Suicide safety planning in the psychiatric emergency setting through multidisciplinary collaboration: A quality improvement initiative

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Abstract

Suicide rates in America are on the rise (National Institution of Mental Health, 2018). Emergency departments, including psychiatric emergency services, are in a unique position to encounter patients who are at high risk for suicide (Ahmendani et al., 2014; Asarnow, Babeve, & Horstmann, 2017; Roush et al., 2017). Suicide safety plans are a best-practice and evidence-based intervention proven to reduce risk for suicide (The Joint Commission, 2020). The Unity Center for Behavioral Health (UBH) Psychiatric Emergency Services (PES) in Portland, Oregon currently has no policy mandating the use of suicide safety plans nor has any means of collecting data on suicide safety plan completion. This project describes utilizing a multidisciplinary approach to suicide safety planning with the intent of monitoring and increasing the rate of suicide safety plan completion in the UBH PES.

Prior to implementation, this project encountered several significant barriers. The final barrier, being the COVID-19 pandemic, halted the project before implementation could begin. This report describes how this occurred, what the next steps for the project should be when it can resume, and how to report the results obtained. Included is a short discussion on the barriers encountered during the planning process and recommendations for future research. The author remains hopeful that the project will be able to move forward in the near future.

Introduction

Problem Description

According to statistics collected by the National Institution of Mental Health (2018), suicide is currently the 10th leading cause of death in the United States overall with 47,173 recorded suicides in 2017. Suicide rates in the United States are also increasing. The total suicide rate in the United States increased by 31% from the years 2001 through 2017.

One of the environments in a unique position for addressing the rising rate of suicide is the emergency department (ED). It has been estimated that 20% of patients seen in an ED for a suicide attempt will return to an ED within one year (Cooper et al., 2015), 25% of patients seen in an ED for a suicide attempt will go on to attempt suicide again (Asarnow, Babeve, & Horstmann, 2017), and 20% of people who commit suicide have seen a mental health provider (psychiatric nurse practitioner or psychiatrist) (Roush et al., 2017) or been to an ED (Ahmendani et al., 2014) within a month prior to their suicide. Due to federal regulations in the United States, EDs are mandated to provide care to patients regardless of ability to pay for services and are an environment where millions of lower-income and underserved individuals receive their primary care. This provides the ED with a wide exposure to individuals who are at high-risk and without outpatient healthcare resources, and an opportunity to implement interventions that would otherwise never reach this population. This is in part due to the low rate of follow-up with outpatient mental health services by patients seen in the ED for a suicide attempt, making successful assessment and treatment in the ED a high priority (Asarnow et al, 2017).

The Unity Center for Behavioral Health (UBH) is a mental and behavioral health hospital in Portland, Oregon with five inpatient units, and 50 spaces for adult (>18 years old) patient short-term stays in its Psychiatric Emergency Services unit (PES) that is open 24 hours a day

(Legacy Health, 2017). The pilot setting for this project, the UBH PES, uniquely presents as a behavioral health and ED setting that frequently treats patients presenting with suicidal ideation or a recent suicide attempt. The UBH PES has standardized the utilization of all the recommended elements of a suicide brief intervention (SBI) (Suicide Prevention Resource Center, 2015) except for safety planning. In the UBH PES, safety planning is encouraged but is not mandated per policy for any patient population, and there is no standardized method for its utilization.

Available Knowledge

In 2007 The Joint Commission produced the National Patient Safety Goal 15.01.01 which set the bar for increasing the detection and treatment of patients at risk for suicide in the emergency setting (National Institution of Mental Health, 2017). Their recommendations (The Joint Commission, 2020), as well as that of the Suicide Prevention Resource Center (2015) and the United States Surgeon General and the National Action Alliance for Suicide Prevention (2012) include utilizing best practices and current research in the prevention of suicide, in particular the use of safety planning as a part of an SBI.

