IMPROVED SUICIDE RISK ASSESSMENT SCREENING IN A YOUTH TREATMENT FACILITY: A QUALITY IMPROVEMENT PROJECT

by

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ABSTRACT

Research suggests that youth receiving mental health treatment are at increased risk for suicidal ideation or suicide attempts. Thus, youth admitted to a psychiatric treatment facility must receive appropriate suicide risk assessments. The *Columbia-Suicide Severity Rating Scale* (*C-SSRS*) is a well-researched, evidence-based, tool which has been endorsed by multiple agencies, including The Joint Commission, as an effective instrument to screen for suicide risk in youth populations. This quality improvement project aimed to improve the overall safety of patients admitted to the designated clinical site by implementing a standardized suicide assessment screening process using the *C-SSRS* as the identified screening tool. The Model for Improvement was the framework chosen for this quality improvement project. The clinical site selected was a licensed therapeutic group home and school specializing in relational-based trauma-informed care, treating children and adolescents aged 5 to 15 years. Five licensed therapists and one registered nurse received formal training to administer the two identified versions of the *C-SSRS*. Data pertaining to completion rates for assessments and interventions implemented per protocol were collected over three PDSA cycles. 100% (n=19) of baseline and admission assessments were completed and documented in the EHR within 24 hours of assessment completion. Additionally, 100% (n=19) of the patients assessed completed a safety plan as part of the organization's identified suicide risk-reduction interventions. During the data collection period, no patients presented with possible suicidal ideation, and no patients screened in the "high-risk" category. Therefore, no data were collected related to these objectives. This quality improvement project aimed to improve the overall safety of patients admitted to the designated clinical site. Despite several limitations, all patients received baseline suicide assessments and completed a safety plan. The long-term hopes for this process change include improving the ability of clinicians to accurately assess suicide risk and intervene appropriately, leading to fewer patients presenting with suicidal behaviors and overall improvements to patient safety.

CHAPTER ONE

INTRODUCTION AND BACKGROUND

Clinical Problem

Suicide is currently the second leading cause of death for young people in the United States, increasing approximately 200% in the past 50 years (Rosston, 2021; *Suicide and Self-harm Injury*, 2021). In addition, research suggests that youth admitted to residential treatment facilities are at even greater risk for suicidal ideation and suicide attempts (Duppong Hurley et al., 2014). Considering these statistics, it is apparent that youth admitted to treatment facilities must receive appropriate suicide risk assessment screenings.

To help address this problem, in 2007, the Joint Commission (TJC) released a National Patient Safety Goal that requires hospitals to conduct routine suicide assessment screening for all behavioral health patients (Brahmbhatt et al., 2018). Later, in 2016, TJC released Sentinel Event Alert 56, recommending routine screening of all patients for suicide risk using an evidence-based tool. Finally, in 2019 TJC retired this Sentinel Event Alert and incorporated these recommendations, along with formal recommendations for specific validated, evidence-based screening and risk assessment tools in National Patient Safety Goal (NPSG) 15.01.01 (*The Joint Commission*, 2019).

The clinical site selected for this quality improvement project was a licensed therapeutic residential group home and school specializing in relational-based trauma-informed care for children and adolescents aged 5 to 15 years. Prior to intervention, this facility was conducting a suicide screening assessment upon admission and informal follow-up suicide assessments as needed. However, this practice was not standardized and did not include screening using an

evidence-based assessment tool. These gaps in practice standards may inadvertently lead to failure to adequately assess and intervene when a patient is at increased risk for attempting suicide.

Background and Significance

Suicide is a profound problem that impacts people of all genders, races, and socioeconomic statuses worldwide. In addition to the pain, loss, and devastation caused by losing a person to suicide, the Suicide Prevention Resource Center (*Costs of Suicide,* 2020) estimates that the average cost of one suicide is $1,329,553. Globally, suicide accounts for more than 1% of total deaths worldwide (Lindth et al., 2018). In 2018, the Centers for Disease Control and Prevention (CDC) reported over 48,000 deaths by suicide in the United States (*Suicide and Self-harm Injury*, 2021). According to the CDC, it is currently estimated that there is one completed suicide in the United States every 11 minutes (*Injury Prevention and Control*, 2020). Youth make up a startlingly high percentage of this number. The CDC identified that in 2019, more than 6,500 young Americans aged 8-25 years completed suicide (*Suicide and Self-harm Injury*, 2021). Additionally, in the past 30 years, completed suicides in children aged 5–14 years have increased over 60%. In 2016, death from suicide surpassed even motor vehicle accidents as a cause of death in young people and is currently the second leading cause of death in children 5-18 years (Brahmbhatt et al., 2018).

In addition to the devasting number of completed youth suicides in the United States, the number of children and adolescents seeking emergency services due to suicidal ideation or suicide attempts has also skyrocketed. Petrick et al. (2015) estimate that in the United States, there are over 420,000 emergency room visits annually related to attempted suicide and intentional self-injury. Nationally, almost 7% of high school students attempt suicide each year

(Duppong Hurley, 2014). In addition, Cwik et al. (2020) report that the percentage of youth presenting to emergency departments or psychiatric hospitalizations due to suicidal ideation or suicide attempts has more than doubled from 2008 to 2015.

In Montana, the picture is even grimmer. Montana's suicide rate is currently the third highest in the nation, with 26.2 completed suicides per 100,000 people, more than twice the national average (Suicide mortality by state, 2020). Furthermore, according to Karl Rosston (2021), Montana's State Suicide Prevention Coordinator, Montana has ranked within the top five states for total completed suicides for the past 50 years. In addition, suicide is currently the second leading cause of death and the primary cause of preventable deaths in Montana's youth, aged 10-18 years. In 2018, the suicide rate in Montana youth ages 11 – 17 years was 12.6 adolescents per 100,000, almost three times the national average (Rosston, 2021).

In addition to the devastating rate of completed youth suicides in Montana, there is a disturbing trend of suicide attempts occurring in younger and younger children. The Office of Public Instruction (OPI) annually administers the Youth Risk Behavior Survey as an anonymous survey (*Youth risk behavior survey*, 2021). The CDC developed this survey to identify health risks, social problems, and causes of mortality and morbidity amongst young people. Montana's most recent Youth Risk Behavior Survey indicated that 10% of high school and 15.6% of middle school students reported attempting suicide in the past 12 months (*Youth Risk Behavior Survey*, 2021).

To further compound the crisis-level problem of youth suicide, people suffering from mental health disorders are at even greater risk for attempting or completing suicide. Dr. Trine Madsen (2017) and her colleagues with the Danish Research Institute for Suicide Prevention report that people with a history of mental illness die, on average, 15-20 years sooner than the

general population. Furthermore, their research suggests that 44% of all people who complete suicide were previously admitted to a psychiatric hospital, and over 90% have a diagnosable mental health disorder (Madsen et al., 2017). This statistic holds across multiple age groups, with Duppong Hurley et al. (2014) reporting that 90% of youth who complete suicide met the criteria for a mental health disorder. Globally, people diagnosed with a mental health disorder are 13 times more likely to complete suicide (Madsen et al., 2017). This risk increases 44-fold for patients who have required inpatient hospitalization or treatment (Madsen et al., 2017).

These statistics are alarming, given the high number of youths in the United States who experience mental health disorders. Nationally, approximately two million adolescents are diagnosed each year with depressive disorders, only one subset of mental health disorders recognized by the American Psychological Association through the *Diagnostic and Statistical Manual (DSM-5)* (Fallucco et al., 2014). It is estimated that only about half of youth experiencing symptoms of a mental health disorder are identified, and roughly 38% actively receive treatment in any given year (Fallucco et al., 2014). In other words, though approximately one-in-five United States youth experiences a mental health disorder with a significant impact, less than one-third receive treatment and services. However, even when youth are not treated for mental health disorders, they are often still evaluated by other medical professionals. Unfortunately, non-behavioral clinicians may not recognize signs and symptoms indicating that youth may be at increased risk for attempting or completing suicide. Fallucco and colleagues (2015) claim that primary care clinics evaluate up to 45% of adolescent suicide victims within 30 days of these youth completing suicide. Considering the above-mentioned statistics, the necessity for clinicians to use a routine and evidence-based method for screening youth for risk of suicide is urgently needed.

In addition to the other risk factors, research suggests that the highest risk times for behavioral health patients to complete suicide is either during or shortly after discharge from a psychiatric hospital or treatment facility. Madsen et al. (2017) estimate that approximately 5% of all suicides occur while patients are admitted to mental health treatment centers. Though this may initially appear to be a small percentage, the calculated relative risk of a person completing suicide while receiving treatment for their disorder is astoundingly high compared to the public. Locally, two adolescent patients in Montana have died via suicide in the past two and a half years while admitted to a behavioral health treatment facility (*Hospital Inspections,* 2019; Silvers, 2021). Between 2010 – 2014 more than 1,000 deaths by suicide in the United States were reported while patients were admitted for mental health treatment or within 72 hours of discharge (Brahmbhatt, 2018). Additionally, according to Olfson et al. (2016), it is estimated that between 0.3% and 1.3% of all patients who are admitted to an inpatient psychiatric hospital will die by suicide within one year of discharge.

These statistics are alarming given the number of youths receiving inpatient treatment in the United States at any given time. Duppong Hurley et al. (2014) estimated that approximately 100,000 youth receive mental health treatment services annually within residential facilities. This number is startling given the high percentage of these children and adolescents who have a diagnosable mental health disorder. Beyond the risk factors relative to simply having a mental illness, it is estimated that more than one-third of youth admitted to residential treatment facilities have a history of suicidal ideation, self-harm, or suicidal behaviors (Duppong Hurley et al., 2014). The patients residing at the identified clinical site all meet the criteria for at least one mental health disorder, with many carrying a “Severely Disabling Mental Illness” (SDMI) diagnosis. Given the compounding risks carried by youth in Montana, with mental health

disorders receiving residential treatment, it is crucial that this organization develop and implement policies and practices to include completing routine and standardized suicide assessments for all patients using an evidence-based tool.

Project Purpose

As advanced nursing practice providers, it is essential to consider both micro and macro-level changes to improve patient care and safety. When reflecting on a needed and meaningful practice change for the clinical site, it was essential to consider the organization's Mission, Vision, and Values. As reflected in the Mission, Vision, and Values, an assessment of the organization's identity allowed for the identification of a best practice that could benefit the patients and fit within the organization's culture. The purpose of this quality improvement project was to improve the overall safety of patients admitted to the designated clinical site by implementing a standardized suicide assessment screening process using an evidence-based tool. This project will allow clinicians to assess patients' risk more thoroughly for attempting suicide. This practice not only fits within the organization's mission of "healing through healthy relationships" but also adheres to the organizational values of "prevention, protection, and treatment." The intervention selected for this quality improvement project is the implementation of a formalized process to provide initial and ongoing suicide risk assessments for youth receiving treatment at the clinical site, using the *Columbia-Suicide Severity Rating Scale (C-SSRS)*, an evidence-based assessment tool. Once the project's aims, interventions, and goals were established, an executive summary was reviewed with key stakeholders (see Appendix A). This process included training clinicians and registered nurses on using the tool, executing a plan to

enter the screening results into the electronic health record (EHR) and embedding this practice into organizational policy to help support ongoing sustainability.

