5-1-2018

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DNP Student Quality Improvement Proposal: Implementing Suicide Protocol in Outpatient Mental Health Clinic

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Abstract

Introduction: Suicide is the tenth leading cause of death in the United States and the eight-leading cause of death in Oregon. The root cause for many suicides is an inadequate suicide assessment, especially in behavioral health settings. This Doctorate of Nursing Practice (DNP) quality improvement (QI) project implemented a suicide assessment guideline in an outpatient mental health clinic. The suicide assessment guideline used standardized and evidence-based suicide screening (Columbia Suicide Severity Rating Scale) and assessment (Suicide Assessment Five Step Evaluation-Triage) tools and implemented standardized documentation and intervention practices. The project aims included an 80% adherence rate to the suicide assessment guidelines for all new clients and a 60% adherence rate for 27 pre-identified high-risk existing clients.

Methods: The project was implemented on three different teams: the Intake team, the main outpatient mental health (MH) team, and the assertive community treatment (ACT) team. The suicide assessment guideline was implemented using the Model for Improvement Plan-Do-Study-Act (PDSA) cycles. The PDSA cycles varied based on the specific needs of the individual teams using three main change concepts: improving workflow, enhancing relationship with the project and changing the work environment, and focusing on the product or service. The outcome measure data were collected by auditing charts. The process measures investigated barriers and these data were collected by questionnaires and informed by weekly meetings.

Results: The Intake team quickly achieved the project aim of documentation. The outpatient MH team improved in adherence but did not achieve the project aim. Outcome measures were not measured for the ACT team. Process measures indicated that using a paper form, not having the tool integrated into the Electronic Health Record (EHR), and needing additional training were all
barriers to using the assessment guideline. The process measures also suggested a positive response to the suicide assessment guidelines overall.

Conclusion: This project was able to achieve improvement in suicide screening, assessing, and documentation. On-going interventions are necessary to continue to improve outcomes.
Introduction

Suicide is a serious problem in the United States; it is the tenth leading cause of death (CDC, 2017a) and the rate continues to climb. According to the Center for Disease Control (CDC), suicide rates increased by 15% in the United States between 2001-2010 (CDC, 2017b). Suicide is currently one of the most pressing public health issues in Oregon. It is the second leading cause of death for individuals aged 15-34, and the eighth-leading cause of death of all Oregonians (Oregon Health Authority, 2015). The Joint Commission’s (JAHCO) sentinel event report (2016) reported that suicide is the fifth most frequently reported sentinel event in recent years.

In JAHCO’s (2016) report they identified that the most common root cause for suicide completion was inadequate suicide assessments, particularly in psychiatric assessments in behavioral health settings. Despite a plethora of well-researched screening and assessment tools, interventions, and documentation methods, there is no single standardized best-practice. However, it has been concluded that using a standardized evidence-based screening tool and structured assessment can increase detection and prevention of suicidal events (Joint Commission, 2016; National Action Alliance for Suicide Prevention: Clinical Workforce Preparedness Task Force, 2014). Additionally, using a standardized documentation process is suggested in order to promote quality care (Joint Commission, 2016; Weber et al., 2017).

The purpose of this DNP project was to implement a suicide assessment guideline at an outpatient mental health clinic. The suicide assessment guideline was designed using research and clinic input. The guideline included the screening tool, assessment tool, and expected documentation practices. The research and collaboration with the clinic informed the
development of the standardized suicide assessment guideline. This DNP quality improvement project used the Model of Improvement in order to evaluate and effectively implement the suicide assessment guideline. The project aim was an 80% adherence rate to the suicide assessment guideline for all new clients at intake and a 60% adherence rate for the 27 pre-identified high-risk clients within the outpatient mental health team. The overarching goal of this project was to prevent suicide attempts and deaths by suicide by using a standardized and evidence-based suicide assessment guideline, which encompassed suicide screening, suicide assessments, and standard documentation on suicide risk and intervention.

