Quality Improvement: Impact Analysis of Enhanced Suicide Assessment

By Rodney Olin

Oregon Health and Sciences University

May 9, 2018

Abstract

BACKGROUND: The Unity Center for Behavioral Health (UBH) Psychiatric Emergency Services (PES) opened in February of 2017 using Columbia Suicide Severity Rating Scale (C-SSRS) alone for suicide assessmeng. In April of 2017 the Joint Commission mandated the inclusion of risk and protective factors in the suicide assessment documentation. The aim of this project determine how or if this more robust assessment influences treatment planning and to reframe the work that has been done using a evidence based quality improvement methodology to inform next steps. The project was set in the UBH PES and the participants were the psychiatrists and psychiatric and mental health nurse practitioners (PMHNP).

METHODS: The theory behind this is that an accurate, robust suicide assessment will lead to patients presenting with suicidal ideation getting the most appropriate, safest level of care. This project will be done using the plan-do-study-act (PDSA) method of quality improvement. The information generated will inform the next PDSA cycle.

INTERVENTIONS: Multiple measures used were: a comparison of admission percentage of qualifying patients during two 33-day periods before and after the change, a comparison of length of stay data for the patients from both groups, a question from patient satisfaction data, about patients' perception of safety of discharge and an eight-question survey sent out to the PES providers to gauge their perceptions about the change in documentation.

RESULTS: There was minimal change in the admission rates(from 29.7% to 27.8%) but a two-day reduction in median length of stay. Patient satisfaction sample sizes were too small to be used so that measure was thrown out. 100% of the provider surveys were returned. The majority of the providers (10) felt that additional information in the assessment template would be useful. Nine felt that a safety-planning template should be added. Seven providers felt that they did not

have a strong enough voice in the development of the assessment. There was not strong evidence from the providers that they felt the addition of risk/protective factors influenced their decision making.

CONCLUSIONS: Measuring data around effectiveness of suicide assessment is difficult due to the low incidence of suicide. Both the provider survey and admission data suggest that the addition of risk and protective factors did not influence the decision to admit or the care setting for the patients. There is a strong feeling that more information and safety planning tools should be added to the next documentation template. A next step could be gathering information from providers on what specific assessment information could be added to the next version of assessment template. Greater efforts need to be made to compile patient satisfaction data regarding perceptions of the safety of discharge and treatment planning or suicidal patients.

Keywords: suicide assessment, risk factors, protective factors, behavior health, psychiatric emergency services, quality improvement.

Introduction

Suicide is a significant public health issue in both the United States and around the world and is the 11th leading cause of death for all ages (Knesper, 2010). In the epidemiology systematic review by Nock et al. (2014), *suicide* is defined as "the act of ending one's own life" and *suicidal ideation* defines thoughts of ending one's life. Suicide leads to over 30,000 deaths in the USA, between 800,000 to 1 million deaths globally a year and lost productivity of as much as 11.8 billion dollars per year in the USA alone (Nock et al., 2008, World Health Organization, 2017). From 1999-2014, national suicide rates have increased by 24% from 10.5 to 13.0 per 100,000 people in males and females between ages of 10 and 74 (Curtain et al., 2016). In 2010 the National Action Alliance for Suicide Prevention was created to explore research opportunities and barriers around decreasing suicide rates. The Action Alliance created the Research Prioritization Task Force to establish an agenda, out of which came a stated goal to decrease morbidity (suicide attempts) and mortality (suicide deaths) by 20% in 5 years and 40% in 10 years (National Action Alliance for Suicide Prevention, 2014). Hospital emergency departments (ED) have seen as many as 1 in 10 patients who have committed suicide within 2 months of their suicide (Knesper, 2010). Grant and Lusk (2015) report that there are approximately 3.7 million ED visits a year for suicides or suicide attempts, which is 7% of all ED visits. A report by Knesper (2010) which was funded by the National Suicide Prevention Resource Center (SPRC) in collaboration with the Substance Abuse and Mental Health Services Administration (SAMSHA) included patients seeing qualified professionals who have been trained in suicide assessment and prevention and funding studies that pertain to safety planning as objectives in their outlined plan. The Joint Commission (2014) National Patient Safety Goal

outlined the importance of patients at risk for suicide and conducting a risk assessment and addressing patient safety needs in NPSG 15.01.01.