CHAPTER TWO

REVIEW OF THE LITERATURE

Youth admitted for inpatient mental health treatment are at increased risk for attempting or completing suicide (Madsen et al., 2017). While assessing organizational needs at the clinical practice site, a practice gap was noted with respect to the lack of a formalized suicide risk assessment screening process utilizing an evidence-based tool. As an initial step, a thorough review of the current literature, including clinical practice guidelines, related to suicide risk assessments was conducted. Additionally, literature was reviewed to establish evidence supporting the identified intervention and utilization of the *C-SSRS* as an evidence-based tool to formally assess patients for suicide risk. Finally, strengths and limitations of available research were considered, including practice implications and implications for future research.

Search Process

It was essential to establish clear search criteria for the review of current literature to gather appropriate evidence informing and supporting both the problem identification and the chosen intervention. This literature review utilized databases including PubMed, PsycInfo, MEDLINE, Proquest, EBSCO-host, CINAHL Complete, UpToDate: Clinical Decision Support System, and Web of Science. Search terms included: “suicide risk assessment screening,” “suicide risk assessment clinical practice guidelines,” “suicide risk assessment and mental health,” “*Columbia-Suicide Severity Rating Scale*,” “suicide scales and/or tools,” and “suicide risk assessment and treatment centers.” Articles chosen for review met the following criteria:

articles published in the last 20 years, peer-reviewed, full-text available, written in English, and articles considered to be primary sources.

Review of Evidence

Identified Intervention: Formalized Suicide Assessment Screening Process

The process of identifying the intervention for this project was multi-faceted. First, it was essential to establish external evidence supporting the need for practice change. In reviewing the literature, TJC and the American Academy of Pediatrics (AAP) both support the practice of routinely assessing patients for suicide risk using an evidence-based tool. Additionally, research further demonstrates that child and adolescent mental health patients are at increased risk for attempting or completing suicide; highlighting the importance of routinely screening for suicide concerns (Brahmbhatt, 2018; Cwik et al., 2020; Duppong Hurley et al., 2014; Madsen et al., 2017; Olfson et al., 2016; Petrick et al., 2015).

Current research supports the need for the practice change identified by this quality improvement project. Several themes were apparent while reviewing the literature, including the benefits of thoroughly embedding suicide assessments into organizational standards of practice. When organizations make a change to practice standards, clinician adherence and overall sustainability can be problematic. However, when suicide assessment policies, procedures, and practices are standardized and embedded into an organization, the change is more likely to be practiced with fidelity and sustainability over the long term (Brahmbhatt et al., 2018).

Another theme appearing in recent research studies is the correlation between patients with mental health diagnoses or mental health treatment and increased suicide risk. Several studies examine the link between patients meeting DSM-5 criteria for a mental illness and

relative suicide risk. Overall, patients with a diagnosed mental health disorder appear to be at higher risk for attempting or completing suicide than patients without diagnosable mental illness (Dupont Hurley et al., 2014; Olfson et al., 2016). Additionally, research suggests that patients struggling with mood disorders, such as bipolar disorder or major depressive disorder or psychotic disorders, such as schizophrenia, may be at even greater risk (Olfson et al., 2016). Patients whose mental health needs are significant enough to require inpatient treatment may also be at increased risk for suicidal behavior (Olfson et al., 2016). The patient population at the practice site for this quality improvement project is youth with mental health disorders receiving inpatient treatment. Research suggesting an increased risk of suicide in this specific population highlights the need for a formalized suicide assessment screening process embedded into the organization's practices.

Identified Evidence-Based Assessment Tool: C-SSRS

After reviewing current clinical practice guidelines related to suicide risk assessment screenings and tools, the *C*-SSRS was selected as the evidence-based tool utilized as a part of the intervention of this quality improvement project. The *C-SSRS* was developed in 2007 during a study evaluating adolescent suicide attempts, funded by the National Institute of Mental Health (Giddens et al., 2014). The tool is currently available online for free-of-charge download in both English and Spanish languages, with specialized versions available for use with emergency responders, healthcare facilities, schools, and military settings as a part of the *Columbia Lighthouse Project.*

The psychometric properties of the *C-SSRS* have been well studied, in addition to research evaluating if the *C-SSRS* can help predict the risk of future suicide attempts. For

example, Posner et al. (2011) compared the *C-SSRS* to other suicide screening assessment tools to assess internal validity and consistency of the *C-SSRS*, as compared to other tools. They found that the *C-SSRS* demonstrated statistically significant convergent and divergent validity ($p<0.001$) and a high level of sensitivity and specificity. Additionally, Posner et al. (2011) found that both the intensity and previous attempts subscales correlated with increased risk for future attempts ($p=0.05$), demonstrating predictive validity. Similarly, Lindh et al. (2018) found that previous *C-SSRS* scores, placing patients in the "high risk" category or suicidal ideation with "high intensity," were both associated with increased risk for new episodes of suicidal behavior ($p<0.001$).

Additionally, recent studies have also supported the predictive validity of the *C-SSRS* when assessing for increased risk of new suicidal behaviors in youth and adolescents (Conway et al., 2017; Cwik et al., 2020). For example, research suggests that a history of previous suicide attempts, a component of the *C-SSRS* assessment, is considered the number one risk factor for attempting suicide in the future (Conway et al., 2017; Cwik et al., 2020). Furthermore, the *C-SSRS* takes previous suicide attempts into account and considers the intensity and severity of suicidal ideation, which also correlate with increased risk of future attempts (Conway et al., 2017).

When attempting to predict future suicidal behavior, research suggests that a history of aborted or interrupted attempts correlates with a lifetime increased risk for suicide (Hill et al., 2017). The *C-SSRS* assesses for each of these risk factors, which enhances the overall predictive validity of this tool. In addition, research explicitly examining the *C-SSRS* has shown the benefits of using this tool to help assess future suicide risk. Shockingly, in one study, not only were high *C-SSRS* scores associated with increased risk of future attempts, but each one-unit increase in the

overall score of the *C-SSRS* had a corresponding 66% increased risk of subsequent suicidal behavior (Conway et al., 2016).

Overall, there is strong evidence supporting using the *C-SSRS* as an appropriate tool to assess suicide risk in both children and adults. This screening tool has been identified as best practice by several agencies. For example, in NPSG 15.01.01, TJC lists the *C-SSRS* as one of four endorsed evidence-based suicide screening tools and one of three endorsed suicide risk assessment tools (*The Joint Commission*, 2019).

TJC also reports that the use of this tool has been recommended as a best practice by the National Institute of Health (NIH), the Substance Abuse and Mental Health Service Administration (SAMSHA), the Nation Action Alliance for Suicide Prevention, the Department of Defense, the CDC, and the FDA (*The Joint Commission*, 2019). Additionally, Giddens et al. (2014) report that in 2012, the United States Food and Drug Administration (FDA) identified the *C-SSRS* as the primary preferred screening tool or "gold standard" for assessing suicidality in both youth and adults. The FDA also requires that the *C-SSRS* be administered when completing investigational new drug studies in populations with mental health concerns (*Guidance for industry: Suicidal ideation and behavior: Prospective assessment of occurrence in clinical trials,* 2012). This endorsement came following several studies supporting the internal reliability and validity of the *C-SSRS* as a suicide risk assessment and screening tool (Conway et al., 2017; Hill et al., 2017).

Clinical Practice Guidelines

Clinical practice guidelines also indicate the importance of screening for suicidality in youth populations with mental health needs. In one set of related guidelines, committee members from the Emergency Nurses Association created best-practice guidelines, seeking to establish

effective screening tools and predictors when completing initial suicide risk assessments in emergency rooms (Zaleski et al., 2018). In this practice guideline, data supports that previous episodes of deliberate self-harm can be used as a predictor of future suicide attempts (Zaleski et al., 2018). Therefore, when identifying an evidence-based screening tool for the quality improvement project intervention, it is essential to find a tool that incorporated previous attempts or self-harm as a part of the assessment, as is contained in the *C-SSRS*.

Within the best-practice guidelines developed by Zaleski et al. (2018), the authors cited TJC's Sentinel Event Alert 56, which reinforces the need to formally screen all patients within healthcare settings for suicide risk. TJC later retired this alert in 2019 and included these recommendations in the updated NPSG 15.01.01 (*The Joint Commission*, 2019). This patient safety goal includes guidance and standards related to environmental risk assessments, a review of validated and evidence-based suicide screening and risk assessment tools, and discharge safety planning (*The Joint Commission*, 2019).

Kennebeck and Bonin (2021) identify that best practice suicide assessment screenings should contain questions related to content and duration of suicidal ideation, the existence of a plan, access to means, the level of intent, and presence of current stressors. The *C-SSRS* contains questions related to each of these components. Additionally, Shain (2016), an author for the AAP, cites the importance of clinicians directly asking youth if they have had thoughts of suicide. Worth noting, the first question on the *C-SSRS* assessment is “Have you wished you were dead or wished you could go to sleep and not wake up?” (*Columbia-Suicide Severity Rating Scale: Lifetime Recent,* 2021 pg. 1).

Finally, in 2003 the American Psychiatric Association (APA) published practice guidelines related to assessing and treating suicidal patients (Jacobs et al., 2010). However, these

guidelines do not provide recommendations related to specific tools for assessing suicide risk but instead focus on the specific content of the provider's assessment. Within these guidelines, the APA recommends that clinicians ask questions focusing on the presence, timing, duration, and intensity of suicidal ideation (Jacobs et al., 2010). Additionally, they recommend assessing for a history of previous suicide attempts, including aborted attempts (Jacobs et al., 2010). These critical components of the APA's recommendations are all reflected within the questions asked in the *C-SSRS.*

Clinical Significance: Strengths and Implications for Practice

Overall, the existing literature has many strengths and supports establishing routine suicide screening practices, using the *C-SSRS* as an identified evidence-based assessment tool. The evidence supporting the need to implement a formalized suicide assessment screening process is apparent. Not only is this practice clearly recommended as best practice by TJC and the AAP, but recent research studies have also supported it. For example, the study by Dupont Hurley et al. (2014) shows promise in terms of generalizability, utilizing a relatively large sample size and a heterogeneous sample.