Methods

Setting and Participants

The project was implemented on three different teams: the Intake team, the main outpatient mental health (MH) team, and the assertive community treatment (ACT) team. The Intake team is the clinic’s initial point of contact with a patient and determines which team will manage a patient’s care in subsequent visits. The outpatient MH team works in the main outpatient clinic and sees higher-functioning patients. The ACT team works out in the community with high-acuity patients and sees their patients frequently, sometimes daily. The clinic utilizes a multi-disciplinary, team-based structure that is composed of Qualified Mental Health Professionals (QMHP), Registered Nurses, program managers, team coordinators, Behavioral Health Assistants (BHA), case managers, housing case managers, employment access specialists, Intake specialists, psychiatrists, and psychiatric mental health nurse practitioners. The three teams see a total of approximately 460 clients quarterly. The project team was made up of three supervisors from each team, three administrative leaders, one quality improvement manager, and one DNP student.
The procedure for this project varied slightly for each team. This allowed each team to meet their specific goals within the framework of their existing workflows.

For the Intake team, every client filled out the C-SSRS self-report form themselves along with other necessary paperwork prior to their appointment (Figure 1). During their 20-minute intake appointment, the answers to the C-SSRS questions were reviewed. If the severity of suicidal ideation (SI) indicated, another clinician was asked to triage and address the need for crisis intervention.

The outpatient MH team identified 27 high-risk clients and used the C-SSRS form to ask these clients about SI at every visit (Figure 1). If the client answered yes to questions regarding specific plan with intent and/or preparing or rehearsing a suicide attempt the team would use the SAFE-T tool to inform their intervention. Both the outpatient MH and Intake teams used paper forms which were scanned into the EHR.

The ACT team, who joined the project at week six, initially used the C-SSRS only as needed for clients. Gradually the team incorporated screening of all new clients and at annual
mental health assessments. By the end of this project, the SAFE-T tool started to be incorporated for high-risk C-SSRS screens and used in consultation with supervisors to determine appropriate interventions for clients.

Interventions

The pre-planning component prior to the project involved training all three teams on the Columbia-Suicide Severity Rating Scale (C-SSRS) using the training video provided by the Columbia lighthouse (The Columbia Lighthouse Project, 2016) and going through the Suicide Assessment Five Step Evaluation-Triage (SAFE-T) form. The PDSA cycles themselves varied between the teams in order to focus on the specific needs and approaches of each team. Interventions used for all three teams were based on three main change concepts: improving workflow, enhancing relationship with project and changing the work environment, and focusing on the product or service (Langley, Moen, Nolan, Nolan, Norman & Provost, 2009). To address the variances between teams, supervisors of each team, administrative leaders of the clinic, a quality improvement manager, and the DNP student met weekly to share and address ongoing contextual aspects that contributed to the success, failure, and efficiency of the project, and determine appropriate next steps in the PDSA cycle.

The main interventions used also varied by team.

Intake team interventions: 1) routinely following up on training of the C-SSRS and SAFE-T and 2) revising the format of the C-SSRS to fit the setting and adding a list of protective and risk factors that the client could check off themselves.

The main interventions used in the outpatient MH team were: 1) routinely following up on training of the C-SSRS and SAFE-T and answering different questions on the use of the tool, 2) implementing an additional tool per the request of the supervisor to increase involvement and
engagement in the project, 3) using role play to increase comfort of clinicians in using the tool, 4) involving the supervisor in tracking adherence of staff, and 5) putting the C-SSRS in the schedule to remind clinicians to use the tool.

The interventions used in the ACT team included: 1) using a laminated, pocket-sized form that they could take out in the field, 2) development of a quick-text to use in the EHR, and 3) role-playing and consulting supervisors on at-risk clients using the C-SSRS and the SAFE-T.

Outcome and Process Measures

To assess the impact of the chosen interventions, outcome and process measures were collected using a combination of quantitative and qualitative data. Outcome measures included the rate of staff using the screening tools and the rate of staff documenting suicide risk level and justification for risk level. Process measures were used to identify the perception of staff throughout the project regarding the suicide assessment guidelines, such as their perception of the barriers to using the screening and assessment tools, the comfort in asking/talking about suicide, and the staff’s perception of the necessity to assess and document suicidality.