According to Stanley and Brown (2012), who developed their own safety planning intervention, a safety plan is an intervention that gives patients a specifically ordered set of coping strategies as well as supportive contacts that should be utilized if suicidal thoughts reoccur. They report that this intervention can be implemented by "a wide range of backgrounds" including nurses, psychiatrists, and social workers. They describe the safety planning intervention as helping the patient create a personally tailored document that identifies strategies around the following components:

1. Recognizing warning signs of an impending suicidal crisis
2. Employing internal coping strategies

3. Utilizing social contacts and social settings as a means of distraction from suicidal thoughts
4. Utilizing family members or friends to help resolve the crisis
5. Contacting mental health professionals or agencies
6. Restricting access to lethal means

Safety planning can be delivered as an independent intervention, or as a part of an SBI. The components of an SBI are brief patient education, lethal means counseling, rapid referral, safety planning, and caring contacts (Suicide Prevention Resource Center, 2015). Research has shown that, when included as a part of an SBI, safety planning is effective at reducing depression, suicide attempts, and suicide itself (McCabe et al., 2018). Safety planning is not only evidence-based but also is a least-restrictive intervention that is cost-effective (Jobes, Gregorian, & Colborn, 2018). The benefits of safety planning are not limited to patients. Through documentation of a safety plan that demonstrates clinical competency and best-practice, mental health clinicians can benefit from one of the most effective ways to reduce their legal risk when working with suicidal patients (Stanley et al., 2019).

Rationale

Based on the current literature, it is believed that instituting a safety planning policy at UBH will increase the rate of suicide safety plan completion and result in a reduction in suicidal behavior and an increased utilization of outpatient treatment for patients experiencing thoughts of suicide (Stanley et al., 2018). The assumption that safety plans are not being regularly completed is based upon the lack of any current requirements that they be completed or ways to monitor their completion. With many tasks competing for the time of the healthcare team, it follows that safety plans may not be a priority in the UBH PES.

The interventions of this quality improvement project follow from these assumptions and beliefs, and aim to address them by standardizing the process of safety planning by identifying

the roles of the treatment team in safety planning, the method of safety planning, and the population that will receive a safety plan. The interventions are expected to work by drawing attention to safety planning by all members of the treatment team and informing them of how and when to engage in safety planning, while still being flexible and allowing for the treatment teams to collaborate by safety planning in a patient-centered way.

The Institute for Healthcare Improvement's Model for Improvement, utilizing Plan-Do-Study-Act (PDSA) cycles, will be used to monitor the rate of safety plan completion as this project is implemented. PDSA cycles will allow for the frequent identification of factors that impede or facilitate safety planning and can aid in rapid assessment and changes in future PDSA cycles throughout implementation (Institute for Healthcare Improvement, 2020).

Specific Aims

The purpose of this project is to increase the documented completion rate of safety plans to 50% of the patients experiencing suicidal ideation in the UBH PES through a standardized, nursing initiated, multidisciplinary approach to safety planning over a nine-week period from the beginning of March, 2020 to the beginning of May, 2020.

Methods

Context

Each patient in the UBH PES receives care from a three-member treatment team consisting of a registered nurse, social worker, and mental health provider.

In the UBH PES, registered nurses are staffed to patients at a one-to-five. All registered nurses work twelve-hour shifts divided into day shifts and night shifts. The registered nurses are responsible for nursing assessments, nursing interventions, and implementing mental health provider orders including medication administration during the course of their shift.

In the UBH PES, a mental health provider is paired with a social worker for the duration of their twelve-hour shift. The mental health provider and social worker dyad work one of three different shifts: a day shift, a mid-day shift, and a night shift. There are two mental health providers and two social workers per each of the three shifts. Within a 24-hour period, the six mental health providers and six social workers across the three different shifts are responsible for assessing and modifying the treatment plan accordingly for each patient in the PES.

Interventions

Each PDSA cycle is anticipated to run two-to-three weeks, for a total of three-to-four PDSA cycles. The interventions involved in this project are being implemented by the Zero Suicide Quality Workgroup at UBH, and this project will be tracking its completion and collecting data to report results.