Finally, research focused specifically on the *C*-SSRS, and current clinical practice guidelines provide evidence to support using the C-SSRS with a pediatric population in a residential treatment setting. Currently, the *C-SSRS* is one of the only evidence-based suicide assessment tools validated for use in children and adolescents (Cwik et al., 2020). In addition, several studies have included large sample sizes and diverse patient demographics suggesting good generalizability (Hill et al., 2017; Lindh et al., 2018; Posner et al., 2011). Furthermore, multiple international studies conducted may limit concerns related to potential bias since the *C-SSRS* was developed in the United States (Conway et al., 2016; Lindh et al., 2018).

Gaps and Limitations: Indications for Future Research

Although ample research is available to support the identified practice change intervention and assessment tool, continued research is still needed. Related to the *C-SSRS* specifically, one apparent gap is the lack of protective factor assessment. Protective factors are circumstances or attributes within an individual, family, or community that enhance a person's ability to deal with stressful life events. Several experts have identified protective factors as an essential part of the suicide assessment screening process (Jacobs et al., 2010; Kennebeck and Bonin, 2021; Shain, 2016). Currently, a protective factor assessment is available as a companion assessment. However, protective factors are not considered as a part of the formal *C-SSRS* tool (*The Columbia Protocol,* 2016). Additionally, other researchers, including Dr. James Fowler from the Baylor College of Medicine, have criticized the *C-SSRS* and other existing suicide assessments as having a high risk of producing false-positive or false-negative results (Fowler, 2012; Giddens et al., 2014).

Finally, the clinical practice guidelines published by the APA were initially written in 2003, and therefore are not reflective of more current evidence and literature (Jacobs et al., 2010.) The APA guidelines also do not specifically discuss the use of any evidence-based assessment tools. These guidelines are also based on the provider's assumption that the patient is acutely suicidal rather than in a general screening context (Jacobs, 2010). While Zaleski et al. (2010) discuss guidelines for routine suicide screening assessments in a more generalized patient population, this is done so in the setting of emergency room care. Additionally, neither of the reviewed guidelines were written to consider a pediatric population specifically.

Practice Change: Applicability to the Organization

The clinical site for this quality improvement project serves youth ages 5-15 years struggling with mental health disorders and behavioral disturbances. This population is at increased risk for attempting or completing suicide based on their age and presence of diagnosed mental illness (Brahmbhatt et al., 2018; Cwik et al., 2020; Duppong Hurley, 2014; Madsen et al., 2017; *Suicide and Self-harm Injury*, 2021). In addition, youth residing in Montana complete suicide at almost three times the rate compared to the national average (Rosston, 2021). Guided by the current evidence and practice guidelines, a strong case is made for the indication to formally complete routine initial and ongoing suicide assessment screenings within this facility. Additionally, the selected tool, the *C-SSRS,* is one of the only evidence-based tools recognized for use in youth. It provides a standardized means to assess and track patients' levels of suicidality over time. This practice change will help improve patient care and promote positive outcomes within the organization by allowing trained clinicians to assess individual patients more accurately for suicidal ideation and an increased risk of attempting suicide.

CHAPTER THREE

PROJECT SETTING AND METHODS

Quality Improvement Framework

The conceptual framework selected for this quality improvement project was Langley et al.'s (2009) Model for Improvement. This framework combines "Three Questions," which are used to define the scope and parameters of the project, and the Plan-Do-Study-Act (PDSA) Cycle. This model was selected due to its comprehensive nature, which provides a systematic method for thoughtful change while at the same time allowing for the flexibility needed for this type of project. Additionally, this model is designed to allow for developing, implementing, and testing change over a short timeframe and provides the opportunity for ongoing assessment and improvements to promote the development and execution of a successful quality improvement initiative.

The “Three Questions”

The first step of the Model for Improvement is the consideration of three fundamental questions, 1) “What are we trying to accomplish?” 2) “How will we know that a change is an improvement?” and 3) “What changes can we make that will result in improvement?” (Langley et al., 2009, pg. 46). These questions are designed to guide and define the general description of the problem, expected outcome measures, and the identification of the specific intervention selected to address the problem (Langley et al., 2009). Once these "Three Questions" have been answered, the Model for Improvement focuses on the PDSA cycle.

The PDSA Cycle

The PDSA Cycle is a quality improvement framework that incorporates a methodology that focuses on learning and improvement (Langley et al., 2009). The PDSA framework focuses on building knowledge and planning, testing, and implementing change, in addition to spreading improvement using four key components: plan, do, study, and act (Langley et al., 2009). This framework allows for multiple small-scale, sequential changes to be completed underneath the overall desired practice change (Langley et al., 2009). The benefits of using this framework as a change model include using data efficiently, refining measures and methods as needed, anticipating difficulties, engaging stakeholders, and minimizing organizational resistance to change (Leis & Shojania, 2017). Additionally, each cycle of the PDSA allows for adjustments related to lessons learned in previous cycles. Using the PDSA cycle as a change framework promotes a thoughtful and organized process that supports change and long-term sustainability.

The four components of this framework are "Plan," "Do," "Act," and "Study." In the planning phase, the "Three Questions" listed above should be answered, along with developing a prediction related to why the change will be effective (Langley et al., 2009). Next, a plan should be developed for how the intervention will be carried out and a method for collecting data (Langley et al., 2009). Finally, during the planning phase of the cycle, it is essential to plan for stakeholder preparation as well as to consider the potential impacts of the change on others within the organization (Leis & Shojania, 2017).

The second phase of the PDSA cycle is "Do." During this phase, the goals are to carry out the plan, document any problems or unanticipated outcomes, and begin to analyze the data (Langley et al., 2009). Next, the "Study" phase is completed. During this stage, the collected data are analyzed and assessed through the lens of the objectives established during the planning

phase. During this stage, it is also essential to compare the actual data to previous predictions, analyze any trends seen in the data, and examine any unintended consequences of the change (Langley et al., 2009).

The final phase of the PDSA cycle is "Act." During this stage, the impact of the change is examined. At this time, previous changes will be modified or discarded based on results. A new PDSA cycle can then be developed based on findings and lessons learned (Langley et al., 2009). The overall goal is to repeat the PDSA process until the objectives are met, and the changes can be projected to be substantially long-term.

Practice Site Description

The clinical site selected for this quality improvement project was a licensed therapeutic residential group home and school specializing in relational-based trauma-informed care for children and adolescents aged 5 to 15 years. At the time of the project, the facility had 24 available beds and an average length of stay of 18 months. The current suicide assessment practice within the facility, prior to intervention, included a suicide screening assessment upon admission completed by the patient's assigned therapist and informal follow-up suicide assessments as needed. However, none of the assessments were standardized, and neither included screening using an evidence-based assessment tool. The proposed practice change established routine initial suicide assessment screenings using the *C-SSRS: Lifetime Recent* assessment tool (Appendix B) for all new admissions, as well as routine follow-up screenings using the *SATE-T Protocol with C-SSRS* (Appendix C) if there is concern that an existing patient may be experiencing suicidality. Before commencing this project, Institutional Review Board (IRB) approval was obtained prior to the initiation of the data collection phase of this quality

improvement project. Data extracted from the EHR for this project did not contain any patient identifiers or confidential information.

Practice Change Implementation Plan

Building Knowledge and Planning for Change

As part of the pre-implementation phase, evidence was communicated to key stakeholders to encourage organizational buy-in, as well as set the stage for a sustainable change. After the clinical problem was identified, and evidence was analyzed, the next step of the process was to answer, "The Three Questions," as shown in Table 1. Once these questions were

"What are we trying to accomplish?"	The purpose of this quality improvement project is to improve the overall safety of patients admitted to the designated clinical site by implementing a standardized suicide assessment screening process using an evidence-based tool.
"How will we know that a change is an improvement?"	Proposed data analysis: 1. Rates of completed initial suicide assessments completed upon admission. 2. Rates of completed follow-up suicide screening assessments. 3. Rates of corresponding suicide risk reduction interventions are implemented when a patient is determined to be in the "high risk" category. 4. Rates of completed suicide screening assessments uploaded into the EHR within 24 hours of completion.
"What changes can we make that will result in improvement?"	Proposed Interventions: 1. Train clinicians and RNs to administer the *C-SSRS* 2. Screen all new admissions for baseline suicide risk using the *C-SSRS: Lifetime Recent* 3. Complete follow-up suicide risk assessments using the *C-SSRS: Screening Version- Recent* if there are concerns that an existing patient may be experiencing suicidality. 4. Upload all completed suicide assessment screenings into the EHR within 24 hours of completion.

Table 1. "The Three Questions"

SWOT Analysis			
Strengths	**Weaknesses**	**Opportunities**	**Threats**
✓ The clinical site was already assessing patients for increased suicide risk. ✓ Clinical practice guidelines and existing research support the identified tool and intervention. ✓ The C-SSRS is available for download free of charge. ✓ *Project Lighthouse* provides free provider training for using the *C-SSRS*. ✓ This practice change fits within the organization's culture, Mission, Vision, and Values.	✓ A baseline assessment of the rate of suicidal behaviors per patient day was not obtained. ✓ This type of initiative requires increased time from clinicians, RNs, and support staff, which may lead to increased staff stress and burnout. ✓ Staff may be resistant to initiatives that require additional assessments and time spent on documentation.	✓ Opportunity to support the organization's Mission, Vision, and Values. ✓ Opportunity to improve patient care and outcomes. ✓ Opportunity to improve suicide awareness and decrease stigma. ✓ Opportunity to be a community leader in local efforts to reduce suicide in Montana.	✓ Staff turnover may limit the number of trained nurses and clinicians. ✓ Budget cuts due to financial difficulties (i.e., lost revenue from COVID-19) may increase staff stress, which could negatively impact the sustainability of new initiatives.

Figure 1. SWOT analysis

answered, a Strengths, Weaknesses, Opportunities, and Threat (SWOT) analysis was conducted at the site using both an organizational and leadership lens (Figure 1). This type of analysis examines factors that will impact an organization's readiness to change and assists in the project planning process. Finally, short-term, intermediate, and long-term measurable objectives were identified (Figure 2).

