTs) and two were case-controlled studies

(Appendix A). Overall, the strength of the evidence is high as the level of evidence ranges from I to III (Appendix B). The studies generally exhibited moderate homogeneity in the demographics as the targeted population in these studies were of individuals with risk factors for suicide that had presented to an ED or inpatient psychiatric unit for treatment. There was some heterogeneity in the age of participants as three of the studies included participants younger than age 18 (Appendix B). There were only two settings in which the all of the studies took place, that of EDs and inpatient psychiatric units.

There is moderate heterogeneity among the dependent variables related to suicidal behaviors. Five studies focused on the number of suicide deaths; five studies looked at repeat suicide attempts; two of the studies looked at repeat episodes of non-fatal suicidal behavior; one study looked at time between first suicide attempt and subsequent one; and one study looked at repeat episodes of deliberate self-poisoning (Appendix B). Moderate heterogeneity is also evident by the different types of follow-up interventions studied. Three of the studies evaluated sending postcards. Four studies assessed follow-up telephone calls and one study used letters as a method of follow-up. Four studies included a brief intervention with the follow-up contacts. All of the studies used a treatment as usual (TAU) as the comparison group which may have minimized some of the studies' results as every suicidal patient typically receives an intense level of care and support.

Validity and reliability of the evidence is confirmed through the systematic approach of randomized controlled trials and systematic reviews. Validity was found to be good in two of the studies and reliability was noted to be good in two of the studies. Two studies noted consistency in their findings in comparison with other studies. Potential bias was debated regarding three studies. Methodological concerns found in the studies included small sample size, difficulty

contacting patients resulting in large dropout rates, and inadequate of time of follow-up. The follow up period of the studies ranged from 6 months to 5 years. The studies' differences in their sample sizes among the control and intervention groups may have impacted the statistical significance of the results. The studies generally relied on data gleaned from electronic medical record databases and questionnaires to measure the effects of their interventions. Data was analyzed in a similar fashion across the studies as mainly Chi-square and *t*-tests were performed, and both systematic reviews used the Cochrane's Q and the *I* squared test.

Overall, the evidence suggested that follow-up contacts for patients seen and treated in the ED for suicidal behavior has a beneficial effect on reducing suicides, suicide attempts, and suicide ideation. Sending letters, postcards, and placing telephone calls varied in their level of effectiveness. However, it was difficult to determine if one method of follow-up was more effective than the other as none of the RCTs or systematic reviews compared the effectiveness of one follow-up intervention to another. All three methods showed a reduction in suicidal behavior, and it would be reasonable to implement any one of them depending on the resources available. The three follow-up interventions were feasible in an ED setting and cost-effective. If staffing and financial limitations exist, a postcard follow-up program may be the best option as it was associated with lower costs than the other methods (Denchev et al., 2018).

Purpose and Rationale

Patients experiencing mental health emergencies are visiting EDs at increasing rates. It is important to stay in touch with these patients once they leave the ED due to the period of high risk immediately after discharge. The purpose of this evidenced-based project was to reduce suicidal behavior through increasing patients' social support and knowledge on suicide prevention by using a safety plan and follow-up with caring postcards. The question this project

aimed to answer was “Can a safety plan intervention combined with follow-up using postcards reduce suicidal behavior in patients in the emergency department?”

Chapter 2

Evidence Based Practice Model and Conceptual/Theoretical Model

Joyce Travelbee's Human-to-Human Relationship Model acted as a conceptual framework for understanding the proposed practice change (Appendix D). This model focuses on the phases of the nurse-patient relationship. The phases of original encounter, emerging identities, developing feelings of empathy, developing feelings of sympathy, and building rapport help to highlight the importance of the communication process between the nurse and patient (Nelson, 2015). This model was chosen for this evidenced based practice (EBP) project as its ultimate goal is to instill hope. Using sympathy and empathy, patients will be offered suggestions for safety planning. These suggestions would include developing a personal set of warning signs, a list of specific behaviors that will help the patient calm down, and ways for them to reconnect with themselves and others.

The Iowa Model of Evidence-Based Practice to Promote Quality Care is the model chosen to help guide the application and decision-making process of the proposed EBP project (Appendix C). The Iowa model has been used to guide nurses in addressing a wide range of clinically important topics that affect patient outcomes. For example, the Iowa model can be applied to this project by identifying the practice question of "whether a brief intervention and follow-up contacts change outcomes with patients with suicidal ideation that are discharged from the ED?" This question was derived from research that questions current practice standards in the ED (Dang et al., 2015). Nurses must then consider the organizational context of this topic, if it is a priority for the organization, and whether there is enough quality evidence to move forward with implementation. If the findings are sufficient in quality, clinically relevant, feasible and

generalizable to the population, a change can then be instituted (Dang et al., 2015). There are feedback loops throughout the model that support the evidence-based practice process and guide the practitioner to make informed decisions with the aim of continual improvement of the process.

Project Methods

Ethics

Permission to use the safety plan was obtained (appendix E). The institution's internal IRB approved the EBP project on March 25th and signed an IRB authorization agreement with Arizona State University (appendix F) (appendix G). This process safeguards the participant's rights, welfare, and well-being. The IRB evaluated the project to confirm it had sound design and determined the project was worth exposing patients to risk. The IRB also examined the recruitment methods, consent procedure, and privacy and confidentiality procedures to ensure they were sufficient. Steps were taken to protect the participant's privacy. A unique ID code was developed by each participant to de-identify their data. The data gathered was kept confidential and secured in a locked office in the ED.

Participants and Setting

The inclusion criteria consisted of English-speaking adults 18 years of age and older who presented to the emergency department with suicidal ideation. They had to be residents of the Phoenix metropolitan area, have a mailing address where they receive mail, be able to consent, and be waiting for voluntary transfer to an inpatient setting. Individuals who were under the age of 18 and adults who were unable to consent were excluded from participating. The setting was a 60-bed ED and level I trauma center in the Phoenix metropolitan area.

Recruitment

The co-primary investigator (Co-PI) conducted the recruitment of the participants (patients) in the ED. The Co-PI worked closely with the ED social worker to identify potential participants that had been medically cleared by the ED physician, had received a psychiatric evaluation by the social worker, and determined they would be voluntarily transferred to an inpatient psychiatric facility. The Co-PI was verbally notified in person by the ED social worker of a patient that was pending transfer. The co-primary investigator then met with the potential participant and used a consent form to explain the study, answer questions, ask if they were willing to participate, and then obtained verbal consent (appendix I). The recruitment period was two weeks.

Intervention

If the participant was interested and gave verbal consent, the Co-PI in coordination with the participant, developed a unique ID code that was used to label and identify the pre-post questionnaires and safety plan. Envelopes were then labeled with the participant's mailing address. The participant was then asked to complete a baseline Suicide Behaviors Questionnaire-Revised (SBQ-R) (appendix H) to assess for suicidal ideation, or thoughts about suicide. After completing the baseline SBQ-R, the patient then completed a written safety plan with the help of the Co-PI. The safety plan consisted of the patient identifying warning signs, internal coping strategies, settings that can provide distraction, and people to reach out to in times of crisis (appendix L). A note was then placed in the patient's chart stating the patient agreed to participate in the project and that they completed the first questionnaire.