The nurses selected to participate in this project will do so on a voluntary basis, and volunteers will be identified through email and in-person communication. The project will start with two-to-three nurse participants and the decision to include more will be made after each PDSA cycle review. Each registered nurse participant will be asked to implement the following practices:

1. At the beginning of their shift, they will identify each patient they are working with who has reported experiencing suicidal ideation during their stay in the UBH PES.
2. As time allows, they will initiate a discussion with the mental health provider and social worker assigned to the patient. They will open the discussion by stating, “This patient (came to the PES reporting/has reported during their stay in the PES/is currently reporting) suicidal ideation. I think they should be assisted with writing a safety plan.”
3. They will lead a discussion with the mental health provider and social worker to plan the following:
    a. Does this patient need a written safety plan? If not, why not?
    b. If the patient is to receive a written safety plan, which member of the treatment team is best able to complete the safety plan with the patient? Why?
4. They will keep track of the following results of the discussion and safety planning:

a. Was a written safety plan completed for each patient with suicidal ideation during their stay in the PES? If not, why?
b. Who completed the written safety plan for each patient with suicidal ideation during their stay in the PES? Why was this person selected?

Each mental health provider and social worker at UBH PES will receive the following notification via email prior to project implementation stating the following:

> "Be aware that nursing staff may be approaching you from the beginning of March through the beginning of May to facilitate a discussion about the need for safety planning with patients who have experienced suicidal ideation since their arrival at the PES and which member of the treatment team is best able to help the patient in writing a safety plan."

The UBH PES currently provides the Stanley and Brown patient safety plan template developed in 2008 for use in safety planning. This template has good evidence for its efficacy and was designed for use in the emergency setting (Stanley & Brown, 2012). As such, this template will be used in this project due to staff exposure and evidence base.

Study of the Interventions

To assess the impact of the interventions and to help establish whether the observed outcomes were due to the interventions, three methods of data collection were chosen based on the measures they could provide and their convenience for the staff in providing data.

Pre-/Post-Survey. The first method to study the interventions is to provide registered nurses, social workers, and mental health providers in the UBH PES with a three-question, anonymous, online survey both prior to the intervention and at the end of the intervention. The survey will ask the following three questions:

1. What is your position (registered nurse/social worker/mental health provider) in the PES?
2. In the last month, how many patients have you helped to write a suicide safety plan?
3. In the last month, how many patients have you worked with who had someone else help them to write a suicide safety plan?

The pre-survey will serve as a benchmark for the current status of safety planning completion in the UBH PES, as there is currently no method of tracking safety plan completion embedded in the electronic charting system or otherwise. These questions will help to establish the reported rate of safety plan completion in the PES prior to the interventions, and then compare those rates to the reported rates of completion during the final month of the interventions to determine if the outcome is being achieved. Additionally, the pre-survey benchmark will also allow comparison of rates of safety plan completion to the reports of the registered nurse participants per PDSA cycle, allowing for quick adjustment if safety plans completion rates are not increasing.

Registered Nurse Participants. To study the safety plan intervention, registered nurse participants will document the results of their safety planning interventions at the end of their shift as outlined in the interventions section above, and place them in a secure receptacle placed in a centralized location. At no point will patient identifiers be collected, patient charts accessed, or data collected from patient charts. All information provided by registered nurse participants will be anonymous regarding patient identification.

Exit Interview with Registered Nurse Participants. At the end of the interventions, a structured exit interview will be done with each registered nurse participant to ask the following questions:

1. What would you identify as the most significant barriers in having a written safety plan completed for every patient that experiences suicidal ideation in the UBH PES?
2. During the course of this project, what would you identify as being helpful or working well toward increasing the rate of written safety plan completion?
3. Do you feel that this project is sustainable? Why or why not?
4. Would you share any ideas you have of what might make this project sustainable/more sustainable?
5. Has the process of initiating a discussion about safety planning affected your work in any unforeseen ways, such as having less time for other tasks, feeling more stressed during your shift, or increasing interpersonal conflict with coworkers?