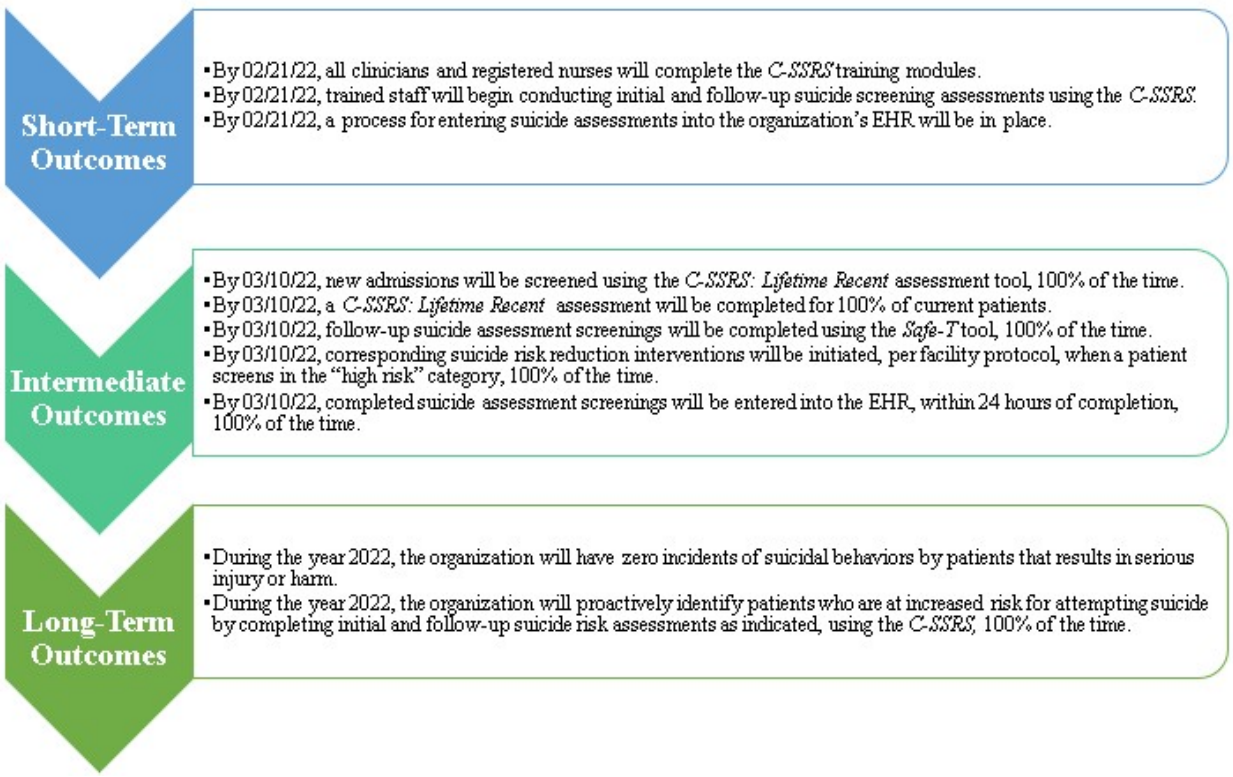

Figure 2. Outcome measures

Testing Change

The intervention was implemented during the testing change phase, any problems or unanticipated outcomes were documented, and initial data analysis began. The goals during this phase of the practice change were included in the identified short-term objectives. These included training clinicians and RNs to use the *C-SSRS*, the roll-out of the updated suicide assessment process and entering completed suicide assessment screenings into the EHR. A workflow document was created with instructions on how and when to complete each assessment and provided to all employees who attended the initial training. Additionally, paper copies of the assessment tools were provided to clinicians and RNs to use as a reference when interviewing the patients. At the end of this phase, initial data from the project's roll-out were collected, as well as feedback from key stakeholders. After these data were collected, they were

analyzed to determine if the initial project short-term outcomes were met (Figure 2). The goal for each of these metrics was set at 100% in consideration of recommendations from agencies like TJC and the risk for a bad patient outcome if these standards are not followed.

Implementing Change

Langley et al. (2009) describe the transition between testing and implementation as a shift from the temporary to the permanent. At this point, it was critical to share initial data with key stakeholders and continue to reinforce why this practice change is beneficial to both patients and staff members. At this time, additional PDSA cycles were completed as lessons are learned and knowledge of the process, including current successes and barriers, increases. During this time, data were analyzed at the end of each cycle and shared with identified stakeholders, as described in the implementation, analysis, and follow-up plan (Figure 3). At the end of the implementing change phase, the intermediate outcome measures were assessed to determine whether the identified goals are being met. These measures include goals for the completion rate of initial and follow-up suicide assessments and uploading completed assessments into the EHR within the designated timeframe (Figure 2).

Spreading Improvement

During the final phase of the change process, the goals are to finalize the change initiative, modify as needed based on data and lessons learned, embed the change so that it is sustainable long-term, and spread the change throughout the organization or community

Figure 3. Implementation, analysis, and follow-up plan

(Langley et al., 2009). The long-term objectives should be assessed to determine if the practice change has had the desired impact during this time. This portion of the change process is mainly outside the scope of this quality improvement project and will occur after this initial project has been completed. Long-term sustainability will be supported by changes made to the organization's policies and procedures for conducting suicide risk assessments, including using the *C-SSRS* as the designated screening tool (Figure 3).

CHAPTER FOUR

RESULTS AND DISCUSSION

Results

This quality improvement project was implemented using the Model for Improvement as a framework. Several short-term, intermediate, and long-term outcomes were identified during the "Building Knowledge and Planning for Change" portions of this project (Figure 3). The outcome measures were then assessed at the conclusion of the "Implementing Change" stage. The intervention and data collection period bridged both the "Testing Change" and "Implementing Change" phases and included three PDSA cycles, spanning a period of 15 business days. The dates of initiation and completion of the identified objectives are reflected in a Gannt chart (Appendix D). The participants included five licensed therapists and two registered nurses.

Regarding the short-term objectives, on 02/21/22, the clinicians and RNs received training on administering the *C-SSRS: Lifetime-Recent* and the *SAFE-T* assessments. 100% of the therapists and 50% of the RNs completed the training. Immediately following the training, the intervention was considered "live," and trained individuals were instructed to begin conducting initial and follow-up assessments as indicated. Also, on 02/21/22, the assessments were "live" in the EHR, and clinicians and RNs were able to document the screenings directly into the medical record.

Once the intervention was "live," data regarding the intermediate objectives were collected during the three PDSA cycles. During the data collection period, the organization had

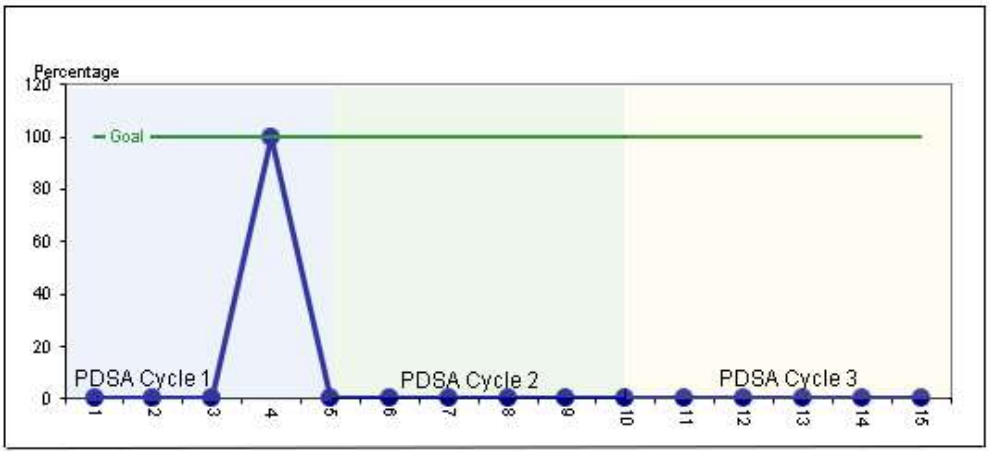

Table 2. Percentage of new admission screenings completed

one new patient admission (Table 2). This patient was screened for lifetime and recent suicide risk using the *C-SSRS*: *Lifetime-Recent* assessment and the documentation was completed in the EHR within 24 hours. There were zero incidents during the data collection period indicating the need to complete follow-up assessments to screen for possible suicidality in existing patients. Finally, before the third PSDA cycle, the decision was made to complete a baseline screening for all existing patients using the *C-SSRS*: *Lifetime-Recent*. By the end of the data collection period for the third cycle, 100% of the 18 current patients had completed the assessment (Table 3).

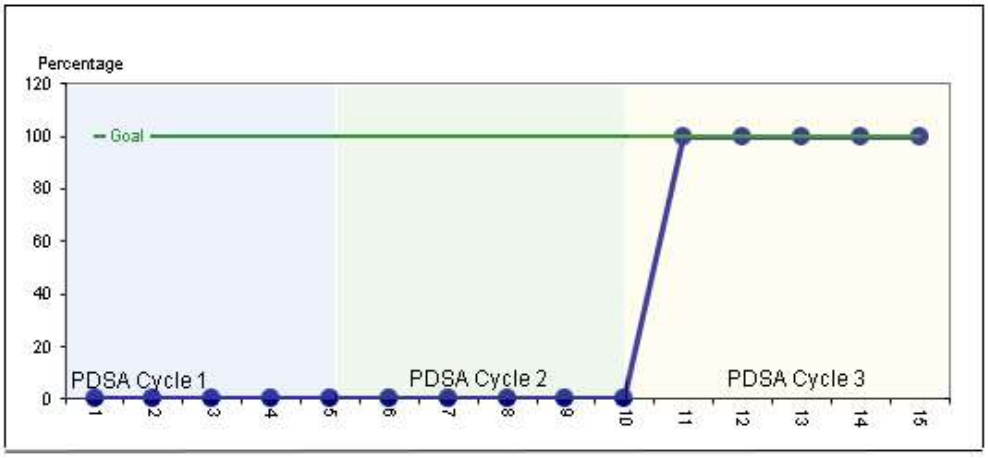

Table 3. Percentage of baseline screenings completed

One risk reduction intervention identified by the organization was to complete or update an individualized safety plan for every patient simultaneous to conducting an initial or follow-up *C-SSRS* assessment. These were completed and documented in the EHR at a rate of 100% (n=19) (Table 4). However, none of the patients assessed were found to be in the "high-risk" category, so no additional data were captured related to documentation of suicide risk-reduction interventions.