After the safety plan was completed, the participant was sent a total of 4 postcards. The postcards included positive messages that expressed concern for their well-being, provided personalized ideas for health promotion and served as a reminder of sources of help the

participant identified during the safety plan (appendix J & K). The postcards were sent in sealed envelopes, to protect the participants confidentiality, and were sent over a period of 14 days; on days 3, 7, 10, and 14 following discharge from the ED. The envelopes had no revealing information from the sending institution and only included a stamp and the participant's mailing address. The last postcard mailed included a self-addressed stamped envelope and a post-SBQ-R questionnaire with their unique ID code. The Co-PI then relied on the participant to complete the post-intervention questionnaire and mail it back to the ED. The return envelope was addressed to the emergency department with ATTN: (SPFU-ED). A crisis number was also included in each postcard and the postcards were signed by members of the care team.

Outcome Measures

The outcome measured for this project was suicidal behavior. Suicidal behavior was measured using the Suicidal Behaviors Questionnaire-Revised (SBQ-R) which looks into lifetime suicide ideation and/or suicide attempts, assesses the frequency of suicidal ideation over the past twelve months, assesses the threat of suicide attempt, and evaluates the likelihood of suicidal behavior in the future. It is used to measure the risk of suicide and has high sensitivity (93%) and specificity (95%) in the adult general population. The total score ranges from 3-18. A cutoff score equal to or greater than 7 will correctly classify those with risk. The measure is self-reported.

Data Collection and Analysis Plan

All data was collected using the Suicidal Behaviors Questionnaire-Revised at the initial meetings with the participants. No post-intervention SBQ-Rs were received. All data was kept secured in an office in the ED. A total of 4 participants were recruited during the recruitment period. A Wilcoxon Matched-Paired Signed Rank Test had been planned to analyze the pre- and

post-questionnaires, however with a n of 4 and no post-questionnaires, it was not feasible. Therefore, descriptive statistics were used to describe the sample and outcome variables.

Proposed Budget

Minimal expense was needed to fund the project. Ink, envelopes, card stock, office paper, and postage stamps were the only expenses. The total cost was under $30.00.

Project Results

The total number of participants recruited was 4 and no post-intervention questionnaires were received in the mail. Of the participants, 75% were females and 25% were male. The average age of the sample was 61.5 (sd=14.48). And the age ranged from 41 to 71 years of age. The average score on the SBQ-R was 11.5 (sd=1.73) and the scores ranged from 9 to 13 points. The question being asked was “does the intervention of a safety plan and follow-up using postcards decrease suicidal behavior?” With a total number of only 4 participants and no post questionnaires, statistical significance was not reached, and therefore the question remained unanswered.

Discussion

The clinical significance and what the reported scores from the pre-intervention questionnaire show is that all of the patients were at-risk. Regardless of age or gender, they were all at-risk. All of them had some suicidal ideation during the past year. And that the social worker, ED physician, and patient made the correct decision for the patient to be transferred to an inpatient setting for more care and support. It is difficult to determine the impact of this EBP project because there were not enough participants recruited and post-intervention questionnaires received. However, with that being said, the safety plan and the idea of postcards was well received by the patients and by the staff. The emergency department management was very

supportive. The nursing staff and social workers all thought it was a great idea and a nice thing to do for the patients. To sustain this project in the practice setting, the post card messages could be automated. If there is time, social workers or trained nurses could do the safety plan with patients.

One of the strengths of this project was just sitting down and talking with the patients. It was beneficial for them and they enjoyed talking with someone. Personalizing the messages was a nice addition, but there were some studies that, interestingly, found no impact on whether the messages were personalized or not; automated messages had the same positive impact (Luxton et al., 2014). For the limitations and barriers, getting through the IRB process was the biggest hurdle by far. Several changes were made to the project because approval was not received till the end of March. Initially, the plan was to do a longer recruitment period and a longer period of mailing the postcards but, that timeframe had to be cut in half in order to complete the project on time. Also, there was a plan to do a chart review to see if any patients returned to the ED and that had to be cut as well. The inclusion criteria were narrow and prohibitive in recruiting patients. There were multiple adolescent patients, several patients were admitted to the ICU, some patients were discharged home, and others were intoxicated and unable to consent. This project relied on participants to mail back questionnaires and it is an important limitation to mention. To increase the potential for results, any future projects may need to consider other options to receive post-intervention data, altering the inclusion criteria, and adding a chart review.

A study by Stanley and Brown (2018) which had a total of 1640 patients found that “a safety plan intervention with follow-up was associated with a reduction in suicidal behavior and increased treatment engagement among suicidal patients following ED discharge.” Even though this project did not show statistical significance, based on this study, an intervention with a safety

plan and follow-up is something emergency departments should consider. Recommendations for further study would also include using a qualitative approach to see how patients perceived the intervention.

Conclusion

Although this project did not show statistical significance that a combined safety plan and follow-up intervention using postcards reduces suicidal behavior, an emergency department may still benefit from their implementation. In several studies, these clinical tools have been shown to positively impact patients in addressing their suicidal behavior. Every attempt should be made to add these tools to the care provided to patients with suicidal ideation in the emergency department. Projects that involve patients with suicidal behavior take a significant amount of time to get through the IRB process and may not be a suitable population to incorporate into Doctor of Nursing Practice projects due to their short implementation time.

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Appendix A

Table 1

Evaluation Table

Citation	**Theory/ Conceptual Framework**	**Design/ Method**	**Sample/ Setting**	**Major Variables & Definitions**	**Measurement/ Instrumentation**	**Data Analysis (stats used)**	**Findings/ Results**	**Level/Quality of Evidence; Decision for practice/ application to practice**
Amadeo et al., (2015) Testing brief intervention and phone contact among subjects with suicidal behavior: A randomized controlled trial in French Polynesia in the frames of the WHO/Suicide Trends in At-Risk Territories study Funded by the French Polynesia Ministry of Health No COI. French Polynesia	Joyce Travelbee's Human-to-Human Relationship Model	**Design:** RCT **Purpose:** Establish a monitoring system for suicidal behavior and conduct a RCT intervention for non-fatal suicidal behaviors. Follow-up period 18 months	**N**=200 **IG** (TAU + BIC) (**n**=100) **CG** (TAU) (**n**=100) **Inclusion Criteria:** Patients admitted to the ED over 2008-2010 for suicidal behavior with short psychiatric hospitalization (24 hours) **Exclusion Criteria:** Maximm entry to the study was locked at 200 due to funding limitations.	**IV- IG** received TAU + BIC, BIC consisted of one-hour information session and 9 follow-up contacts (phone calls) at 1, 2, 4, 7, 11 weeks and 4, 6, 12, 18 months after intake **CG** received no contact **DV1-**Number of suicides **DV2-**repeated NFSB	Survey questionnaire: EPSIS	Chi-square Fisher's exact test	There was a reduction in the number of suicides and episodes of NFSB in the IG Episodes of NFSB: IG: 26.7% CG: 21% Suicide: IG: 0% CG: 2% No significant difference in the frequency of SB between the two groups.	LOE: II WOS: A brief intervention and phone contact reduced suicides and NFSB STR: RCT design; Patients were happy to be involved in the study. WE: Size of sample and timeframe may have impacted the statistical significance.