As the individuals expending most of the effort and acting as the initiators in this project, the registered nurse participants are in a good position to provide more information through their perception of how the project has developed.

Measures

The data collected will have been reported anonymously to encourage truthful and accurate reporting. As there is currently no way of tracking rates of safety plan completion, reported data will be utilized in lieu of verifiable documentation. If possible, census data will be collected for the two months that cover the time periods that the pre- and post-surveys ask about to establish any discrepancies in patient census numbers between those periods. If census data is collected, patient identifiers and chart information would not be utilized or necessary.

For quantitative outcome measures, this project will compare the reported rate of safety plan completion pre- and post-intervention and compare the reported rate of safety plan completion post-intervention to the collected documentation of safety plan completion from the registered nurse participants. For quantitative and qualitative process measures, this project will collect information from registered nurse participants on the rate of safety plan completion and reasons for lack of completion on a weekly basis. Additionally, this data will be utilized to continually assess the contextual elements that are contributing to this project's success, failure, efficiency, and cost. As a qualitative balancing measure, this project will collect information on the perceptions of the registered nurse participants as to how the project has developed and if there are any unforeseen consequences of the interventions. This will include possible consequences of time-costs, increased stress, and increased coworker conflict.

To assess the completeness and accuracy of data, within the limitations already in place by the nature of unverifiable data, the completion rate of surveys and weekly registered nurse

participant reports will be documented. Failure to complete surveys or reports will be documented and utilized in the data analysis.

Analysis

The qualitative data collected through the use of structured interview and informal reports will be analyzed using a simple content analysis and will occasionally be used in primary data comparisons with quantitative data, including the data collected on the safety plan completion rate. The quantitative data, consisting of reported rates of safety plan completion pre- and post-intervention, will be analyzed in the context of the documented rates of safety plan completion by registered nurse participants during implementation. To help control for patient census levels, unidentified census data will be sought for the period of one month preceding the intervention and the last month of the intervention.

Ethical Considerations

This project will be subject to the approval of the Oregon Health & Science University (OHSU) and Legacy Health institutional review boards (IRB) prior to its implementation. No ethical concerns have been identified by this report's author. The interventions are best-practice and evidence-based, and it is within the scope of UBH to begin safety plan interventions for patients with suicidal thoughts or behaviors as a best-practice initiative. This is not a study of the effectiveness of safety plan interventions, as such has already been evidenced by current literature. No conflicts of interest have been identified.

Results

Immediately prior to the planned implementation of the first PDSA cycle, this project was interrupted by the coronavirus disease 2019 (COVID-19) pandemic and placed on hold. As staff in the PES were experiencing increased workload and daily policy changes related to the

pandemic, this project was halted due to concerns that additional workloads and policy changes would be stressful and confusing for staff during a world-wide crisis. In lieu of results, this report will now describe the next steps of implementation and data collection that should be pursued when the project is able to resume, as well as how to evaluate and report data that is obtained in the future.

When the project may proceed, the email communication describing the project and inviting staff to participate in the pre-survey should be sent to all registered nurses, social workers, and mental health providers in the PES as presented in the intervention section of this paper. Implementation of the first PDSA cycle should begin one week later to allow the pre-survey responses to be unaffected by the project's implementation.

The First PDSA Cycle

The first PDSA cycle should proceed as described in the interventions section above. At the study section of the first cycle, the process measures written down by the registered nurses during implementation should be collected to determine if safety plans are being completed. Ideally, if safety plans are being completed and no problems are identified, the next PDSA cycle would increase the number of registered nurses participating in the implementation and evaluation would continue. However, if safety plans are not being completed, the process measures should be analyzed to discern what barriers to implementation exist and how to plan future PDSA cycles to address these barriers.