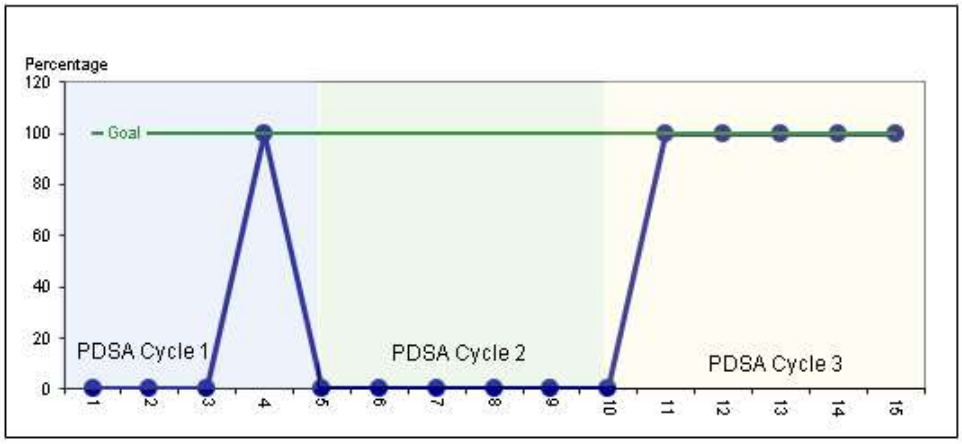

Table 4. Percentage of patient safety plans completed

The long-term objectives included the organization having zero incidents of patient suicidal behavior resulting in serious injury or harm in the year 2022 and a continued 100% completion rate for initial and follow-up assessment screenings in the year 2022. These objectives are outside the scope of this project. However, plans for long-term sustainability were discussed with key stakeholders. Measures, such as adding this process to organizational policy and procedure and ongoing trainings, have been planned. It is recommended that the long-term outcomes continue to be assessed by the organization's clinical supervisor and shared with key stakeholders within the organization.

Discussion

Suicide is a devastating problem affecting people from across the globe. In Montana, people complete suicide at more than twice the national average, with youth and people receiving mental health treatment significantly surpassing this number (Brahmbhatt, 2018; Duppong Hurley et al. 2014; Fallucco et al., 2014; Madsen et al., 2017; Rosston, 2021; Suicide mortality by state, 2020). According to the Joint Commission, there are an annual average of approximately 57 deaths by completed suicide in inpatient hospital settings, and it is speculated that this number is significantly higher across all types of mental health treatment facilities (Williams et al., 2018). One way to help mitigate this problem is to routinely assess patients receiving mental health treatment for potential suicidality, using an evidence-based screening tool (*The Joint Commission*, 2019). This quality improvement project aimed to establish routine suicide risk screenings using the *C-SSRS* for all patients at an identified residential treatment facility.

One tool used to help assess the impact of the process changes included process maps. Prior to implementing the identified intervention, a process map was created reflecting the pre-implementation, or current state (Figure 4). Once the intervention was in place and multiple PSDA cycles were completed, a second process map (Figure 5) was created to assess and compare each process looking specifically at value-added steps and potential process breakdowns. When evaluating the process post-implementation, it was noted that the identified areas of possible process breakdown appear to have been addressed. Additionally, this practice change will be supported by the induction of organizational policies and procedures guiding the practice. Current literature supports this initiative and suggests that embedding standardized

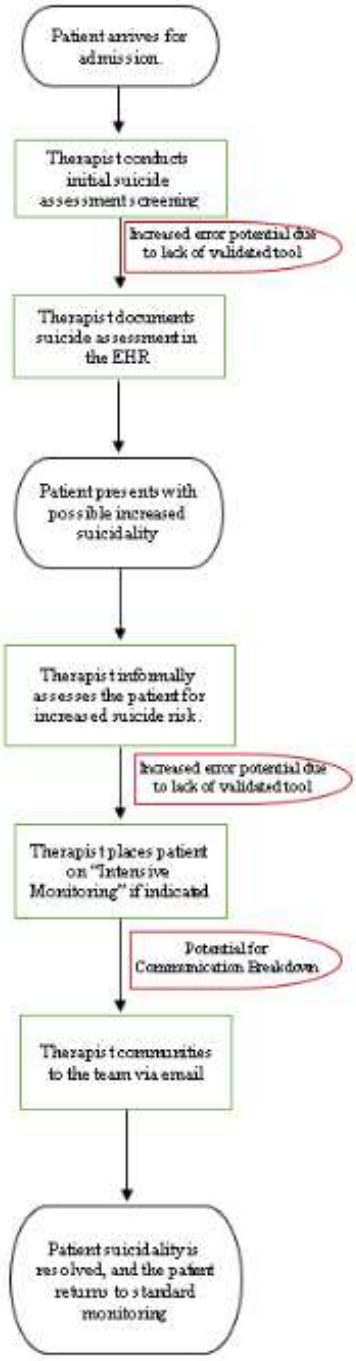

Figure 4. Process Map Preimplimentation

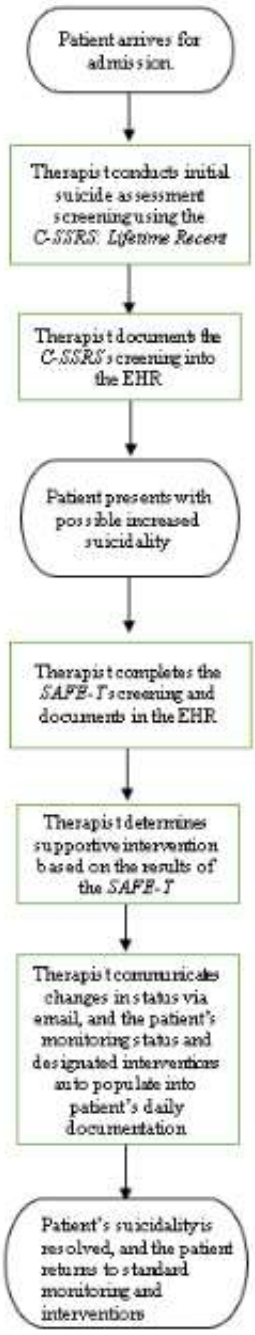

Figure 5. Process Map Postimpliemetation

processes into organization policy and procedure increases the likelihood that a practice change will be sustainable and practiced with fidelity (Brahmbhatt et al., 2018)

Beyond process improvement, areas of staff education and overall compliance with the updated process were assessed. Studies suggest that providing appropriate mental health screening assessments training significantly improves clinician confidence and practice change compliance rates (Fallucco, 2015). The training provided to the organization's therapists and RNs had a completion rate of 100% (n=6) of eligible employees. All five therapists attended the training. Of the two RNs employed by the organization, it was decided to exempt one of the nurses due to her recent hire status. There is a plan in place to train this nurse to administer the *C-SSRS* screenings in approximately three months. Initially, it was planned to have the identified staff members complete the assessment training one week before the "go-live" date. However, due to the shortened timeline for the project's implementation period, the training was conducted simultaneously with the "go-live" date.

In addition to changes related to which employees would receive the assessment training, other changes were made to the initial project proposal throughout the implementation period. The target dates related to the short-term objectives had to be modified due to illness and a COVID-19 outbreak at the facility. As a result, the dates for the employee training and the assessments embedded into the EHR were changed from 02/01/22 to 02/21/22, and the "go-live" date was changed from 02/07/22 to 02/21/22. Additionally, while working with key stakeholders including the clinical lead for the facility's suicide prevention task force, the decision was made to embed an electronic version of the assessments into the EHR rather than uploading completed paper copies.

Finally, during a meeting with stakeholders prior to PDSA cycle 3, the decision was made to complete baseline screening assessments for all existing patients. This decision was made considering best practice recommendations by TJC and AAP that all patients at increased

risk for suicidality, such as children admitted to a residential treatment center, receive formalized, routine suicide assessment screenings (Brahmbhatt et al., 2018; Jacobs et al., 2010; *The Joint Commission*, 2019). Completing baseline suicide risk screenings for all patients, specifically using *C-SSRS,* fits within the best practice guidelines put forward by NIH, SAMSHA, the CDC, the FDA, and several other organizations (*The Joint Commission*, 2019). Several studies suggest that the *C-SSRS* has excellent predictive validity and can be used to not only assess patients for their current level of suicide risk, but also assess for increased risk of future suicidal behaviors (Conway et al., 2017; Cwik et al., 2020; Hill et al., 2017; Lindh et al., 2018; Posner et al., 2011).

Lessons Learned

When implementing a quality improvement initiative or practice change, unanticipated challenges will likely arise along the way. The need to be flexible and open to making changes is so common that it is built into the "Study" and "Act" components of the PDSA cycle. During these parts of the cycle, data are analyzed and compared to previous predictions, unintended consequences of the change are investigated, and the next PDSA cycle is modified based on the current findings and lessons learned (Langley et al., 2009). One lesson learned during this project was to anticipate possible delays prior to the initiation of the intervention. Looking back, it would have been helpful to have a contingency plan developed and ready to implement if the project was delayed rather than scrambling in the moment. With the long-reaching effects of COVID-19, it would have made sense to anticipate the potential for delays and setbacks to implementation during the project's planning phase.

A second lesson learned was the need to consider best practices for the existing population of patients involved in this project. When planning this project, the initial proposal included screening new admissions using a comprehensive version of the *C-SSRS* to assess current risk and establish a baseline for any future assessments. Initially, the need to have this same baseline established for the exiting patients was not considered. The decision to add this component came during a key-stakeholder debriefing before the final PDSA cycle. This decision was supported by current literature supporting suicide screenings for all behavioral health patients (Brahmbhatt et al., 2018; Jacobs et al., 2010; *The Joint Commission*, 2019). Had this decision not been made, it could have been detrimental to the current patients, and possible elevated individual patient suicide risks could have been missed.

Limitations

This quality improvement project had several limitations that impacted internal validity and overall generalizability. A significant limitation was the relatively low number of screening assessments completed. One confounding factor related to this was the organization's decision to reduce the census and limit admissions. The total potential available beds at the identified practice site are 40, including 32 on the main campus and eight at a satellite group home. At the time of the initial project proposal, one of the cottages and the group home had closed due to staffing difficulties and impacts related to COVID-19, bringing the total available beds to 24. Prior to the implementation and data collection period, the organization's leadership decided to further limit the census due to continued staffing limitations. Six patients were discharged, including three high-acuity patients discharged to out-of-state residential facilities. New admissions were limited to one patient, and the decision was made to restrict admission for high-

acuity patients temporarily. Due to these changes, only one new patient assessment was completed during the three PDSA cycles. Additionally, it is possible that the lack of patients requiring follow-up screenings and patients screening in the "high risk" category may be related to the overall decreased acuity level of the patients being served.

In addition to organizational changes, the overall number of PDSA cycles and the data collection time frame were reduced from the initial project proposal due to illness and a COVID-19 outbreak at the facility. This also likely impacted the total number of completed screenings. Initially, the proposed intervention was to be completed over a period of five PDSA cycles, each spanning five business days. Ultimately the project went from five weeks of planned data collection to three, also contributing to the low number of completed assessments.