Key: **AMA**- against medical advice; **BIC**- brief intervention and contact; **CCS**- case controlled study; **CG**- control group; **CI**- confidence interval; **COI**-conflict of interest; **DSP**- deliberate self-poisoning; **DV**-dependent variable; **ED**- emergency department; **EMR**- electronic medical record; **EPSIS**- European Parasuicide Study Interview Schedule; **IRR**- incidence risk ratio; **IG**- intervention group; **IV**-independent variable; **LOE**- level of evidence; **N**-number of participants; **NS**-number of studies; **n**- subset of participants; **NFSB**- non-fatal suicidal behavior; **OR**- odds ratio; **PC**- postcard; **RCT**- randomized controlled trial; **RRR**- relative risk reduction; **SA**- suicide attempt; **SB**- suicidal behavior; **SI**- suicidal ideation; **SPSS**- statistical package for the social sciences; **SR**- suicide risk; **SRMA**- systematic review and meta-analysis; **STR**- strengths; **TAU**- treatment as usual; **WE**- weaknesses; **WOS**- worth of study to practice;

Citation	Theory/ Conceptual Framework	Design/ Method	Sample/ Setting	Major Variables & Definitions	Measurement/ Instrumentation	Data Analysis (stats used)	Findings/ Results	Level/Quality of Evidence; Decision for practice/ application to practice
Carter et al., (2005) Postcards from the EDge project: randomised controlled trial of an intervention using postcards to reduce repetition of hospital treated deliberate self-poisoning Funded by NSW Health No COI. Risk of bias. Australia	Joyce Travelbee's Human-to-Human Relationship Model	**Design:** RCT **Purpose:** To determine whether an intervention using PCs reduces repetitions of hospital treated DSP Follow-up period 1 year	**N**=772 **IG** (**n**=378) **CG** (**n**=394) **Inclusion criteria:** Participants (> 16 yr) presented to toxicology service from the ED with DSP from April 1998 to December 2001) **Exclusion criteria:** Patients not capable of informed consent, considered to pose a threat to interviewer, those of 'no fixed address'	**IV- IG** received a PC expressing care and concern at 1, 2, 3, 4, 6, 8, 10, and 12 mo after discharge. **CG** received no contact after discharge **DV1-** The proportion of patients with at least one repeat episode of DSP in 12 mo **DV2-** The number of repeat episodes of DSP per individual over 12 mo	Toxicology service database EMR to measure outcomes	SPSS Chi-square Negative binomial regression	-Significant reduction in repeat DSP IG vs CG -Proportion of patients who repeated episode of DSP: IG: 15.1% CG: 17.3% -Number of repeat episodes of DSP: IG: 101 CG: 192 -IRR of repetition: IG:0.55 CG:1.00 [ES=0.13 (CI: 0.35 to 0.87); *p*>.01] -Non-significant reduction in proportion of individual repeaters	LOE: II WOS: A PC intervention reduced repeat DSP STR: RCT design; good randomization WE: Questionable generalizability to other settings.

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Citation	Theory/ Conceptual Framework	Design/ Method	Sample/ Setting	Major Variables & Definitions	Measurement/ Instrumentation	Data Analysis (stats used)	Findings/ Results	Level/Quality of Evidence; Decision for practice/ application to practice
Cebria et al., (2013) Effectiveness of a telephone management programme for patients discharged from an emergency department after a suicide attempt: Controlled study in a Spanish population Funded by European Commission, Health Department of de Generalitat de Catalunya No COI. Spain	Joyce Travelbee's Human-to-Human Relationship Model	**Design:** Case-Controlled study **Purpose:** To determine the effectiveness of a specific telephone management program on patients discharged from an ED after a SA over one year. Follow-up period 1 year	**N**=991 **IG** (**n**=604) **CG** (**n**=387) **Inclusion criteria:** Patients in the ED with a SA and treated in the years 2007 and 2008. No age limit was set. **Exclusion criteria:** Patients not willing to give informed consent	**IV- IG** received telephone follow-up after 1 week and then 1, 3, 6, 9, and 12-month intervals to assess SR **CG** received no contact **DV1-** Time elapsed between the first SA and subsequent one **DV2-** Changes in the annual rate of patients who reattempted suicide in the year of the intervention	Obtained data from EMR	SPSS Kaplan-Meier method Chi-square with Yates' correction	Delayed time between suicide reattempt, year 2008= 346.47, *sd*= 4.65 Year 2007= 316.46, sd= 7.18; $p <$ 0.0005 Reduced the rate of patients who reattempted suicide IG: 6% CG: 14%, difference 8%, 95% CI 2%-12%	LOE: III WOS: A telephone management program is effective in delaying SA and in reducing suicide reattempts for patient admitted to an ED with SI. STR: Telephone follow-up was started earlier, within a week, and more frequent WE: Difficulty in contacting patients. Coincided with another intervention that aimed at early diagnosis of depression which may have influenced results.

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Exbrayat et al., (2017) Effect of telephone follow-up on repeated suicide attempt in patients discharged from an emergency psychiatry department: a controlled study Funded by Regional Public Health Group of the Rhone-Alpes No COI. Risk of selection bias. France	Joyce Travelbee's Human-to-Human Relationship Model	**Design:** Case-Controlled study **Purpose:** To evaluate the efficacy of a protocol of telephone follow-up on any further attempts Follow-up period 1 year	**N**=823 **IG** (**n**=436) **CG** (**n**=387) **Inclusion criteria:** **IG** Patients seen for SA in a psych ED from Jan. 1-Dec. 31 2010 **CG** Patients seen in ED for SA in prior year Jan. 1-Nov. 30 2009 that met same inclusion criteria **Exclusion criteria:** Patients younger than 18, potentially harmful or would interfere with care	**IV- IG** received telephone follow-up at 1 week, 1 month, and 2 months **CG** received no contact **DV-** Rate of recidivism, a repeated suicidal gesture, one year after the initial episode	Systematic review of EMR	Statistical analysis software Chi-squared test *t*-test	The rate of repeated suicide attempts was significantly fewer among IG than CG *(p* = 0.037) The odds ratio of recidivism was lower: 0.50 (95% CI 0.62 to 0.80)	LOE: III WOS: Telephone follow-up is a protective factor against repeat SA. Agreed with other studies on risk factors of previous SA, previous psychiatric hospitalization, and personality disorders STR: Single center prospective study using univariate and multivariate analyses WE: Potential sample selection bias among control than study patients.