The outcome measures were collected by auditing charts of clients seen by the Intake and outpatient MH teams. The ACT team was not included in the chart auditing data collection due to team preference and joining the project later on. Process measures were collected from all three teams via online questionnaires and informally via weekly meetings with supervisors and informal meetings with staff. There were two questionnaires sent out over the course of the project; the first was sent to the team via email at nine weeks and was filled out by the Intake and outpatient MH teams. The second questionnaire was sent out again via email at 13 weeks and was reviewed by all three teams.

Ethical aspects
Because of the sensitive nature of suicide, it was important to protect patient health information throughout the process. For that reason, patient health information (PHI) was not the focus of the project nor was any PHI collected or stored as a part of the project. Prior to initiation of the project, the project was reviewed by the OHSU’s Institutional Review Board (IRB). The IRB determined the project as exempt from further review because it did not involve client information and it was a quality improvement project.

Results

Evolution of the Project

The project evolved throughout its implementation, and diverged into three separate sub-processes (Figure 2). Initially the goal for the outpatient MH team was to have a rate of adherence to the suicide assessment guidelines of 80%. However, due to the low initial adherence, that goal was revised down to 60%. As the project continues in the future and adherence increases, that goal will be increased to the original 80%. The second major project adaptation was the inclusion of the C-SSRS Lifetime assessment form, a more in-depth assessment on past suicide attempts and ideation, in the outpatient MH team workflow per the request of the supervisor. This was considered important to engage the outpatient MH team with the project despite it adding variation between the outpatient MH team and the Intake team processes, resulting in two parallel projects. Also at that time, the Intake team eliminated the SAFE-T from their workflow as they did not intervene with clients with high-risk suicidality and instead handed them off to other clinicians within the clinic to work specifically with those clients as indicated. The third evolution was the inclusion of the ACT team to the project, which required a unique set of interventions due to the uniqueness of their workflow. The last evolution was the removal of the C-SSRS Lifetime assessment form after staff from the outpatient MH
team brought up their concerns regarding the cultural appropriateness for clients with SPMI and people of color. Staff found the form to be helpful for some clients but not for all, and thus changed it from required to be used as clinicians deem it appropriate. The variation between teams resulted in three parallel processes.

**Evolution of the Project Over the Course of the Project**

*Figure 2. Evolution of the project over time*

**Outcome Measures**

The results from the outcome measures for the outpatient MH team and Intake team varied from one another as did the interventions. As mentioned above, the ACT team started implementation later and outcome measures were not conducted for that team. For the outpatient MH team, both of the outcome measures steadily increased over time with some variation along the way (Figure 3). The four interventions that appeared to have the strongest impact on outcome measures for the outpatient MH team were 1) more training on the tools, 2) supervisor tracking of staff adherence, 3) role-playing the use of the tool during team meetings, and 4) reminding clinicians in the EHR schedule to screen (in response to the first questionnaire) (Figure 3).
Contextual factors for the outpatient MH team include the fact that this team was in the process of implementing two other improvement projects and onboarding two new staff at the onset of the project. Both of these factors likely contributed to a lower adherence to the guidelines for the outpatient MH team.

Figure 3. Run chart of outcome measures of the outpatient MH team and interventions

The Intake team quickly increased their rate of C-SSRS documentation per client compared to the outpatient MH team. The rate of documentation of suicide risk and justification of risk was at 100% even when screening using the C-SSRS was below the goal of 80%. Important contextual factors for this team include the fact that the Intake team already had a suicide assessment protocol as part of their Intake require that neither of the other teams had.

The documentation of the C-SSRS on the Intake team increased after the following interventions: follow-up on training and additional training later one, updating the tool for Intake.

It is unclear what contributing factors resulted in a decrease in the rate of documentation of the
C-SSRS by the end of the week 9 (Figure 4).

Figure 4. Outcome measures from the Intake team.