Furthermore, no data were collected on the completion rates for follow-up suicide risk assessments using the *SAFE-T* screening tool. Only limited data were collected regarding implementing risk reduction interventions due to zero patients screening in the "high risk" category. Due to these limitations, it is difficult to evaluate the organization's ability to appropriately assess and intervene with patients presenting with possible increased suicidality. Due to the limitations related to the overall intervention timeframe, it is difficult to predict the long-term fidelity and sustainability of this quality improvement process. Additionally, individual clinician fidelity to the specific wording of the *C-SSRS* was not assessed, which may limit the reliability of screenings completed at the clinical site.

Finally, though it is difficult to determine the impact, another possible limitation was eliminating the clinician "practice period" due to time constraints. Initially, it was planned to have a one-week time frame between training staff to administer the assessments and the "go-live" date. This would have allowed the clinicians and RN to practice completing the

assessments inside the training domain of the EHR, may have improved overall staff comfort levels, and reduced the time required to administer the assessments.

Recommendations for Future Practice

Given the correlation between people with mental health needs and increased risk for suicide, it is essential that organizations develop processes to appropriately screen for potential suicidality and intervene appropriately. This project successfully identified an evidence-based suicide assessment tool, established a process for completing and documenting standardized baseline and follow-up screenings, and encouraged the organization to identify risk-reduction interventions for patients who screen in the "high-risk" category.

According to the CDC, from 2018 to 2019, the overall suicide rate in the United States decreased for the first time in 13 years (Stone et al., 2021). However, during this period, the suicide rate in Montana climbed an additional 5.2 percent (Stone et al., 2021). One way to help impact this problem is to complete routine suicide assessments, using an evidence-based tool for all patients receiving mental health treatment (Brahmbhatt et al., 2018; Jacobs et al., 2010; *The Joint Commission*, 2019). Based on the findings of this project, it is recommended that other organizations treating youth with behavioral health needs also implement routine suicide assessment screenings using the *C-SSRS.* Furthermore, given the outcomes and limitations of this project, other organizations would be encouraged to extend the data collection phase to gain a more thorough understanding of the overall fidelity and long-term sustainability of the practice change. Additionally, other organizations implementing a similar project should consider completing baseline assessments for existing patients, considering best-practice recommendations.

Future studies and practice change reviews are needed to help inform generalizability and the overall impact of creating a standardized suicide risk assessment process. For example, in the future, research could be conducted to compare rates of suicidal behaviors and suicide attempts in mental health facilities with an established evidence-based assessment process versus those without a standardized assessment process. Additionally, assessing long-term goals, such as those identified for this project, will help examine the lasting effects of this type of practice change.

Conclusion

This quality improvement project aimed to improve the overall safety of patients admitted to the designated clinical site by implementing a standardized suicide assessment screening process using an evidence-based tool. During this project, clinicians and RNs were trained to administer two variations of the *C-SSRS* assessment tool, and the assessments were embedded into the organization's EHR. Processes for completing baseline screenings for new and existing patients, follow-up screenings for potentially suicidal patients, and the initiation of suicide risk-reduction interventions were established. Despite several limitations to this project, 100% (n=19) of new and existing patients received baseline suicide assessment screens. 100% (n=19) of patients completing the screens also completed a safety plan as part of the organization's identified suicide-risk reduction interventions. The long-term hopes for this process change include improving the ability of clinicians to accurately assess suicide risk and intervene appropriately, leading to fewer patients presenting with suicidal behaviors and overall improvements to patient safety.

CHAPTER FIVE

REFLECTION ON DNP ESSENTIALS AND EDUCATIONAL JOURNEY

The American Association of Colleges of Nursing (AACN) created the Doctor of Nursing Practice (DNP) essentials following the release of a report by the Institute of Medicine (IOM) calling for improved standards in patient safety and quality of care (Christiansen & Dimmit Champion, 2018). These eight essentials serve as guideposts in DNP coursework and student development. Throughout my educational journey, including didactic coursework, clinical experiences, and the DNP scholarly project, I have grown and developed skills related to each essential.

DNP Essential I: Scientific Underpinnings for Practice

The first DNP essential focuses on integrating nursing science with knowledge from other specific areas of science, utilizing science-based theories and concepts, and developing and evaluating new practice approaches (*The Essentials of Doctoral Education for Advanced Nursing Practice*, 2006). Over the past three years, I have had the opportunity to develop my skill sets in these areas. In previous semesters, I engaged in diverse coursework and clinical experiences that required me to grow my proficiency in integrating nursing knowledge with biophysical, psychosocial, ethical, analytic, and organizational sciences (*The Essentials of Doctoral Education for Advanced Nursing Practice*, 2006). This quality improvement project focused on utilizing evidence-based research to develop, implement, and evaluate a practice change designed to improve patient outcomes. While working on this project, I incorporated theory and frameworks, such as The Model for Improvement, to develop and implement change. During the

Building Knowledge and Planning for Change phase of my project, I honed my ability to conduct and succinctly synthesize a literature review based on my identified problem and chosen intervention. The focus on DNP Essential I has helped prepare me for my future as an advanced practice nurse. As a result, I feel comfortable integrating scientific knowledge to improve the quality of care that I will provide to my patients and guiding needed practice changes in the future.

DNP Essential II: Organizational and Systems Leadership

DNP Essential II focuses on developing leadership skills, allowing DNP practitioners to work towards reducing health disparities, and improving the quality and safety of patient care (*The Essentials of Doctoral Education for Advanced Nursing Practice*, 2006). This essential also helps prepare doctorate-level nurses to be strong organizational and community leaders (Smith et al. 2018). As a DNP prepared Advanced Practice Registered Nurse (APRN), it will be crucial to understand, develop, and evaluate nursing care delivery approaches, ensure accountability for quality health care and patient safety, and develop and evaluate effective strategies to manage ethical dilemmas (*The Essentials of Doctoral Education for Advanced Nursing Practice*, 2006). Throughout my graduate education, I have had the opportunity to take a deep dive into leadership development and advanced communication skills. My coursework and clinical experiences have also shaped and enhanced my ethical thinking and sensitivity to diverse cultures and populations. While working on this quality improvement project, I was able to expand my skills in systems leadership. I effectively worked within an organization to assess opportunities for improvement, and to develop, implement, and evaluate a practice change ultimately improving patient care. Additionally, I communicated directly with organizational

leadership and key stakeholder to identify barriers and refine and improve the process and desired outcomes.

DNP Essential III: Clinical Scholarship and Analytical Methods for Evidence-Based Practice

The ability to synthesize and integrate research is key to becoming a successful Doctor of Nursing Practice. DNP Essential III involves the ability to appraise literature critically, apply findings to practice guidelines, design, implement, analyze, and evaluate practice and quality improvement outcomes, and disseminate the findings (*The Essentials of Doctoral Education for Advanced Nursing Practice*, 2006). Throughout my post-graduate education, I have been immersed in nursing research. While completing assigned coursework, I had the opportunity to utilize research to inform my practice, as well as assess and critique current nursing research. While undertaking this QI project, I significantly improved my ability to efficiently search databases for relevant research. I also refined my ability to critically analyze current literature to uncover evidence related to my proposed practice change. Finally, I improved my competence in appraising research gaps and limitations and evaluating these within my findings.

DNP Essential IV: Technology for the Improvement and Transformation of Health Care

As a DNP graduate student, becoming proficient in using technology within the realm of healthcare is essential. Technology is critical for managing individual patient information in formats such as an EHR. Mastery of the needed technology will set the practitioner student up for success as they navigate electronic patient information. Additionally, technology allows for other essential activities such as data tracking, budgeting, tracking productivity and care systems,

and learning, intervention, and clinical support tools (*The Essentials of Doctoral Education for Advanced Nursing Practice*, 2006). Over the past three years, I have used technology to examine efficiency and outcomes in specific areas such as admissions, laboratory, and materials management. During this QI project, I expanded my ability to perform data mining and assess outcomes for individual and aggregate systems. I also was able to work with the organization to embed the identified tools into the EHR, promoting the efficiency of future data extraction and monitoring the ongoing effectiveness of this practice change.

DNP Essential V: Care Policy for Advocacy in Health Care

As a DNP prepared APRN, it will be critical to have a solid foundation of healthcare policy knowledge. Health care policy can have far-reaching impacts, influencing health care disparities, access to care, financial components of health care, and overall quality of care (*The Essentials of Doctoral Education for Advanced Nursing Practice*, 2006). As a DNP student, I completed didactic work, which has helped to prepare me to be a leader and cultivated my ability to analyze, implement, and evaluate healthcare policy. While working on this QI project, I grew in my capabilities to examine the current practice and my practice change recommendations from the perspective of consumers, nurses, healthcare team members, and other key stakeholders. I also had the opportunity to contribute to recommendations related to organizational policy. As a practicing DNP prepared APRN, I plan to use my knowledge of leadership and policy to advocate for improving social justice and equity in Montana's healthcare and mental health services.

DNP Essential VI: Interprofessional Collaboration for Improving Patient and Population Health Outcomes

Working in collaboration with multidisciplinary team members is essential for providing outstanding patient care and improving patient outcomes. To be an effective member of an interprofessional team, DNP prepared APRNs must have excellent leadership, followership, communication, and collaboration skills (*The Essentials of Doctoral Education for Advanced Nursing Practice*, 2006). Additionally, practitioners must have highly developed emotional intelligence abilities to allow the process of interprofessional collaboration to flow effectively. I have collaborated with fellow students throughout my post-graduate work, effectively communicating, and engaging in various leadership roles. During this QI project, I effectively functioned as a multidisciplinary team member. Additionally, I led a practice change to improve the quality of care and safety for the patients served within the organization. I also grew in my ability to identify, establish, and evaluate systems and macro-level changes within a healthcare system.

DNP Essential VII: Clinical Prevention and Population Health for Improving the Nation's Health

As a nurse practitioner, clinical prevention and population health promotion are key components of effective practice. To be fully proficient in these areas, it is necessary for a solid foundation of knowledge in health promotion and disease prevention. Additionally, it is vital to analyze aggregate data and apply this knowledge to develop, implement, and evaluate evidence-based practices related to clinical prevention and population health (*The Essentials of Doctoral Education for Advanced Nursing Practice*, 2006). I learned to analyze and synthesize data during previous course work and later use this information to formulate practice change

recommendations based on current research and clinical practice guidelines. This skill was further refined while working on my quality improvement project. The identified practice change was identified after completing a needs assessment within the organization. Once the identified change was established, I utilized current evidence-based research to guide my selected intervention. As a practicing DNP prepared APRN, I plan to use this knowledge to help address healthcare disparities, improve access, and implement evidence-based interventions focused on health promotion and disease prevention.