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Fleischmann et al., (2008) Effectiveness of brief intervention and contact for suicide attempters: a randomized controlled trial in five countries Funded by the Department of Mental Health and Substance Abuse, WHO No COI. Brazil, India, Sri Lanka, Iran, and China	Joyce Travelbee's Human-to-Human Relationship Model	**Design:** RCT **Purpose:** To determine whether brief intervention and contact is effective in reducing subsequent suicide mortality among SA in low and middle-income countries. Follow-up period 18 months	**N**=1867 **IG**(BIC) (**n**=922) **CG**(TAU)(**n**=945) **Inclusion criteria:** Patients in ED setting for SA **Exclusion criteria:** Refusal of enrollment, death in the ward, clinical conditions not allowing an interview, leaving AMA	**IV- IG** received 1-hour info session about suicidal behavior at discharge and 9 follow-up phone calls and/or visits at 1, 2, 4, 7, and 11 weeks, and 4, 6, 12, and 18 months **CG** received no contact **DV-** Death from suicide at 18-month follow-up	Survey questionnaire: EPSIS	Chi-squared test	Significantly fewer suicide deaths occurred in the IG than in the CG. Suicide deaths: IG: 0.2% CG: 2.2% ($p <$ 0.001)	LOE: II WOS: BIC provided a form of psychosocial counseling and supportive ongoing contact to suicide attempters. BIC required little training STR: Good validity. Cost effective. WE: Difficult to keep track of enrolled participants. Difference in sample sizes across each of the five sites.

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Hossanian-Moghaddam et al., (2011) Postcards in Persia: randomised controlled trial to reduce suicidal behaviours 12 months after hospital-treated self-poisoning Funded by the Legal Medicine Organization of Iran and the Logham-Hakim Research Development Unit No COI. Risk of bias. Iran	Joyce Travelbee's Human-to-Human Relationship Model	**Design:** RCT **Purpose:** To test the efficacy of a postcard intervention to reduce suicidal behavior. Follow-up period 1 year	**N**=2300 **IG**(BIC + TAU) (**n**=1150) **CG**(TAU)(**n**=1150) **Inclusion criteria:** Patients above 12 years of age seen in ED for DSP **Exclusion criteria:** Treatment only in the ED, incapable of informed consent, psychosis, having no fixed address, unable to read, and potential threat to interviewer	**IV- IG** received 8 postcards that were mailed at 1, 2, 3, 4, 6, 8, 10, and 12 months after discharge followed by a questionnaire **CG** received no contact **DV1-** SA **DV2-** SI **DV3-** NFSB (cutting)	Toxicology service database EMR to measure outcomes	SPSS Chi-squared Poisson regression *t*-test ANOVA	A PC intervention reduced SI and SA in patients that DSP. SI: IG: 29% CG: 41.7% RRR=0.31, 95% CI=0.22, 0.38 SA: IG: 3% CG: 5.1% RRR=0.42, 95% CI=0.11, 0.63 SB: IG: 4% CG: 4.7%	LOE: II WOS: A PC intervention was effective in reducing SI and SA. It expressed concern for the patient and offered contact if needed. STR: Design of study was strong, good validity. WE: Randomization not carried out by a third party. No effect of SB (self-cutting)

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Inagaki et al., (2014) Interventions to prevent repeat suicidal behavior in patients admitted to an emergency department for a suicide attempt: A meta-analysis Funding by a grant from the Ministry of Health, Labor, and Welfare No COI. Japan	Joyce Travelbee's Human-to-Human Relationship Model	**Design:** Systematic review and meta-analysis **Purpose:** To assess the effects on repeat SB of interventions initiated in suicidal patients admitted to EDs.	**NS**=24 **n**=5319 **Inclusion criteria:** Studies that had patients who had SB or a SA within 1 month and were admitted to an ED for their SB, intervention performed while patient was admitted to ED and effect of intervention was examined in a RCT **Exclusion criteria:** Studies not written in English language and studies examining experimental interventions	**IV1-** active contact and follow-up Subgroups were a.intensive care plus outreach b.BIC c.letter or PC d.telephone e.composite of letter/postcard and telephone **IV2-** psychotherapy **IV3-** pharmacotherapy **IV4-** miscellaneous groups **DV1-** repeat SA **DV2-** deaths by suicide **DV3-** any-cause death	Classified the trials by type of intervention Assessed for risk of bias	StatsDirect software *I* squared and Cochrane *Q* statistics Used a fixed effects model for trials that had similar interventions Used a random effects model for trials to examine heterogeneity Examined effects of each IG on repeat SA, death by suicide, and any cause death by using a meta-	Interventions of active contact and follow-up were effective in reducing the risk of repeat SA (n=5319; pooled RR=0.83; 95% CI: 0.71 to 0.97)	LOE: I WOS: Findings have implications for clinical policy makers to prevent repeat SB in patients admitted to the ED for SA. STR: Findings consistent with another systematic review confirming the beneficial effect of interventions for patients admitted to the ED with SA WE: Several of the trials combined multiple interventions. Number of deaths by suicide was low, therefore limited statistical power made it difficult to conclude whether there was a beneficial effect of the intervention on number of deaths by suicide.

Key: **AMA**- against medical advice; **BIC**- brief intervention and contact; **CCS**- case controlled study; **CG**- control group; **CI**- confidence interval; **COI**-conflict of interest; **DSP**- deliberate self-poisoning; **DV**-dependent variable; **ED**- emergency department; **EMR**- electronic medical record; **EPSIS**- European Parasuicide Study Interview Schedule; **IRR**- incidence risk ratio; **IG**- intervention group; **IV**-independent variable; **LOE**- level of evidence; **N**-number of participants; **NS**-number of studies; **n**- subset of participants; **NFSB**- non-fatal suicidal behavior; **OR**- odds ratio; **PC**- postcard; **RCT**- randomized controlled trial; **RRR**- relative risk reduction; **SA**- suicide attempt; **SB**- suicidal behavior; **SI**- suicidal ideation; **SPSS**- statistical package for the social sciences; **SR**- suicide risk; **SRMA**- systematic review and meta-analysis; **STR**- strengths; **TAU**- treatment as usual; **WE**- weaknesses; **WOS**- worth of study to practice;

Citation	Theory/ Conceptual Framework	Design/ Method	Sample/ Setting	Major Variables & Definitions	Measurement/ Instrumentation	Data Analysis (stats used)	Findings/ Results	Level/Quality of Evidence; Decision for practice/ application to practice
Motto et al., (2001) A Randomized Controlled Trial of Postcrisis Suicide Prevention Funded by grants from the National Institute of Mental Health, Center for Studies of Suicide Prevention, and Mental Health Services Development Branch No COI. United States	Joyce Travelbee's Human-to-Human Relationship Model	**Design:** RCT **Purpose:** To test whether long-term contact with patients with SR can exert a suicide-prevention influence Follow-up period 5 years	**N**=843 **IG**(BIC + TAU) (**n**=389) **CG**(TAU)(**n**=454) **Inclusion criteria:** Patients seen in psychiatric inpatient facility for SA or SI that provided informed consent **Exclusion criteria:** Unwilling to provide informed consent	**IV- IG** were contacted by a short letter four times a year for 5 years (total of 24 letters) **CG** received no contact **DV-** Suicide rate	Data was obtained from California State Department of Health, coroner's records, death certificates, clinical sources and family members.	Kaplan-Meier survival probability Breslow generalized Kruskal-Wallis test	Patients in the IG had a lower suicide rate. IG: 0.77% CG: 1.32% (*P* value = 0.043)	LOE: II WOS: A contact program was associated with a significant reduction in suicides rates among high-risk persons. STR: Effect of intervention lasted for two years after discharge from inpatient psychiatric facility. WE: No significant reduction in suicide rate at 5 years but showed a preventive trend. Feasibility: Carried out with modest resources.