A general recommendation is that the utilization of a flowchart that describes the implementation process could be helpful during this first PDSA cycle's study section. Flowcharts are useful for identifying where the barriers exist in the implementation process and if there are steps in the implementation process that are problematic themselves (Institute for

Healthcare Improvement, 2017). More specifically, what Leis and Shojania (2017) call the "known unknowns," predictions can be made about what problems are expected to be encountered during the implementation of this project. These predictions are useful for planning future PDSA cycles after comparing current PDSA cycle data against them. To support the future implementation of this project, two specific problem categories have been predicted to be barriers for this project.

Time. According to a study by Marmor and Li (2017), staff in emergency departments may be "time-poor" due to the nature of their "busy" work. Their suggestion for addressing this barrier is to allocate greater staff resources or make smaller, more incremental changes. The staff at the UBH PES fit this description of being "time-poor," but due to COVID-19 budgetary changes, the recommended intervention of greater staff resources is not a likely possibility. However, if a real or perceived lack of time is discovered to be a barrier in implementation during the first PDSA cycle, slowing down implementation to smaller incremental changes could be a good strategy. Small, incremental changes allow staff to become more familiar with each aspect of implementation before the another is introduced and help staff avoid feeling overwhelmed (Marmor & Li, 2017). This could look like starting with implementation of the multidisciplinary huddle to discuss patients experiencing thoughts about suicide without the safety planning documentation requirement afterwards, only introducing the safety planning intervention once staff become familiar with the multidisciplinary huddle.

Staff "buy-in". According to a systematic review by Bastemeijer, et al. (2019), one of the most common barriers to quality improvement can be staff disagreement about the "necessity or usefulness of the proposed change." They report that staff need to be assisted via education and information provision when there is a lack of staff support for quality improvement

implementation. As safety planning is not currently occurring in any standardized way in the UBH PES, the probability that staff may feel that changes are unnecessary should be considered. Fortunately, there exists a great amount of evidence supporting the use of safety planning as a best practice for patients experiencing suicide (The Joint Commission, 2020; Stanley & Brown, 2012; Suicide Prevention Resource Center, 2015; United States Surgeon General & the National Action Alliance for Suicide Prevention, 2012). If staff are found to be unsupportive of this project's implementation, it is recommended that educational materials be prepared and distributed in a format that is simple and easy to consume, such as an email or printed one-page document, due to the busy nature of the PES (Marmor & Li, 2017). A more formal presentation or computer-based education module may be more effective, and these should be explored as options, but it may be that such methods of information delivery are impractical due to the time and financial costs for UBH if staff are required to participate.

Future PDSA Cycles

After the initial PDSA cycle it is always a possibility that the data reveals unpredicted barriers that are hindering implementation, and that the project needs to shift focus significantly as a result. This is a known function of PDSA cycles and multiple cycles may be required before any improvement is observed (Leis & Shojania, 2017). As the project evolves and moves forward, communication and collaboration with key stakeholders at UBH will be essential (Bastemeijer, et al., 2019). The Zero Suicide Quality Workgroup has been leading the push for suicide safety planning and continue to support of this project. The UBH PES Medical Director has also been supportive of this project. Both parties have provided a great amount of information and guidance during the formation of this project and are likely to continue to do so when implementation can resume. If this project begins to go in a significantly different direction

after the first PDSA cycle, these are two resources at UBH that would likely be able to assist with future PDSA cycle development.

Reporting Results

This paper recommends that the outcome measures received during implementation be displayed in a table, as in Table 1, and also reported in text, such as "The total number of safety plans completed by staff during the 12 weeks of implementation was 145." Further relevant information, such as the response rate to both surveys and the average census of the PES during the 1-month periods that each survey is asking about are recommended to be presented in text as well.

Table 1

Responses to the question "In the last month, how many patients have you helped to write a suicide safety plan?" organized by individual profession averages and combined average

Profession	Pre-survey	Post-survey	Change
Registered Nurse	1	12	+11
Social Worker	5	10	+5
Mental Health Provider	3	5	+2
Combined Average	3	9	+6

The quantitative process measures are recommended to be presented in a column graph, as in Figure 1. The qualitative process measures are recommended to be presented in separate paragraphs, organized by the themes that are discovered through analysis, describing them and providing examples and a quote if relevant. The qualitative balancing measures are recommended to be presented in the same manner as the qualitative process measures.