A Joint Commission visit to the Unity Center for Behavioral Health (UBH), the practice site, addressed this safety goal. UBH, a recently opened psychiatric hospital, created a psychiatric specific ED to route patients with psychiatric complaints out of a general ED. Patients walk in or are brought by ambulance to the psychiatric emergency department (PES), where they are initially assessed. Then a decision is made to admit the patient, but they stay in the PES until a room becomes available. UBH uses the Columbia Suicide Severity Rating Scale (C-SSRS) to assess patients who are endorsing suicidal thoughts. The C-SSRS is a 2-6 item scale which uses yes/no questions to assess for suicidal thoughts, timing of thoughts, if steps have been taken to implement the thoughts among other things (About the Scale, 2017). At the time of opening, the scale alone was being used to document the suicide assessment. There were concerns that the scale alone does not provide a robust enough assessment, potentially leading to unnecessary admissions due to false positives (to be discussed in the literature review section).

In May, 2017 Joint Commission visited and mandated that "Providers will follow up the C-SSRS with an assessment of suicidal risk on admission to PES and at the point of admission to the inpatient that includes review of risk factors, protective factors, access to means and will assign a formal level of risk, high moderate and/or low taking into account the C-SSRS and the risk related assessment" (UBH, 2017). As a result PES providers began to assess risk factors and protective factors for 100% of patients. A rough template was created for EPIC documentation and minimal training was given. No assessment has been done on impact or unintended consequences.

The project outlined in this paper analyzes the impact the recent implementation of an assessment that expands upon the C-SSRS, adding risk and protective factors. Specifically the aim will be to determine how or if this more robust assessment influences treatment planning and to reframe the work that has been done using a evidence based quality improvement methodology to inform next steps.

Literature Review

A review of literature addressed evidence relating to risk assessment tools, risk factors, protective factors, and discuss some gaps in the literature. A literature search was done using PubMed Medline using the terms “suicide” and “assessment” and the review filter yielded over 1162 results. Another PubMed Medline search using the terms “suicide” and “risk” and “scale” was done with the review filter, yielding 201 results. Lastly a PubMed Medline search using the terms “suicide” and “risk” and “protective” and “factors” was done using the review filter and yield 150 articles. Articles that were not relevant to the project were discarded. Additional material was found within the relevant articles from the original searches. Additional material includes policy statements, position statements, and guidelines.

In the practice guideline by the Substance Abuse and Mental Health Services Administration (SAMHSA) (2015), the C-SSRS is identified as being validated by the National Institute of Mental Health (NIMH). Haney et al. (2012) conducted a systemic review of prior reviews relating to veteran and military populations, ultimately finding that the evaluation of the effectiveness of risk management tools is poor and there needs to be more evidence for greater strength of evidence. Another systemic review focused on veterans evaluating 19 studies primarily focusing on accuracy of methods to identify suicide risk in patients of varying risk levels (methods included SAD PERSONS, Suicide Opinion Questionnaire, ReACT Self-Harm

Rule, Suicide Trigger Scale, Affective Intensity Rating Scale, Suicidal Ideation Attributes Scale, a decision tree, and prediction models incorporating electronic database records) indicated fair or better diagnostic accuracy with most scales but with some deficiencies including small sample sizes, unclear applicability to clinical practice , and other methodological limitations (Nelson et al., 2017). The same study noted that the frequency of false positive limited the clinical usefulness of most instruments. In a systemic review of 11 scales to predict self-harm, no single scale was found for recommendation for regular clinical use and it was found the focus should remain on providers completing comprehensive clinical assessments (Quinlivan et al., 2016). Runeson et al. (2017) conducted a systemic review of 8 instruments (including C-SSRS) for suicide and 13 instruments for suicide attempt, but none of the instruments met the benchmark of 80% sensitivity and 50% specificity many of them had too few studies to assess accuracy. Chan et al. (2016) conducted a systemic review of 7 cohort studies relating to predicting suicide with risk scales after an episode of self-harm and drew only limited conclusions as a result of a paucity of studies. Identification of false positives and poor predictive value were found for all scales evaluated (Chan et al., 2016).