Key: **AMA**- against medical advice; **BIC**- brief intervention and contact; **CCS**- case controlled study; **CG**- control group; **CI**- confidence interval; **COI**-conflict of interest; **DSP**- deliberate self-poisoning; **DV**-dependent variable; **ED**- emergency department; **EMR**- electronic medical record; **EPSIS**- European Parasuicide Study Interview Schedule; **IRR**- incidence risk ratio; **IG**- intervention group; **IV**-independent variable; **LOE**- level of evidence; **N**-number of participants; **NS**-number of studies; **n**- subset of participants; **NFSB**- non-fatal suicidal behavior; **OR**- odds ratio; **PC**- postcard; **RCT**- randomized controlled trial; **RRR**- relative risk reduction; **SA**- suicide attempt; **SB**- suicidal behavior; **SI**- suicidal ideation; **SPSS**- statistical package for the social sciences; **SR**- suicide risk; **SRMA**- systematic review and meta-analysis; **STR**- strengths; **TAU**- treatment as usual; **WE**- weaknesses; **WOS**- worth of study to practice;

Citation	Theory/ Conceptual Framework	Design/ Method	Sample/ Setting	Major Variables & Definitions	Measurement/ Instrumentation	Data Analysis (stats used)	Findings/ Results	Level/Quality of Evidence; Decision for practice/ application to practice
Mousavi, et al., (2014) The efficacy of telephonic follow up in prevention of suicidal reattempt in patients with suicide attempt history Sources of support: Nil No COI. Iran	Joyce Travelbee's Human-to-Human Relationship Model	**Design:** RCT **Purpose:** Evaluation of telephone follow-up on suicide reattempt Follow-up period 6 months	**N**=139 **IG**(BIC + TAU) (**n**=69) **CG**(TAU)(**n**=70) **Inclusion criteria:** Patients admitted to intoxication emergency service, 15 years or older, conscious state, history of 2 prior SA, possibility of telephone contact after discharge, and acceptance for participation **Exclusion criteria:** Patients needing emergency intervention, declining consent, and death before discharge	**IV- IG** received 7 telephone contacts after discharge at 2nd and 4th week and months 2, 3, 4, 5, and 6 **CG** received no contact **DV1-** suicide reattempt **DV2-** SI	Data gathered by an initial and follow-up questionnaire	SPSS Chi-square test	Telephone contacts significantly reduced the frequency of suicidal thought (*P* = 0.007) and increased hope in life (P = 0.001) in patients with repeat SA in the IG compared to the CG	LOE: II WOS: Telephone follow-up decreased suicidal thoughts and increased hope in life STR: Consistent findings with other studies, more women than men. WE: Short time of follow up, follow up only through telephone contacts, focused on patients with DSP

Key: **AMA**- against medical advice; **BIC**- brief intervention and contact; **CCS**- case controlled study; **CG**- control group; **CI**- confidence interval; **COI**-conflict of interest; **DSP**- deliberate self-poisoning; **DV**-dependent variable; **ED**- emergency department; **EMR**- electronic medical record; **EPSIS**- European Parasuicide Study Interview Schedule; **IRR**- incidence risk ratio; **IG**- intervention group; **IV**-independent variable; **LOE**- level of evidence; **N**-number of participants; **NS**-number of studies; **n**- subset of participants; **NFSB**- non-fatal suicidal behavior; **OR**- odds ratio; **PC**- postcard; **RCT**- randomized controlled trial; **RRR**- relative risk reduction; **SA**- suicide attempt; **SB**- suicidal behavior; **SI**- suicidal ideation; **SPSS**- statistical package for the social sciences; **SR**- suicide risk; **SRMA**- systematic review and meta-analysis; **STR**- strengths; **TAU**- treatment as usual; **WE**- weaknesses; **WOS**- worth of study to practice;

Citation	Theory/ Conceptual Framework	Design/ Method	Sample/ Setting	Major Variables & Definitions	Measurement/ Instrumentation	Data Analysis (stats used)	Findings/ Results	Level/Quality of Evidence; Decision for practice/ application to practice
Riblet et al., (2017) Strategies to prevent death by suicide: meta-analysis of randomised controlled trials Funding by VA National Center for Patient Safety Center of Inquiry Program No COI. United States	Joyce Travelbee's Human-to-Human Relationship Model	**Design:** Systematic review and meta-analysis **Purpose:** To compare the efficacy of various interventions versus control to prevent death by suicide in adults	**NS=**78 **n=**2028 **Inclusion criteria:** Limited to RCTs in English language; studies needed to randomly assign patients to intervention aimed at suicide prevention or a control such as usual care; studies with patients 18 years or older; primary or secondary aim of studies to include death by suicide and/or SI or SB **Exclusion criteria:** RCTs that compared two or more active treatments	**IV1-** complex psychosocial interventions: a.WHO BIC b.CBT c.other programs **IV2-** pharmacological interventions: a.antidepressants b.lithium c.antipsychotics d.mood stabilizers **IV3-** higher-level care interventions a.ECT b.TMS **DV-** death by suicide in adults	Pooled results of RCTs	Peto method RevMan 5.3 Cochrane's Q *I* squared	The World Health Organization (WHO) brief intervention and contact (BIC) was associated with significantly lower odds of suicide (OR = 0.20, 95% CI 0.09-0.42)	LOE: I WOS: WHO BIC intervention is associated with significantly lower odds of suicide. STR: Used peto method for data analysis. Peto method is good for combining data when event rates are below 1%. Did not exclude studies based on quality or relevance. Little heterogeneity in the analysis. WE: Several of the interventions had small sample sizes which made it difficult to estimate the effect size.

Key: **AMA**- against medical advice; **BIC**- brief intervention and contact; **CCS**- case controlled study; **CG**- control group; **CI**- confidence interval; **COI**-conflict of interest; **DSP**- deliberate self-poisoning; **DV**-dependent variable; **ED**- emergency department; **EMR**- electronic medical record; **EPSIS**- European Parasuicide Study Interview Schedule; **IRR**- incidence risk ratio; **IG**- intervention group; **IV**-independent variable; **LOE**- level of evidence; **N**-number of participants; **NS**-number of studies; **n**- subset of participants; **NFSB**- non-fatal suicidal behavior; **OR**- odds ratio; **PC**- postcard; **RCT**- randomized controlled trial; **RRR**- relative risk reduction; **SA**- suicide attempt; **SB**- suicidal behavior; **SI**- suicidal ideation; **SPSS**- statistical package for the social sciences; **SR**- suicide risk; **SRMA**- systematic review and meta-analysis; **STR**- strengths; **TAU**- treatment as usual; **WE**- weaknesses; **WOS**- worth of study to practice;

Appendix B

Table 2

Synthesis Table

Author	Amadeo	Carter	Cebria	Exbrayat	Fleischmann	Hossanian-Moghaddam	Inagaki	Motto	Mousavi	Riblet
Year	2015	2005	2013	2017	2008	2011	2014	2001	2014	2017
Design/LOE	RCT, II	RCT, II	CCS, III	CCS, III	RCT, II	RCT, II	SRMA, I	RCT, II	RCT, II	SRMA, I
Number of subjects	200	772	991	823	1867	2300	24 studies	843	139	78 studies
Independent Variables										
BIC + Phone calls	X				X		X			X
Telephone calls			X	X			X		X	
Postcards		X				X	X			
Letters							X	X		X
Dependent Variables										
# of suicides	X				X		X	X		X
Repeat episodes of NFSB	X					X				
Repeat episodes of DSP		X								
Repeat episodes of SA			X	X		X	X		X	
Repeat episodes of SI						X			X	
Time between 1st SA and subsequent one			X							