**Process Measures**

Process measures from the questionnaires provided insight into the perception of staff on the barriers to using the screening and assessment tools, the comfort in asking/talking about suicide, and the staff’s perception of the necessity to assess and document suicidality. Initially, the first questionnaire indicated that forgetting to do the tool was the biggest barrier to administering the C-SSRS tool. After this was addressed by adding reminders into the scheduling, the largest barrier according to the second questionnaire for the outpatient MH team was preference for using it in an informal conversational manner instead of a formal paper form for 60% of the outpatient MH team. The other main barriers were not feeling sufficiently prepared to use the tool for 20% of staff and not wanting to use the paper form also for 20% of staff. For both the Intake and ACT team, the largest barrier in the second questionnaire was
having to use it in a paper form instead of in the EHR, at 67% and 55% respectively. The other barriers for the ACT team was dislike for the language used in the form at 35%, feeling unprepared to respond to a high-risk screen at 10%, and not feeling sufficiently prepared to use the tool also at 10%. The rest of the Intake team (33%) in the second questionnaire found the barrier to be feeling prepared to use the tools. The breakdown of the barriers for all three teams combined from the second questionnaire can be seen in Figure 5.

Figure 5. Barriers to using the C-SSRS self-report form the second questionnaire given to all three teams.

The other process measures did not focus on the specific tools but rather on the general burden and barriers to assessing for suicide and the comfort level of staff in asking and talking about suicide. The goal of these process measures was to inform additional future interventions. The only barrier for all three teams was the perceived lack of necessity to assess all clients for suicidal ideation at every visit for 73% of clinicians (Figure 6). The other 27% was documented in “other” as “not applicable” as these staff did not feel that there were any barriers in assessing for suicide risk at every visit (Figure 6).
The other process measures focused on the comfort of clinicians in asking and talking about suicide. Combining the response of all three teams, 10% of clinicians agreed with the statement “I feel uncomfortable asking my clients about suicide”, 16% were neutral, and 74% disagreed (Figure 7). There was a similar response to the statement, “I feel uncomfortable talking to my clients about suicide”, 21% agreed, 11% was neutral, and 68% disagreed with that statement (Figure 8).
Figure 7. Responses to the questionnaire regarding the statement “I feel uncomfortable asking my clients about suicide” by all three teams.

Unintended consequences

The main unintended consequences of the project revolved around the implementation of the C-SSRS Lifetime baseline by the outpatient MH team. Initially, staff reported liking the tool and made statements such as “This tool was super helpful, I realized she was at higher risk than I thought. [She] reported recent interrupted attempt. She minimizes SI & under reports, laughs when talks about SI. The differentiation of thoughts, methods & preparations and recent versus past attempts was helpful to get a full picture. This most recent interrupted attempt was the first attempt since she was a teen.” (Personal Interview with Outpatient Mental Health staff, February 26, 2018). Later on, the clinicians found that using the tool was not culturally appropriate for all clients, particularly those with SPMI and people of color, and created difficulty in rapport with some clients. The team decided to use the tool on an as-needed basis as determined by the clinician. The other unintended consequence was that despite the low rate of C-SSRS documentation for the outpatient MH team, the rate of documentation for suicide risk and justification of risk increased beyond the goal (Figure 3).

Discussion

The core goal of this project was to implement a suicide assessment guideline in an outpatient mental health clinic following national guidelines and using evidence-based suicide screening tools, suicide assessments, and best practice documentation in order to increase the prevention of suicide. The specific project aim was to have an 80% adherence rate for all new clients at Intake and a 60% adherence rate for the 27 existing pre-identified high-risk clients.

The main findings had less to do about the impact of specific interventions on outcome
measures, since the association between intervention and outcome measures were not particularly strong, but that the interventions as a whole appeared to increase the outcome measures for both the Intake and outpatient MH teams over time. The findings suggest that increasing the rate of suicide screening, assessment, and documentation is no simple task and success varies based on the processes in place prior to implementation and the perception of staff and the barriers to adherence with the suicide assessment guidelines.