Grant and Lusk (2015) note that combining risk assessment instruments with a clinical assessment provides a more nuanced approach and could reduce costly admissions resulting from using the instrument alone. In a review of 10 clinical practice guidelines and 12 additional resources, 100% of them recommend assessment of evidence-based risk factors (Bernert et al., 2014). Haney et al. (2012) noted the following risk factors in non-fatal repetition of self-harm in their review of reviews: prior self harm, depressive symptoms, unmarried status, schizophrenia, and alcohol misuse. The same review noted the following risk factors to be predictive among suicide with prior self-harm: suicidal intent, male gender, psychiatric history, older age, physical

health problems, and alcohol abuse (Haney et al., 2012). SAMHSA (2015) noted 10 risk factors that have been linked to increased suicidal behavior: having made previous suicide attempts, frequent suicidal ideation, co-occurring physical and mental health disorders, co-occurring substance use disorders, differences in brain chemistry, use of certain medications, trauma/family violence history, financial stressors, easy access to lethal means, or exposure to suicide of close family member. A systemic review of 12 studies by Chan et al. (2016) evaluated the strength of evidence of risk factors and their association with suicide following self harm; finding strong evidence for previous episode of self harm, male gender, suicidal intent, and physical health problems; moderate evidence for history of psychiatric contact, alcohol misuse and economic status. In their consensus-based guide for caring for suicidal patients in the ED, Capoccia and Labre (2016) recommend that a comprehensive assessment of risk and protective factors should be completed after identification of risk. The 2012 National Strategy for Suicide Prevention identified risk factors (Native American, bereaved by suicide, individuals in child welfare or justice settings, individuals who engage in non-suicidal self injury, previous suicide attempts, chronic medical conditions, mental health or substance abuse disorders, LGBT population, veterans/armed forces, men in midlife or older) and protective factors (child at home, intact marriage, positive therapeutic relationship with a counselor, optimistic outlook, employment, and religious/spiritual teachings against suicide) as important parts of assessment (Office of the Surgeon General, 2012).

Another common theme in the literature is the lack of strong evidence for any given suicide screening tool. It was noted in several reviews that false positives are a concern, which could lead to unnecessary hospitalizations. In no review were any adverse effects noted to administering a screening tool. Nelson et al. (2017) noted that the low incidence of suicide

presents a challenge to research because predictive values are impacted by the low incidence. In could be that new research methods are called for to properly evaluate suicide risk screening tools.

Setting and population

The Unity Center for Behavioral Health (UBH) is a psychiatric hospital that opened up in January of 2017. It has a psychiatric emergency service (PES) with 30 beds and often sees between 30-50 patients a day. There are 80 adult inpatient beds and 22 pediatric beds. The PES sees adults only (age 18+). The inpatient beds are filled with a patient from the PES as soon as they become available. The hospital generally runs at full capacity and patients wait in PES for beds as long as 72 hours (A. Hughes, personal communication, September 5, 2017). The implementation site for this proposed project will be in the PES.

The patient population at UBH are often lower income and on the Oregon Health Plan, Medicare, or Medicaid as well as private insurance. The PES patients are 18 and above. Portland has a high homeless population, which constitutes a significant portion of PES patients. There are also many dual diagnosis patients with methamphetamine, alcohol, and heroin abuse common to the patient population (A. Hughes, 2017). The target population for this project will be patients (18+) who present to UBH PES with suicidal ideation and answer yes to 4 specified questions on the C-SSRS.