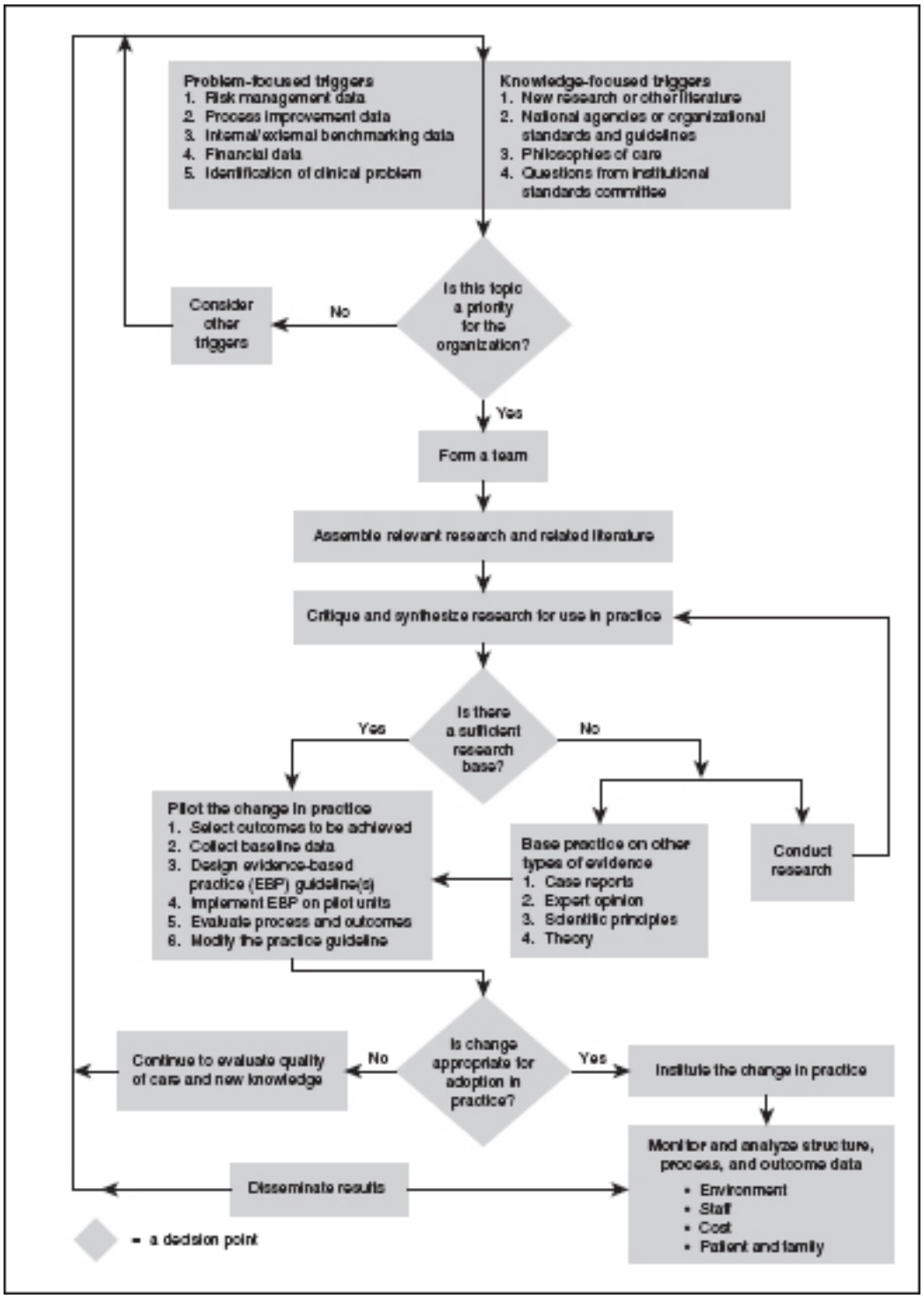
Key: **AMA**- against medical advice; **BIC**- brief intervention and contact; **CCS**- case controlled study; **CG**- control group; **CI**-confidence interval; **COI**-conflict of interest; **DSP**- deliberate self-poisoning; **DV**-dependent variable; **ED**- emergency department; **EMR**- electronic medical record; **EPSIS**- European Parasuicide Study Interview Schedule; **IRR**- incidence risk ratio; **IG**- intervention group; **IV**-independent variable; **LOE**- level of evidence; **N**-number of participants; **NS**-number of studies; **n**- subset of participants; **NFSB**- non-fatal suicidal behavior; **OR**- odds ratio; **PC**- postcard; **RCT**- randomized controlled trial; **RRR**- relative risk reduction; **SA**- suicide attempt; **SB**- suicidal behavior; **SI**- suicidal ideation; **SPSS**- statistical package for the social sciences; **SR**- suicide risk; **SRMA**- systematic review and meta-analysis; **STR**- strengths; **TAU**- treatment as usual; **WE**- weaknesses; **WOS**- worth of study to practice;

Any cause death							X			
Measurement Instrument										
Questionnaire	X				X				X	X
Data from EMR		X	X	X		X	X	X		
Data Analysis										
Chi-square	X	X	X	X	X	X			X	
SPSS		X	X			X			X	
t-test				X		X				
Kaplan-Meier			X					X		
Cochrane's Q							X			X
I squared							X			X
Findings										
Reduction in # of suicides	X				X			X		X
Reduction in NFSB	X									
Reduction in DSP		X				X				
Reduction in SA			X	X		X	X			
Reduction in SI						X			X	
Reduction in time between SA			X							
Setting										
Emergency Department	X	X	X	X	X	X	X		X	X
Inpatient Psychiatric Facility								X		X
Follow-up Period	18 months	1 year	1 year	1 year	18 months	1 year	N/A	5 years	6 months	N/A

Key: **AMA**- against medical advice; **BIC**- brief intervention and contact; **CCS**- case controlled study; **CG**- control group; **CI**-confidence interval; **COI**-conflict of interest; **DSP**- deliberate self-poisoning; **DV**-dependent variable; **ED**- emergency department; **EMR**- electronic medical record; **EPSIS**- European Parasuicide Study Interview Schedule; **IRR**- incidence risk ratio; **IG**- intervention group; **IV**-independent variable; **LOE**- level of evidence; **N**-number of participants; **NS**-number of studies; **n**- subset of participants; **NFSB**- non-fatal suicidal behavior; **OR**- odds ratio; **PC**- postcard; **RCT**- randomized controlled trial; **RRR**- relative risk reduction; **SA**- suicide attempt; **SB**- suicidal behavior; **SI**- suicidal ideation; **SPSS**- statistical package for the social sciences; **SR**- suicide risk; **SRMA**- systematic review and meta-analysis; **STR**- strengths; **TAU**- treatment as usual; **WE**- weaknesses; **WOS**- worth of study to practice;

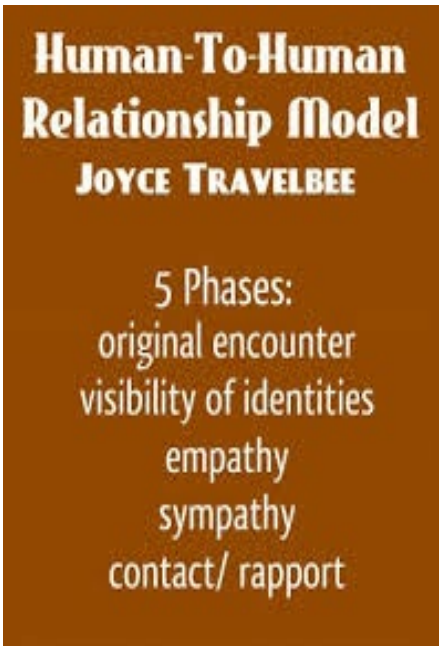
Appendix C

The 1998 Iowa Model of evidence-based practice to promote quality care.