Comparing the outcome measures of the Intake team to the outpatient MH team suggests that having a strong foundation and process for screening, assessing, and documenting for suicide prior to the initiation of the project, as is the case for the Intake team, improves the adherence to new suicide assessment guidelines (Figure 3 and Figure 4). This could be due to the comfort of the Intake team in assessing and talking about suicide as noted in the process measures. For the Intake team, the C-SSRS itself is potentially redundant and unnecessary as is reflected by the high rate of compliance for the assessment and documentation and varied success of the actual screening itself (Figure 4). However, the screening tool appears to have been useful for the outpatient MH team that had a weak foundation prior to the start of the project as rates of adherence for the screening tool is associated with increased rates for documentation of risk level (Figure 3).

The second key finding in this project was the need to understand the workflow-specific barriers to screening and assessing for suicide, as well as perception of staff on the chosen screening and assessment tools, and comfort in talking about suicide in order to successfully inform specific interventions for the different teams. For example, the outpatient MH team needed reminders, while the Intake team needed to change the form to fit their needs, and the ACT team needed a form to take into the field. Also, the process measures at the end of the
project revealed that comfort in talking/asking about suicide and perception of necessity of suicide screening/assessment at every visit were both potential barriers to adherence that were not sufficiently addressed. In general, regular trainings surrounding not only the chosen screening and assessment tools, but also conversations about suicide may potentially be the most impactful interventions in increasing the three main components of the suicide assessment guideline: screening, assessment, and documentation.

This project improved the number of clients being screened for suicide and had impact on the system by normalizing conversations around suicide. It also increased the awareness of different risk and protective factors for suicide and how to appropriately document on a client with suicidality. Throughout the project and even after the project ended, different teams within the clinic asked to implement the suicide assessment guideline on their team, indicating a need for broader system change and a need for more formalized approaches to screening, assessing, and documenting on suicidal clients in this clinic beyond the teams who participated.

After this project, the clinic decided to roll out the implementation to the rest of the teams within the clinic and then to all mental health components of the organization. Future steps for this project include the implementation of the tool within the EHR and continued training on the tools and monitoring of the barriers to adhering to the suicide assessment guideline. Other steps involve on-going assessment of the comfort of the staff in asking and talking about suicide. It would also be helpful to measure how this guideline impacts the rate of hospital admissions, and over a longer period of time, rate of suicide attempts and death by suicide.

The findings of this project highlight the barriers to implementing suicide assessment guidelines and the interventions needed to address these barriers; particularly the need for tools to be incorporated into the EHR, the need for continued training to increase confidence with the
screening and assessment tools, and the need for conversation and trainings to increase the comfort of staff in asking and talking about suicide. This requires time to change the culture of the clinic and workflow of the staff.

The strengths of this project include the diversity of clinical settings involved and the variety of interventions tried, making it generalizable to various settings. Additionally, the project assessed for a wide range of barriers and limitations to implementing a suicide assessment guideline. The limitations are that this was a quality improvement project with a low n number and no testing of significance. There was no discussion regarding the demographics of the client, making it difficult to determine whether it is generalizable to a diverse clientele. Furthermore, costs associated with the implementation of the guideline were not assessed, however in an attempt to eliminate costs, staff were asked to attend trainings, complete questionnaires, and ask questions during team meetings, a time previously allotted for ongoing education. Additionally, although the staff were all trained using the same training tools, there may have been variation between staff in the application of the tools.

Conclusion

Suicide is a problem throughout the United States and particularly in the state of Oregon. Evidence and national guidelines indicate the need to implement standardized screening and assessment tools, and standardized documentation and interventions. However, despite the plethora of literature on how to screen, assess, document, and intervene for a client with suicidality, there is a paucity of evidence on how to effectively implement suicide assessment guidelines in mental health and health care settings and the barriers to implementation. This project attempts to highlight interventions to effectively implement suicide assessment guidelines, yet there is a need for more quality improvement projects in this arena in order to
better manage the ever-increasing rates of suicide.

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