Primary participants in the project were providers in the UBH PES, which include four psychiatric and mental health nurse practitioners (PMHNP) and ten psychiatrists. Additional participants were members of the QI team.

Implementation

Originally the intervention of this project was to be the introduction of risk and protective factors into the suicide risk assessment documentation. On April 15, 2017, the Joint Commission made their first visit to the Unity Center and mandated that these be immediately added to the charting. It was done quickly and without any formal training, with the intention of creating a more permanent suicide assessment documentation template in the next few years. With that the focus of this project changed to evaluating the impact of the addition of risk and protective factors and to inform the eventual creation of the next template. The data and information from this project will inform the next plan-do-study-act cycle in the evolution of the PES suicide assessment.

The plan-do-study-act (PDSA) method of quality improvement was chosen for it's effectiveness in organizations that have a constant need for improvement and its model of enacting small changes can be done with fewer resources (Crowl et al., 2015). In a literature review by Taylor et al. (2014), they identify 5 key features of the PDSA method: multiple cycles must be used, there must be tests of change that are prediction based, the testing must occur on small scales, data must be used over time, and application of the method must be documented. This method was chosen because some the process of changing the assessment process has begun but another phase will occur with an upcoming EPIC build to create a more permanent so solution to the Joint Commission mandate. The cyclical nature of the PDSA cycle is well suited as this project falls in the 'study' portion of the PDSA cycle. This project will inform the next cycle, which will be a next generation suicide assessment documentation in EPIC and the possible addition of a safety planning tool.

Crowl et al. (2015) note that there are 3 kinds of measures used in quality improvement: outcome measures, process measures and balancing measures. The outcome measure was the

percentage of qualifying patients who were admitted to the hospital before the addition of risk and protective factors to the assessment versus percentage of similar patients admitted after the addition of risk and protective factors. The rationale for using this data was false positives in using the C-SSRS alone may lead to unnecessary admissions and patients may be able to be diverted to a lower level of care. The second outcome measure will be length of stay both groups. This measure was used because theoretically having a more focused assessment could shorten the inpatient stay as the patient will have identified protective factors to build upon.

The quality improvement (QI) and the EPIC teams assisted this writer in running two sets of reports. The reports included aggregate admission rates for all patients identified as highest suicide risk during defined periods before and after the addition of the risk and protective factors to the documentation. For the sake of this project, highest risk patients were identified if they answered yes to four questions on the C-SSRS indicating wish to be dead, suicidal thoughts, suicidal intent with specific plan and history of suicidal behavior. The first set of data was the period from 2/28/17- 3/30/17 and the second set was from 5/28/17- 6/29/17. The second report was length of stay of admitted patients in both groups. All chart data was from the electronic health record (EHR) used by Unity, Epic systems. This project was granted an exemption by Legacy Health System's and Oregon Health Science University's Institutional Review Boards.

An additional measure used was a single question on the patient satisfaction survey gauging if the patient felt that discharge planning was complete, appropriate, safe and fully explained to them. The rating choices were strongly agree, agree, disagree, or strongly disagree. The final component was an eight-question survey sent to the providers to gain insight into their perceptions on the impact of the change to the suicide assessment. The rating choices for this

survey were strongly agree, agree, neutral, disagree, or strongly disagree. The surveys were sent out to all ten psychiatrists and four nurse practitioners and all 14 recipients responded.

The primary unintended consequence was a result of one of the questions on the survey about safety planning. This led to an informal conversation between nurses, social workers and providers about the use safety planning templates. A template started being used very informally and when the Oregon Health Authority visited the PES and asked about safety planning templates, the staff was able to provide examples and say that Unity PES is in the early stages of using them. There were no other significant unintended consequences.

A primary challenge for gathering data was the newness of the hospital. Much of the data gathering has only begun. For example, patient satisfaction surveys were not collected the first few months of opening. The first month they were collected were in April of 2018, which was the month that the new suicide assessment was started. Only 3 surveys were collected that month and response numbers remain low for subsequent months.