Appendix D

Joyce Travelbee's Human-to-Human Relationship Model.



Appendix E

Ryan Boothe <rboothe@asu.edu>

Permission to use the Safety Planning Intervention

Stanley, Barbara H. <bhs2@cumc.columbia.edu> Fri, Jun 22, 2018 at 6:18 AM
To: Ryan Boothe <rboothe@asu.edu>
Cc: Barbara Stanley <bhs2@columbia.edu>, "Gregory K. Brown (gregbrow@pennmedicine.upenn.edu)" <gregbrow@pennmedicine.upenn.edu>

Dear Ryan,

Thank you for your interest in using our Safety Plan Intervention. You have our permission to use it after you register at our website www.suicidesafetyplan.com. You may download the safety plan form there. Associated materials are also available on our website. Thank you.

Sincerely,

Barbara Stanley

Barbara Stanley, PhD
Professor of Medical Psychology
Department of Psychiatry
Columbia University
and
Director
Suicide Prevention Training Implementation & Evaluation
Center for Practice Innovations, New York State Psychiatric Institute

From: Ryan Boothe <rboothe@asu.edu>
Sent: Friday, June 15, 2018 5:29 PM
To: bhs2@columbia.edu; gregbrow@mail.med.upenn.edu
Subject: Permission to use the Safety Planning Intervention

[Quoted text hidden]

Appendix F

Federal Wide Assurance (FWA) #00001499
Dignity Health IORG0001540

IRB: East Valley Regional IRB IRB#:00001993

DATE: March 25, 2019

TO: Katherine Kenny, DNP

RE: Implementing a Safety Plan and Using Follow-Up Postcards to Mitigate Suicide Risk in Patients in the Emergency Department

IRB# **EVR-18-510-357-73-21**

IRB Submission: Initial Review Submission Form Ref# **027580**
IRB Review Type: **Full Committee Review**
IRB Decision: Approved

Approval Date: 03/25/2019
Approval Expiration Date: 03/24/2020
Review Cycle: 12 Month Review Cycle

The Institutional Review Board (IRB) has reviewed and approved your new protocol submission including the following documents listed in Appendix 1:

The following stipulations / questions / recommendations have been satisfactorily addressed.

1. ***This is not a trial. It is a multi-part survey with no measurable outcomes defined. Please identity and include measureable outcomes.***
2. ***No data analysis plan submitted. Please provide the data analysis plan.***
3. ***I feel this doesn't require consent in the first place, but the information sheet they give the patient is good, and they plan to obtain 'verbal consent' and use the patient filling out the questionnaire as evidence of consent. Worth a look by the full board.***
4. ***Although the investigator has asked for a waiver of consent, a consent is clearly asked for and a consent form read to, although a signature is not required - it is a verbal consent. Please clarify whether the request is for alteration or waiver of consent.***
5. ***The Investigator states over and over that adequate security for the gathered information is adequate, and only addresses will be requested, however the individual is asked to fill out two forms which assess their suicidal intent. I was confused by how these forms will not be linked with patient information. Further, although the individuals in the study were referred for inpatient treatment, it was not mentioned about when these postcards would be mailed. In the weeks following their inpatient treatment? Further, if that is true, how would the investigators ensure the patients names and addresses will be held confidential. Please review the data safety plan and respond to the reviewer's questions.***
6. ***It is unclear whether women would be involved in this study? Seems like they should, but they have been excluded. Please clarify the inclusion of women in this survey project.***
7. ***It is unclear whether subject selection is equitable. See my comments on gender.***
8. ***This project has been moved to Full Board review and will be scheduled for presentation on Monday, March 25, 2019. Investigators are invited and encouraged to present the project and respond to questions from the Board. Location and time information will be communicated in a separate email.***

Appendix G

Version Date: 03/31/2011

Sample text for an Institution with a Federalwide Assurance (FWA) to rely on the IRB/IEC of another institution (institutions may use this sample as a guide to develop their own agreement).

Institutional Review Board (IRB) Authorization Agreement

Name of Institution or Organization Providing IRB Review (Institution/Organization A):
Dignity Health East Valley Regional IRB

IRB Registration #: IRB#:00001993 Federalwide Assurance (FWA) #, if any: FWA#:00001499

Name of Institution Relying on the Designated IRB (Institution B):
Arizona State University

FWA #: FWA00009102

The Officials signing below agree that Arizona State Unviersity may rely on the designated IRB for review and continuing oversight of its human subjects research described below: (*check one*)

(___) This agreement applies to all human subjects research covered by Institution B's FWA.

(X) This agreement is limited to the following specific protocol(s):

Name of Research Project: Safety Plan and Follow up in ED
Name of Principal Investigator: Katherine Kenny DNP & Ryan Boothe
Sponsor or Funding Agency: none Award Number, if any: none

(___) Other (*describe*): unfunded DNP student research

The review performed by the designated IRB will meet the human subject protection requirements of Institution B's OHRP-approved FWA. The IRB at Institution/Organization A will follow written procedures for reporting its findings and actions to appropriate officials at Institution B. Relevant minutes of IRB meetings will be made available to Institution B upon request. Institution B remains responsible for ensuring compliance with the IRB's determinations and with the Terms of its OHRP-approved FWA. This document must be kept on file by both parties and provided to OHRP upon request.

Signature of Signatory Official (Institution/Organization A): _____ Date: 3/12/19

Print Full Name: Roger D. Bliss Institutional Title: CMO

NOTE: The IRB of Institution A may need to be designated on the OHRP-approved FWA for Institution B.

Signature of Signatory Official (Institution B): _____ Date: _____

Print Full Name: Debra Murphy Institutional Title: Institutional Official

Appendix H

STABLE RESOURCE TOOLKIT

SBQ-R Suicide Behaviors Questionnaire-Revised

ID_____Date of Visit _____

Instructions: Please check the number beside the statement or phrase that best applies to you.