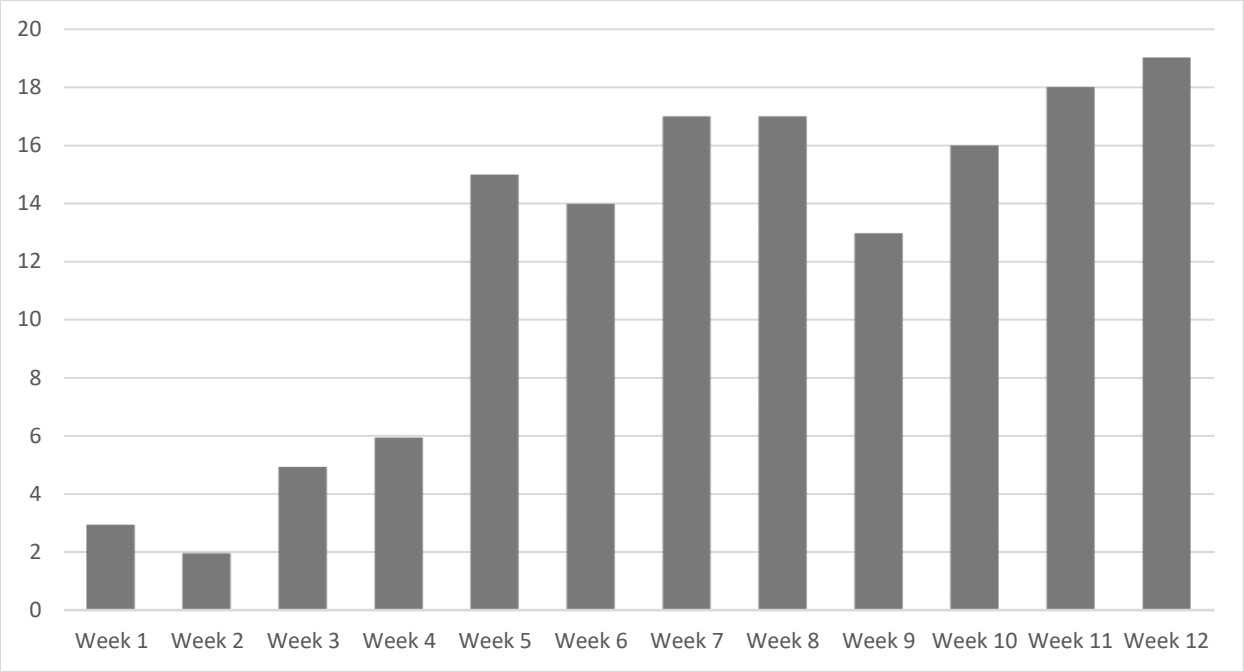

Figure 1. Suicide safety plan completion. This figure illustrates the number of suicide safety plans completed per week in the UBH PES over the course of this project.

Discussion

Summary

Despite this project's sudden interruption due to the COVID-19 pandemic, its future implementation is likely to proceed when normal operations resume due to the amount of support it has received from the key stakeholders at UBH PES. As none of the implementation phase was initiated and no data was collected prior to its interruption, the barriers to implementation that prevented an earlier implementation phase, prior to the COVID-19 pandemic, deserve some discussion.

The first and most notable delay occurred when the Zero Suicide Quality Workgroup at UBH received a grant to develop their own suicide safety planning template. The workgroup shared this information at the same meeting that this project's original draft was being shared with the workgroup. This caused the workgroup to change their focus towards research on the

development of a novel suicide safety planning template, which was not in the scope of this project. It took a considerable amount of time to rewrite this project, in collaboration with the Zero Suicide Quality Workgroup, in a way that met the academic requirements of this project while still benefitting the workgroup due to their new grant and goals. This project was adjusted to focus on increasing the completion of safety planning at UBH PES in a manner that would later allow the Zero Suicide Quality Workgroup to replace the Stanley and Brown (2012) patient suicide safety plan template utilized in this project with their novel suicide safety plan template after it is developed.