Outcomes

The first set of data (from 2/28/17- 3/30/17) found the admission rate to be 0.297, meaning 29.7 % of all patients (who answered ‘yes’ to the questions on the C-SSRS indicating wish to be dead, suicidal thoughts, suicidal intent with specific plan and history of suicidal behavior) were admitted. The second set of data of similar patients (from 5/28/17- 6/29/17) indicated that admission rate decreased slightly to 0.278, meaning 27.8% patients sharing the same risk level were admitted. The mean length of stay (LOS) of the first set of patients was 10.32 days and the median LOS was 9 days. The mean LOS of the second set of patients slightly increased to 10.68 days while the median LOS decreased to 7 days. This is significant as the

removal of the outliers with long lengths of stay provides a more accurate representation of this data point.

The first set of patient satisfaction scores that were tracked were the month of April of 2017. Of the 3 surveys returned, 100% felt that the plans for their discharge from the PES were safe and complete. The following month there were seven responses and only 71% felt that their plans for discharge were safe and complete. The next month with a sample size above 2 is January of 2018, out of 13 surveys returned, 62% agreed that their discharge plans were safe and complete. Due to the small sample sizes, more patient survey data will need to be collected in the future for a more accurate measure.

All 14 of the providers returned their surveys. Only 7/14 agreed/strongly agreed that the addition of risk and protective factors influenced their risk assessment formulation. Only 4/14 providers agreed/strongly agreed that the addition influenced their decision to admit and only 5/14 agreed/strongly agreed that it influenced their decision to admit. Only 5/14 agreed/strongly agreed that the C-SSRS coupled with risk/protective factors provides a satisfactory template for suicide risk assessment. 10 out of 14 agreed/strongly agreed that it would be useful to have additional information embedded in the risk assessment template. 9 providers agreed that having a safety-planning template embedded in the safety assessment would be useful.

The minimal decrease in admission rates was a surprise. Given that the literature reported that the C-SSRS and most screening tool alone could lead to false positives (Chan et al., 2006) and the use of an in instrument with additional clinical assessment could reduce admissions (Grant and Lusk, 2016); the admission rates did not support this. The reduction in median LOS from 9 to 7 days may support the use of risk and protective factors. Having a sense of protective factors may provide a therapeutic basis that contributed to the reduction. The lack of change in

admission data aligned with the providers' input as there was not a strong feeling that it influenced their decision to admit or treatment setting. Two things that were made clear by the provider survey answers were the need to add additional assessment data to the next assessment template and the need to formally add a safety-planning template.

The change on the system was minimal. No additional costs were incurred as the data was already available, so the only additional step was working with the quality improvement team to pull the specific data. The survey took 10 minutes or less, so there was minimal impact on the providers.

Conclusion

This quality improvement initiative attempted to measure the impact of the addition of risk and protective factors to the PES suicide assessment by utilizing patient admission rates, length of stay data, patient satisfaction data and a provider survey. While the addition did not decrease admission rates, it may have been related to a two-day reduction in LOS. Although the provider responses did not largely indicate this impacted their admission decision or care planning, they did call for more assessment information in documentation and the addition of a safety planning tool. The patient satisfaction response rates were too low to use at this time.

One important future direction is an increase in monitoring patient satisfaction data relating to perceived safety of discharge, obtaining greater survey numbers. Patient experience could provide invaluable insight into the effectiveness of the future directions in suicide assessment. Another direction is qualitative interviewing of providers to determine additional information for development phase of the suicide assessment documentation. As there was much support for this, another step is to implement a safety-planning tool to be used for all patients

who are determined to be at increased risk. A future project could be to work with the inpatient team to assess whether their LOS decisions are influenced by the risk and protective factors.

The realm of suicide prevention has many opportunities for quality improvement. From as high up as the Office of Surgeon General to the front lines at hospitals such as Unity Center for Behavioral Health, there is a renewed commitment to finding and implementing new methods of suicide prevention and assessment. Measuring data around the success of suicide prevention is a difficult task as the incidence of suicide is low, so different measures need to be utilized to gauge the effectiveness of suicide assessment and treatment.