DNP Essential VIII: Advanced Nursing Practice

Reaching proficiency in advanced nursing practice is a mandatory component of becoming a competent nurse practitioner. As a DNP prepared APRN, it is essential to have excellent assessment skills and a foundation of knowledge across all health domains, including physical, psychosocial, cultural, and socioeconomic (*The Essentials of Doctoral Education for Advanced Nursing Practice*, 2006). In addition to assessing these areas, it is also necessary for a practitioner to design, implement, and evaluate evidence-based, best practice interventions (*The Essentials of Doctoral Education for Advanced Nursing Practice*, 2006). Finally, a DNP prepared APRN must be able to establish therapeutic relationships and interprofessional partnerships, demonstrate excellent clinical judgment, grow and mentor other nurses, provide ongoing education, and positively impact macro-level systems (*The Essentials of Doctoral Education for Advanced Nursing Practice*, 2006). I feel that the cumulation of curricula during my doctoral education has helped to shape and enhance my advanced nursing practice skills. As I progressed through my clinical experiences, I have become increasingly independent in assessing patients and identifying appropriate interventions to improve patient outcomes. While

completing the DNP scholarly project, I utilized clinical judgment to make a recommendation to include a baseline suicide assessment for all the existing patients, ultimately improving overall patient care.

Conclusion

The DNP essentials represent the foundational competencies that the AACN has deemed vital for the advanced nursing practice role (*The Essentials of Doctoral Education for Advanced Nursing Practice*, 2006). Throughout my educational journey, culminating in my DNP scholarly project, I have strived to move through proficiency into exceptionalism in all eight competency domains. I feel that completing this project has helped to further shape the kind of provider that I hope to be and has given me the skills and insight always to stive to improve the care, safety, and outcomes of the patients I serve.

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APPENDICES

APPENDIX A

EXECUTIVE SUMMARY

Executive Summary

Mission, Vision, & Values

Mission: *Healing through healthy relationships.*

Vision: *Relational & emotional health through transformative, integrative care.*

Values:

- *Prevention*
- *Protection*
- *Treatment*
- *Permanency*

Project Aims

This quality improvement project aims to improve the overall safety of patients by implementing a standardized suicide assessment screening process using the Columbia-Suicide Severity Rating Scale (C-SSRS) as the identified screening tool.

Significance

- The children admitted to this facility are at increased risk to attempt or complete suicide related to their ages and presence of diagnosed mental illness.
- Routine suicide assessments using the C-SSRS have been identified as a best-practice.

Financial Impact

- The projected cost of one completed suicide is $1,329,563.
- The *C-SSRS* assessment screening tools are available online for free download.
- Additionally, the *Columbia Lighthouse Project* offers free clinician training to administer the C-SSRS.

Desired Outcomes

- Train: All clinicians to administer the C-SSRS.
- Create: A process to routinely screen all patients for suicide risk using the *C-SSRS*.
- Identify: High risk patients and implement suicide risk reduction interventions.

Long-Term Goals

- Zero incidents of suicidal actions resulting in serious patient injury or harm.
- Proactively identify and intervene appropriately if a patient is at increased risk of attempting suicide.

APPENDIX B

C-SSRS: LIFETIME RECENT

COLUMBIA-SUICIDE SEVERITY RATING SCALE (C-SSRS)

Lifetime Recent

Version 1/14/09 m9/12/17 m5/3/21

Posner, K.; Brent, D.; Lucas, C.; Gould, M.; Stanley, B.; Brown, G.; Fisher, P.; Zelazny, J.; Burke, A.; Oquendo, M.; Mann, J.

Disclaimer:

This scale is intended to be used by individuals who have received training in its administration. The questions contained in the Columbia-Suicide Severity Rating Scale are suggested probes. Ultimately, the determination of the presence of suicidal ideation or behavior depends on the judgment of the individual administering the scale.

Definitions of behavioral suicidal events in this scale are based on those used in ***The Columbia Suicide History Form****, developed by John Mann, MD and Maria Oquendo, MD, Conte Center for the Neuroscience of Mental Disorders (CCNMD), New York State Psychiatric Institute, 1051 Riverside Drive, New York, NY, 10032. (Oquendo M. A., Halberstam B. & Mann J. J., Risk factors for suicidal behavior: utility and limitations of research instruments. In M.B. First [Ed.]* Standardized Evaluation in Clinical Practice*, pp. 103 -130, 2003.)*

For reprints of the C-SSRS contact Kelly Posner, Ph.D., New York State Psychiatric Institute, 1051 Riverside Drive, New York, New York, 10032; inquiries and training requirements contact posnerk@nyspi.columbia.edu

SUICIDAL BEHAVIOR *(Check all that apply, so long as these are separate events; must ask about all types)*	**Lifetime**	**Past 3 months**
Actual Attempt: A potentially self-injurious act committed with at least some wish to die, *as a result of act.* Behavior was in part thought of as method to kill oneself. Intent does not have to be 100%. If there is ***any*** intent/desire to die associated with the act, then it can be considered an actual suicide attempt. ***There does not have to be any injury or harm***, just the potential for injury or harm. If person pulls trigger while gun is in mouth but gun is broken so no injury results, this is considered an attempt. Inferring Intent: Even if an individual denies intent/wish to die, it may be inferred clinically from the behavior or circumstances. For example, a highly lethal act that is clearly not an accident so no other intent but suicide can be inferred (e.g., gunshot to head, jumping from window of a high floor/story). Also, if someone denies intent to die, but they thought that what they did could be lethal, intent may be inferred. ***Have you made a suicide attempt?*** ***Have you done anything to harm yourself?*** ***Have you done anything dangerous where you could have died?*** ***What did you do?*** ***Did you_____ as a way to end your life?*** ***Did you want to die (even a little) when you_____?*** ***Were you trying to end your life when you _____?*** ***Or Did you think it was possible you could have died from_____?*** ***Or did you do it purely for other reasons / without ANY intention of killing yourself (like to relieve stress, feel better, get sympathy, or get something else to happen)?*** (Self-Injurious Behavior without suicidal intent) If yes, describe:	Yes ☐ No ☐ Total # of Attempts _____	Yes ☐ No ☐ Total # of Attempts _____
Has subject engaged in Non-Suicidal Self-Injurious Behavior?	Yes ☐ No ☐	Yes ☐ No ☐
Interrupted Attempt: When the person is interrupted (by an outside circumstance) from starting the potentially self-injurious act *(if not for that, actual attempt would have occurred).* Overdose: Person has pills in hand but is stopped from ingesting. Once they ingest any pills, this becomes an attempt rather than an interrupted attempt. Shooting: Person has gun pointed toward self, gun is taken away by someone else, or is somehow prevented from pulling trigger. Once they pull the trigger, even if the gun fails to fire, it is an attempt. Jumping: Person is poised to jump, is grabbed and taken down from ledge. Hanging: Person has noose around neck but has not yet started to hang - is stopped from doing so. ***Has there been a time when you started to do something to end your life but someone or something stopped you before you actually did anything?*** If yes, describe:	Yes ☐ No ☐ Total # of interrupted _____	Yes ☐ No ☐ Total # of interrupted _____
Aborted or Self-Interrupted Attempt: When person begins to take steps toward making a suicide attempt, but stops themselves before they actually have engaged in any self-destructive behavior. Examples are similar to interrupted attempts, except that the individual stops him/herself, instead of being stopped by something else. ***Has there been a time when you started to do something to try to end your life but you stopped yourself before you actually did anything?*** If yes, describe:	Yes ☐ No ☐ Total # of aborted or self-interrupted _____	Yes ☐ No ☐ Total # of aborted or self-interrupted _____
Preparatory Acts or Behavior: Acts or preparation towards imminently making a suicide attempt. This can include anything beyond a verbalization or thought, such as assembling a specific method (e.g., buying pills, purchasing a gun) or preparing for one's death by suicide (e.g., giving things away, writing a suicide note). ***Have you taken any steps towards making a suicide attempt or preparing to kill yourself (such as collecting pills, getting a gun, giving valuables away or writing a suicide note)?*** If yes, describe:	Yes ☐ No ☐ Total # of preparatory acts _____	Yes ☐ No ☐ Total # of preparatory acts _____

	Most Recent Attempt Date:	Most Lethal Attempt Date:	Initial/First Attempt Date:
Actual Lethality/Medical Damage: 0. No physical damage or very minor physical damage (e.g., surface scratches). 1. Minor physical damage (e.g., lethargic speech; first-degree burns; mild bleeding; sprains). 2. Moderate physical damage; medical attention needed (e.g., conscious but sleepy, somewhat responsive; second-degree burns; bleeding of major vessel). 3. Moderately severe physical damage; *medical* hospitalization and likely intensive care required (e.g., comatose with reflexes intact; third-degree burns less than 20% of body; extensive blood loss but can recover; major fractures). 4. Severe physical damage; *medical* hospitalization with intensive care required (e.g., comatose without reflexes; third-degree burns over 20% of body; extensive blood loss with unstable vital signs; major damage to a vital area). 5. Death	*Enter Code* _____	*Enter Code* _____	*Enter Code* _____
Potential Lethality: Only Answer if Actual Lethality=0 Likely lethality of actual attempt if no medical damage (the following examples, while having no actual medical damage, had potential for very serious lethality: put gun in mouth and pulled the trigger but gun fails to fire so no medical damage; laying on train tracks with oncoming train but pulled away before run over). 0 = Behavior not likely to result in injury 1 = Behavior likely to result in injury but not likely to cause death 2 = Behavior likely to result in death despite available medical care	*Enter Code* _____	*Enter Code* _____	*Enter Code* _____

APPENDIX C

SAFE-T PROTOCOL WITH C-SSRS

SAFE-T Protocol with C-SSRS

Step 1: Identify Risk Factors

C-SSRS Suicidal Ideation Severity	Month
1) Wish to be dead *Have you wished you were dead or wished you could go to sleep and not wake up?*	
2) Current suicidal thoughts *Have you actually had any thoughts of killing yourself?*	
3) Suicidal thoughts w/ Method (w/no specific Plan or Intent or act) *Have you been thinking about how you might do this?*	
4) Suicidal Intent without Specific Plan *Have you had these thoughts and had some intention of acting on them?*	
5) Intent with Plan *Have you started to work out or worked out the details of how to kill yourself? Did you intend to carry out this plan?*	
C-SSRS Suicidal Behavior: *"Have you ever done anything, started to do anything, or prepared to do anything to end your life?"* Examples: Collected pills, obtained a gun, gave away valuables, wrote a will or suicide note, took out pills but didn't swallow any, held a gun but changed your mind or it was grabbed from your hand, went to the roof but didn't jump; or actually took pills, tried to shoot yourself, cut yourself, tried to hang yourself, etc. If "YES" Was it within the past 3 months?	Lifetime Past 3 Months

Activating Events:
- ☐ Recent losses or other significant negative event(s) (legal, financial, relationship, etc.)
- ☐ Pending incarceration or homelessness
- ☐ Current or pending isolation or feeling alone