The delay caused by the significant rewriting of this project was further complicated by the necessity of two separate IRB approvals. This project could not be submitted for IRB approval until the rewrite was complete, and while one IRB approval was quick to process their approval, the other required a significant amount of extra time and effort. Eventually administrative staff at both OHSU and Legacy Health became involved in a request for an expedited IRB approval for the second IRB, which finally approved this project immediately before the COVID-19 outbreak developed into a pandemic.

Another delay in implementation was caused by the PES nursing management undergoing several leadership transitions during the planning phase of this project. These transitions made communication between the changing stakeholders in nursing leadership challenging.

Interpretation

While several barriers attributed to the delay of this project's implementation, the COVID-19 pandemic was definitively the cause of the project's current inability to proceed. Given that this project was placed indefinitely on hold, the COVID-19 pandemic perhaps

presents an opportunity for re-examining the quality improvement process in large healthcare systems. While studies describing the importance of the quality improvement process during the COVID-19 pandemic have already been published, they focus on the importance of quality improvement processes that directly address the novel COVID-19 pandemic specifically, rather than addressing quality improvement processes in other areas during the time of a pandemic (Mondoux, S. et al., 2020; Thull-Freedman, J. et al., 2020). During a crisis such as a pandemic, it seems logical that certain tasks would be labeled "non-essential" and halted until further notice if they are not directly addressing the causes and results of the pandemic in question. However, quality improvement is meant to turn current practice into best practice. Regardless of the presence of a global crisis, it is challenging to continue with current practice when one knows that there is a best practice available. It will be enlightening to observe how long it takes for healthcare systems such as the UBH PES to resume quality improvement in areas that do not directly address COVID-19, and what criteria will be used to determine when these activities are able to resume. Unfortunately, no literature was identified at this time that addresses these questions, which leads to the consideration that this topic needs to be addressed in future research.

Given the severity of the COVID-19 pandemic and the lack of current literature advising otherwise, it does seem reasonable that halting this project was an appropriate response that allowed for more time and resources to be spent on addressing the pandemic itself. As such, this paper cannot recommend future practices of having similar implementations continue through a pandemic as severe as COVID-19.

Limitations

The most obvious and irregular limitation of this paper is its lack of reportable results. As previously discussed, this was ultimately a product of the COVID-19 pandemic. A further limitation was that lack of current literature that addresses quality improvement processes during a pandemic in a generalizable way. Such literature would have been helpful for guiding this project when the COVID-19 pandemic arrived, as well as allowing this paper to report the anticipated benchmarks that would indicate the project was safe to resume.

Conclusions

Utilizing suicide safety plans are an evidence based, best practice intervention for reducing suicide risk. This project describes the utilization of a collaborative approach to suicide safety planning and provides recommendations for the future means of collecting, evaluating, and reporting results obtained during its implementation. In the process of the initial implementation, this project was halted by the COVID-19 pandemic. In addition, this project encountered several barriers to implementation prior to the COVID-19 pandemic and serves as a good example of the challenges that quality improvement processes can encounter in a large healthcare system. While it would be impossible to predict every potential barrier to quality improvement implementations, especially a global pandemic, quality improvement remains a necessary function of providing the best patient care possible in any situation. Further research into quality improvement practices during a pandemic would be helpful for guiding future quality improvement projects that encounter similar challenges.

This report's author intends to follow through with this project's implementation when allowed, as described in this report. This report's author remains hopeful that this project will be allowed to move forward soon, and looks forward to reporting future results that may display

how multidisciplinary collaboration in suicide safety planning can significantly increase the rate of suicide safety plan completion in a psychiatric emergency setting.

Other Information

Funding

This project did not receive or utilize any funding from internal or external sources. None of the grant funds obtained by the Zero Suicide Quality Workgroup at UBH PES were expended to plan, implement, or indirectly benefit this project.

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