Figure 1. Questionnaire and results

1)	The inclusion of the drop down risk and protective factors menu has influenced my suicide risk assessment formulation.		
	a) Agree/Strongly agree	0.50	7
	b) Neither agree nor disagree	0.07	1
	c) Disagree/strongly disagree	0.43	6
2)	Sufficient training was given on how to utilize risk/protective factors in suicide risk assessment.		
	a) Agree/Strongly agree	0.57	8
	b) Neither agree nor disagree	0.21	3
	c) Disagree/strongly disagree	0.21	3
3)	The Columbia Suicide Severity Rating Scale (C-SSRS) coupled with risk/protective factors provides a satisfactory template for suicide risk assessment.		
	a) Agree/Strongly agree	0.36	5
	b) Neither agree nor disagree	0.29	4
	c) Disagree/strongly disagree	0.36	5
4)	It would be useful to have additional information embedded in the EPIC suicide risk assessment.		
	a) Agree/Strongly agree	0.71	10
	b) Neither agree nor disagree	0.07	1
	c) Disagree/strongly disagree	0.21	3
5)	The inclusion of risk and protective factors in the EPIC suicide risk assessment has influenced my decision to admit a patient to inpatient.		
	a) Agree/Strongly agree	0.29	4
	b) Neither agree nor disagree	0.57	8
	c) Disagree/strongly disagree	0.14	2
6)	The inclusion of risk and protective factors in the EPIC suicide risk assessment has influenced the most appropriate treatment setting for each patient.		
	a) Agree/Strongly agree	0.36	5
	b) Neither agree nor disagree	0.36	5
	c) Disagree/strongly disagree	0.29	4
7)	The psychiatric emergency service (PES) providers have had sufficient input in crafting the suicide risk assessment EPIC template.		
	a) Agree/Strongly agree	0.07	1
	b) Neither agree nor disagree	0.43	6
	c) Disagree/strongly disagree	050	7
8)	It would be useful to have a safety-planning tool embedded in the suicide risk assessment charting.		
	a) Agree/Strongly agree	0.64	9
	b) Neither agree nor disagree	0.21	3
	c) Disagree/strongly disagree	0.14	2

Table 1. Admit and LOS data

	Admit %	Discharge %	Transfer %	LOS Days Mean	LOS Days Median
2/28/17- 3/31/17	0.296	0.678	0.026	10.32	9
5/28/17- 6/29/17	0.278	0.695	0.027	10.68	7

References

A. Hughes, personal communication, September 5, 2017

About the Scale . (n.d.). Retrieved September 3, 2017, from http://cssrs.columbia.edu/the-columbia-scale-c-ssrs/about-the-scale/

American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders (DSM-5®).* American Psychiatric Publication.

Bernert, R. A., Hom, M. A., & Roberts, L. W. (2014). A review of multidisciplinary clinical practice guidelines in suicide prevention: toward an emerging standard in suicide risk assessment and management, training and practice. *Academic psychiatry*, *38*(5), 585-592.

Boudreaux, E. D., Brown, G. K., Stanley, B., Sadasivam, R. S., Camargo Jr, C. A., & Miller, I. W. (2017). Computer administered safety planning for individuals at risk for suicide: development and usability testing. *Journal of medical internet research*, *19*(5).

Capoccia, L., & Labre, M. (2015). Caring for adult patients with suicide risk: A consensus-based guide for emergency departments. *Education Development Center, Inc, Suicide Resource Prevention Center, Waltham, MA.*

Chan, M. K., Bhatti, H., Meader, N., Stockton, S., Evans, J., O'connor, R. C., ... & Kendall, T. (2016). Predicting suicide following self-harm: systematic review of risk factors and risk scales. *The British Journal of Psychiatry*, bjp-bp.