Treatment History:
- ☐ Previous psychiatric diagnosis and treatments
- ☐ Hopeless or dissatisfied with treatment
- ☐ Non-compliant with treatment
- ☐ Not receiving treatment
- ☐ Insomnia

Other:
- ☐ _____
- ☐ _____
- ☐ _____

Clinical Status:
- ☐ Hopelessness
- ☐ Major depressive episode
- ☐ Mixed affect episode (e.g. Bipolar)
- ☐ Command Hallucinations to hurt self
- ☐ Chronic physical pain or other acute medical problem (e.g. CNS disorders)
- ☐ Highly impulsive behavior
- ☐ Substance abuse or dependence
- ☐ Agitation or severe anxiety
- ☐ Perceived burden on family or others
- ☐ Homicidal Ideation
- ☐ Aggressive behavior towards others
- ☐ Refuses or feels unable to agree to safety plan
- ☐ Sexual abuse (lifetime)
- ☐ Family history of suicide

☐ **Access to lethal methods:** Ask specifically about presence or absence of a firearm in the home or ease of accessing

Step 2: Identify Protective Factors (Protective factors may not counteract significant acute suicide risk factors)

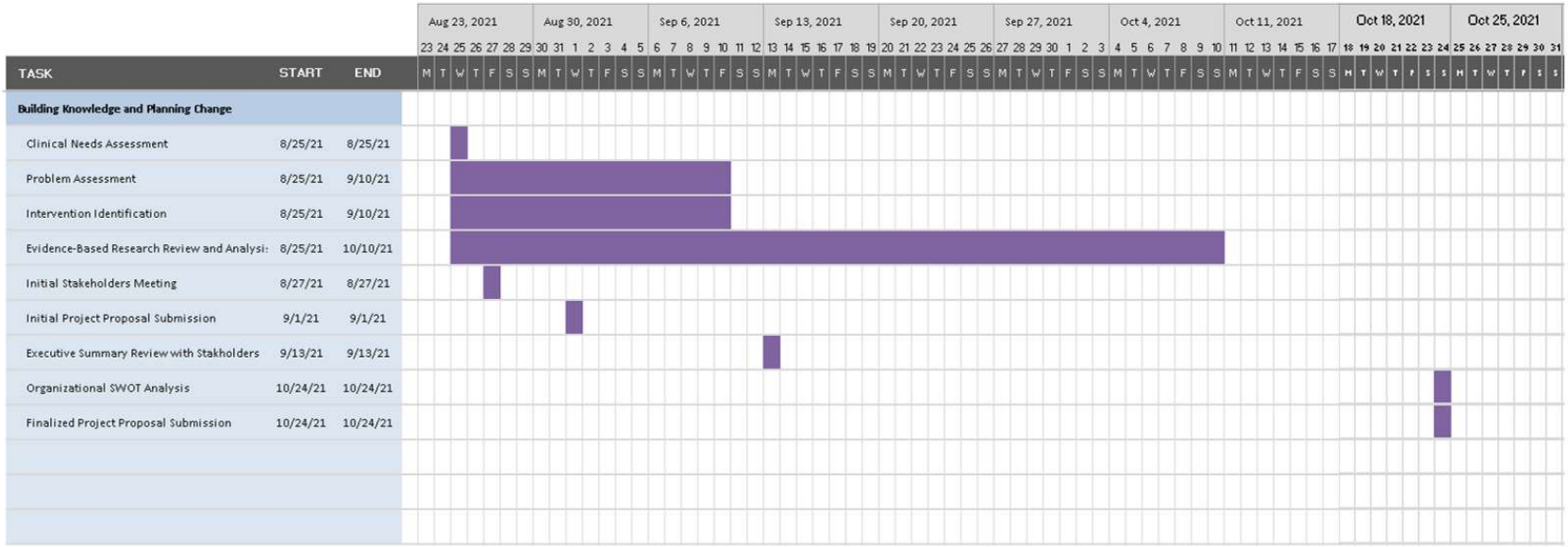
Internal:	**External:**
▫ Fear of death or dying due to pain and suffering	▫ Belief that suicide is immoral; high spirituality
▫ Identifies reasons for living	▫ Responsibility to family or others; living with family
▫ _____	▫ Supportive social network of family or friends
▫	▫ Engaged in work or school

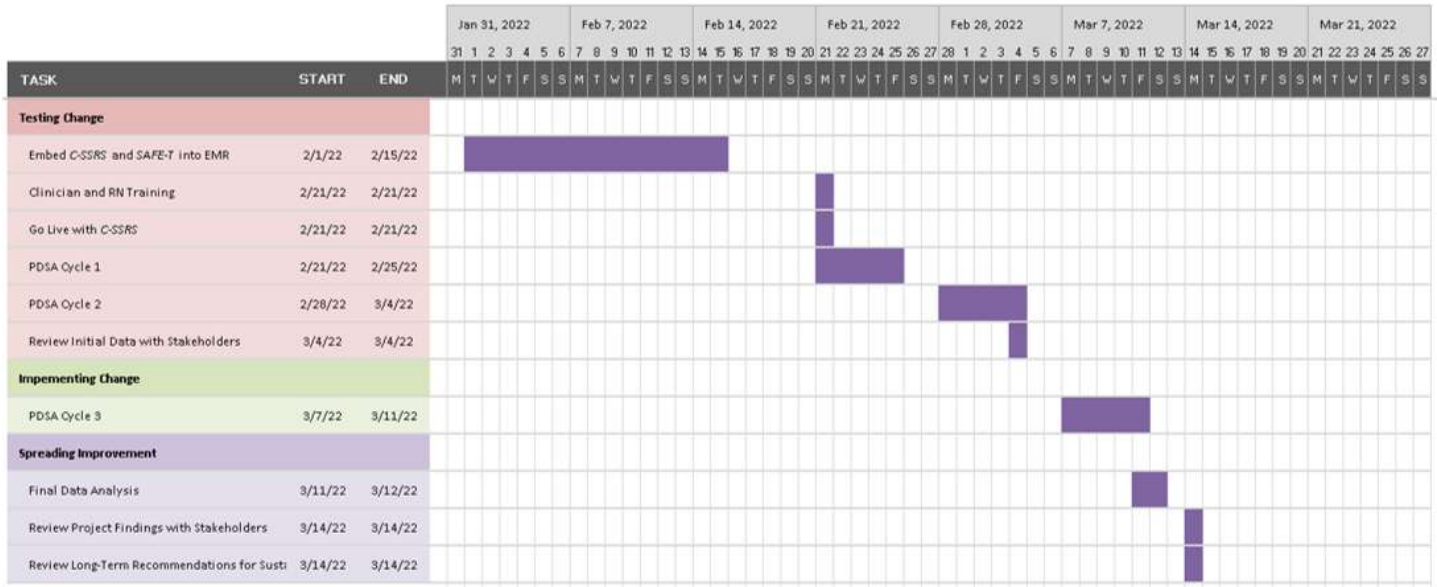
Step 3: Specific questioning about Thoughts, Plans, and Suicidal Intent – (see Step 1 for Ideation Severity and Behavior)

C-SSRS Suicidal Ideation Intensity (with respect to the most severe ideation 1-5 identified above)	**Month**
Frequency *How many times have you had these thoughts?* (1) Less than once a week (2) Once a week (3) 2-5 times in week (4) Daily or almost daily (5) Many times each day	
Duration *When you have the thoughts how long do they last?* (1) Fleeting - few seconds or minutes (2) Less than 1 hour/some of the time (3) 1-4 hours/a lot of time (4) 4-8 hours/most of day (5) More than 8 hours/persistent or continuous	
Controllability *Could/can you stop thinking about killing yourself or wanting to die if you want to?* (1) Easily able to control thoughts (2) Can control thoughts with little difficulty (3) Can control thoughts with some difficulty (4) Can control thoughts with a lot of difficulty (5) Unable to control thoughts (0) Does not attempt to control thoughts	
Deterrents *Are there things - anyone or anything (e.g., family, religion, pain of death) - that stopped you from wanting to die or acting on thoughts of suicide?* (1) Deterrents definitely stopped you from attempting suicide (2) Deterrents probably stopped you (3) Uncertain that deterrents stopped you (4) Deterrents most likely did not stop you (5) Deterrents definitely did not stop you (0) Does not apply	
Reasons for Ideation *What sort of reasons did you have for thinking about wanting to die or killing yourself? Was it to end the pain or stop the way you were feeling (in other words you couldn't go on living with this pain or how you were feeling) or was it to get attention, revenge or a reaction from others? Or both?* (1) Completely to get attention, revenge or a reaction from others (2) Mostly to get attention, revenge or a reaction from others (3) Equally to get attention, revenge or a reaction from others and to end/stop the pain (4) Mostly to end or stop the pain (you couldn't go on living with the pain or how you were feeling) (5) Completely to end or stop the pain (you couldn't go on living with the pain or how you were feeling) (0) Does not apply	
Total Score	

APPENDIX D

GANTT CHART


Aug 23, 2021
Aug 30, 2021
Sep 6, 2021
Sep 13, 2021
Sep 20, 2021
Sep 27, 2021
Oct 4, 2021
Oct 11, 2021
Oct 18, 2021
Oct 25, 2021
TASK
START
END
Building Knowledge and Planning Change
Clinical Needs Assessment 8/25/21 8/25/21
Problem Assessment 8/25/21 9/10/21
Intervention Identification 8/25/21 9/10/21
Evidence-Based Research Review and Analysi 8/25/21 10/10/21
Initial Stakeholders Meeting 8/27/21 8/27/21
Initial Project Proposal Submission 9/1/21 9/1/21
Executive Summary Review with Stakholders 9/13/21 9/13/21
Organizational SWOT Analysis 10/24/21 10/24/21
Finalized Project Proposal Submission 10/24/21 10/24/21


Jan 31, 2022
Feb 7, 2022
Feb 14, 2022
Feb 21, 2022
Feb 28, 2022
Mar 7, 2022
Mar 14, 2022
Mar 21, 2022
TASK
START
END
Testing Change
Embed C-SSRS and SAFE-T into EMR 2/1/22 2/15/22
Clinician and RN Training 2/21/22 2/21/22
Go Live with C-SSRS 2/21/22 2/21/22
PDSA Cycle 1 2/21/22 2/25/22
PDSA Cycle 2 2/28/22 3/4/22
Review Initial Data with Stakeholders 3/4/22 3/4/22
Impementing Change
PDSA Cycle 3 3/7/22 3/11/22
Spreading Improvement
Final Data Analysis 3/11/22 3/12/22
Review Project Findings with Stakeholders 3/14/22 3/14/22
Review Long-Term Recommendations for Susti 3/14/22 3/14/22