1. **Have you ever thought about or attempted to kill yourself?** (check one only)
   - ☐ 1. Never
   - ☐ 2. It was just a brief passing thought
   - ☐ 3a. I have had a plan at least once to kill myself but did not try to do it
   - ☐ 3b. I have had a plan at least once to kill myself and really wanted to die
   - ☐ 4a. I have attempted to kill myself, but did not want to die
   - ☐ 4b. I have attempted to kill myself, and really hoped to die

2. **How often have you thought about killing yourself in the past year?** (check one only)
   - ☐ 1. Never
   - ☐ 2. Rarely (1 time)
   - ☐ 3. Sometimes (2 times)
   - ☐ 4. Often (3-4 times)
   - ☐ 5. Very Often (5 or more times)

3. **Have you ever told someone that you were going to commit suicide, or that you might do it?** (check one only)
   - ☐ 1. No
   - ☐ 2a. Yes, at one time, but did not really want to die
   - ☐ 2b. Yes, at one time, and really wanted to die
   - ☐ 3a. Yes, more than once, but did not want to do it
   - ☐ 3b. Yes, more than once, and really wanted to do it

4. **How likely is it that you will attempt suicide someday?** (check one only)
   - ☐ 0. Never
   - ☐ 1. No chance at all
   - ☐ 2. Rather unlikely
   - ☐ 3. Unlikely
   - ☐ 4. Likely
   - ☐ 5. Rather likely
   - ☐ 6. Very likely

Appendix I

Implementing a Safety Plan and Using Follow-Up Postcards to Mitigate Suicide Risk in Patients in the Emergency Department

Date:

Dear Participant,

My name is Ryan Boothe. I am a graduate student under the direction of Professor Katherine Kenny, DNP, RN, ANP-BC, FAANP, FAAN at the College of Nursing and Health Innovation at Arizona State University.

I am inviting you to participate in a study to see if implementing a safety plan and sending postcards to provide follow-up support can reduce thoughts about suicide and suicide attempts in patients seen in the emergency department.

Your participation in the study is voluntary. If you choose not to participate or to withdraw from the study at any time, there will be no penalty. Participation in this study will not affect your treatment at Chandler Regional Medical Center. You must be 18 years of age or older to participate in this intervention. You are being asked to participate as it has been determined that you are at risk of suicide and are being referred for inpatient treatment.

If you agree to participate, you will be asked to complete a brief questionnaire at the beginning and end of the study about suicidal behavior to assess its effectiveness. You will also develop a safety plan and receive a total of four follow-up postcards over a period of two weeks. The total time required for the initial survey and safety plan will be approximately 30 minutes. The time to complete the final questionnaire included with the final postcard will be about 5 minutes. The goal of this study is to increase your knowledge of ways to manage suicidal thoughts, increase your sense of support, and identify resources available to you. Some questions in the survey may make you uncomfortable. You have the right not to answer any question, and to stop participation at any time. Do I have your permission to proceed, and do you wish to be a part of this study?

Responses to the questionnaires will be de-identified through a unique identification code that you will develop on your own so that the questionnaires cannot be identified with any individual. For example, you will identify your favorite month, favorite color, and favorite age so far. So, if you identified December, blue, and age 18, your code would be: 12blue18. This code will not be connected to your name or other personal identifying information. The results of this study may be used for presentations, reports, or publications, but your name will not be known or used.

If you have any questions concerning this intervention, please contact the following team members:

Ryan Boothe, RN, BSN at rboothe@asu.edu

Katherine Kenny, DNP, RN, ANP-BC at Katherine.kenny@dignityhealth.org

By completing the questionnaire, you consent to participate in this study. If you have any questions about your rights as a participant in this research, or if you feel you have been placed at risk, you can contact Dignity Health, East Valley Regional IRB, 1955 W. Frye Road, Chandler, AZ, 85224.

Sincerely,

Ryan Boothe, RN, BSN

Appendix J


Care
Dignity Health.
Chandler Regional Medical Center
Hope
Dignity Health.
Chandler Regional Medical Center
Support
Dignity Health.
Chandler Regional Medical Center
Believe
Dignity Health.
Chandler Regional Medical Center

Appendix K

We hope you are feeling better.

Dear <<First Name>>,

It was great meeting you during your visit to Chandler Regional Medical Center. We hope you are feeling better. We just wanted to send you a quick note to let you know that we are thinking about you and wishing you well.

We remember that you identified _____ as one of your internal coping strategies. We hope you're getting the time to _____ and that these coping strategies are helping you feel better.

If you'd like to reply to us and send us an update, we would be happy to hear from you.

Sincerely,

_____

Please note the following resources are always available to you:
National Suicide Prevention Lifeline: 1 (800) 273-8255

We care about your health and well-being.

Dear <<First Name>>,

It is our hope that things are going well for you since your visit to our emergency department. We care about your health and wanted to share with you four actions that you can take to improve your well-being:

- ☐ eat a healthy diet;
- ☐ get some exercise every day;
- ☐ get a good night's sleep;
- ☐ spend time with family and friends.

Exercising can include going for a walk or run, playing a game, gardening, or dancing. Most importantly, we hope you can discover a physical activity that you enjoy.

Best wishes,

_____

Please note the following resources are always available to you:
National Suicide Prevention Lifeline: 1 (800) 273-8255

We believe in you and your recovery.

Dear <<First Name>>,

We have appreciated the opportunity to get to know you while you were at the hospital.

We remember how you said that the most important thing to you was _____. We hope that you have had the chance to _____.

As a reminder, we will be sending you one last postcard. Please know that it has been a pleasure for us to reach out to you. We believe in you, and hope you are out in the world doing well for yourself.

If you would like to send us a note, we would enjoy hearing from you.

Sincerely,

_____

Please note the following resources are always available to you:
National Suicide Prevention Lifeline: 1 (800) 273-8255

We support your journey forward.

Dear <<First Name>>,

This is officially our last postcard and we hope that you have enjoyed hearing from us. It has been a true joy for us to send you these notes to let you know that we truly care about you and support you in your journey forward. If you wish to write to us to let us know how you have been doing, we would be glad to hear from you.

If you are willing, please complete the enclosed questionnaire and return to us by mail. We would greatly appreciate your response which will help us determine whether receiving these postcards has been beneficial for you. We wish you all the best in your journey forward!

Thank you and take care,

_____

Please note the following resources are always available to you:
National Suicide Prevention Lifeline: 1 (800) 273-8255

Appendix L

Patient Safety Plan Template

Step 1: Warning signs (thoughts, images, mood, situation, behavior) that a crisis may be developing:

1. _____
2. _____
3. _____

Step 2: Internal coping strategies – Things I can do to take my mind off my problems without contacting another person (relaxation technique, physical activity):

1. _____
2. _____
3. _____

Step 3: People and social settings that provide distraction:

1. Name_____ Phone_____
2. Name_____ Phone_____
3. Place_____ 4. Place_____

Step 4: People whom I can ask for help:

1. Name_____ Phone_____
2. Name_____ Phone_____
3. Name_____ Phone_____

Step 5: Professionals or agencies I can contact during a crisis:

1. Clinician Name_____ Phone_____
   Clinician Pager or Emergency Contact # _____
2. Clinician Name_____ Phone_____
   Clinician Pager or Emergency Contact # _____
3. Local Urgent Care Services_____
   Urgent Care Services Address_____
   Urgent Care Services Phone_____
4. Suicide Prevention Lifeline Phone: 1-800-273-TALK (8255)

Step 6: Making the environment safe:

1. _____
2. _____

The one thing that is most important to me and worth living for is:

_____