Curtain, S., M.A., Warner, M., Ph.D, & Hedegaard, H., M.D. (2016, April). Increase in Suicide in the United States, 1999-2014. Retrieved September 2, 2017, from https://www.cdc.gov/nchs/products/databriefs/db241.htm

Crowl, A., Sharma, A., Sorge, L., & Sorensen, T. (2015). Accelerating quality improvement within your organization: applying the model for improvement. *Journal of the American Pharmacists Association*, *55*(4), e364-e376.

Grant, C. L., & Lusk, J. L. (2015). A multidisciplinary approach to therapeutic risk management of the suicidal patient. *Journal of multidisciplinary healthcare*, *8*, 291.

Haney, E. M., O'Neil, M. E., Carson, S., Low, A., Peterson, K., Denneson, L. M., ... & Kansagara, D. (2012). Suicide risk factors and risk assessment tools: a systematic review.

Joint Commission. (2014). National Patient Safety Goals Effective January 1, 2014. Hospital Accreditation Program.

Klonsky, E. D., May, A. M., & Saffer, B. Y. (2016). Suicide, suicide attempts, and suicidal ideation. *Annual review of clinical psychology*, *12*, 307-330.

Knesper, D. J. (2010). *Continuity of care for suicide prevention and research: Suicide attempts and suicide deaths subsequent to discharge from the emergency department or psychiatry inpatient unit*. Newton, MA Suicide Prevention Resource Center.

Mateo, M. A., & Foreman, M. D. (Eds.). (2013). *Research for advanced practice nurses: From evidence to practice*. Springer Publishing Company.

National Action Alliance for Suicide Prevention, R. T. F. (2014). A prioritized research agenda for suicide prevention: an action plan to save lives. *Rockville, MD: National Institute of Mental Health and the Research Prioritization Task Force*.

Nelson, H. D., Denneson, L. M., Low, A. R., Bauer, B. W., O'Neil, M., Kansagara, D., & Teo, A. R. (2017). Suicide Risk Assessment and Prevention: A Systematic Review Focusing on Veterans. *Psychiatric Services*, appi-ps.

Nock, M. K., Borges, G., Bromet, E. J., Cha, C. B., Kessler, R. C., & Lee, S. (2008). Suicide and suicidal behavior. *Epidemiologic reviews*, *30*(1), 133-154.

Office of the Surgeon General (US, & National Action Alliance for Suicide Prevention (US. (2012). 2012 National Strategy for Suicide Prevention: goals and objectives for action: a report of the US Surgeon General and of the National Action Alliance for Suicide Prevention.

Quinlivan, L., Cooper, J., Davies, L., Hawton, K., Gunnell, D., & Kapur, N. (2016). Which are the most useful scales for predicting repeat self-harm? A systematic review evaluating risk scales using measures of diagnostic accuracy. *BMJ open*, *6*(2), e009297.

Runeson, B., Odeberg, J., Pettersson, A., Edbom, T., Adamsson, I. J., & Waern, M. (2017). Instruments for the assessment of suicide risk: A systematic review evaluating the certainty of the evidence. *PLoS one*, *12*(7), e0180292.

Substance Abuse and Mental Health Services Administration (SAMHSA). (Ed.). (2015). NREPP Learning Center Literature Review: Suicide Prevention. Retrieved September 1, 2017, from http://nrepp.samhsa.gov/Docs/Literatures/NREPP%20Learning%20Center%20Lit%20Review_%20Suicide%20Prevention.pdf

Taylor, M. J., McNicholas, C., Nicolay, C., Darzi, A., Bell, D., & Reed, J. E. (2013). Systematic review of the application of the plan–do–study–act method to improve quality in healthcare. *BMJ Qual Saf*, bmjqs-2013.

Unity Center for Behavioral Health (2017). Unity Provider Updates (Powerpoint Slides).

World Health Organization (Ed.). (n.d.). Suicide Data. Retrieved September 2, 2017, from http://www.who.int/mental_health/prevention/suicide/suicideprevent/en