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Implementing and Sustaining Zero Suicide: Health Care System Efforts to Prevent Suicide

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IMPLEMENTING AND SUSTAINING ZERO SUICIDE: HEALTH CARE SYSTEM EFFORTS TO PREVENT SUICIDE

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Acronyms

The following acronyms are mentioned in this report and/or appendices.

ACO	Accountable Care Organization
AIM-SP	Assess, Intervene, and Monitor for Suicide Prevention
AMSR	Assessing and Managing Suicide Risk
ASPE	Office of the Assistant Secretary for Planning and Evaluation
ASSIP	Attempted Suicide Short Intervention Program
B-CBT	Brief Cognitive Behavioral Therapy for Suicide Prevention
C-CFP	
C-SSRS	Columbia Suicide Severity Rating Scale
CC-HRFP	Centerstone Crisis High Risk Follow-up Program
CBT	Cognitive Behavioral Therapy
CBT-SP	Cognitive Behavioral Therapy for Suicide Prevention
CCO	Chief Clinical Officer
CEO	Chief Executive Officer
CMI	Kaiser Permanente Care Management Institute
COVID-19	Novel Coronavirus
CRP	Crisis Response Plan
DBT	Dialectical Behavior Therapy
EHR	Electronic Health Record
HFHS	Henry Ford Health System
HRSA	Health Resources and Services Administration
HVBP	Hospital Value-Based Purchasing
IHS	Indian Health Services
KPNW	Kaiser Permanente Northwest
MHALO	Mental Health and Addiction Leaders of Operations
MHCGM	Mental Health Center of Greater Manchester
NAMI	National Alliance on Mental Illness
NIMH	National Institute of Mental Health
ODMHSAS	Oklahoma Department of Mental Health and Substance Abuse Services
PHQ	Patient Health Questionnaire
QPR	Question, Persuade, Refer training
QPRT	Question, Persuade, Refer, Treat training
RQ	Research Question

SAMHSA	Substance Abuse and Mental Health Services Administration
SBIRT	Screening, Brief Intervention, and Referral to Treatment
SPC	Suicide Prevention Coordinator
TMBI	Teachable Moment Brief Intervention
TSPN	Tennessee Suicide Prevention Network
UHS	Universal Health Services
VP	Vice President

Executive Summary

Among people in the United States who die by suicide, about half received health care services in the 30 days prior to their death.[1] Health systems can play a central role in suicide prevention by identifying those at elevated risk of suicide and by providing the treatments and other interventions that are supported by the best available evidence. Zero Suicide is a system-wide change to improve the quality and safety of care for those at risk of suicide; it strives to prevent all suicide deaths among patients. A toolkit (https://zerosuicide.sprc.org/toolkit) and numerous resources have been developed to guide health systems in the implementation of Zero Suicide. The purpose of this study was to identify additional examples of Zero Suicide implementation and describe approaches to sustaining Zero Suicide financially and operationally. Challenges to implementation and sustainability were identified, as were approaches to overcoming those challenges.

Review of the Literature

The published literature has highlighted select challenges to implementing Zero Suicide. For example, providers may be initially skeptical of the idea of Zero Suicide, and ongoing training is needed to support providers. Additionally, different identification strategies are used across health systems, resulting in different thresholds of suicide risk. Regular oversight of the identification, engagement, and treatment approaches is needed to maintain fidelity to protocols.

The details in the published and grey literature about sustaining Zero Suicide are much less extensive than those regarding implementation. Several organizations have received federal grants to support their implementation of Zero Suicide. A report was also published on approaches to financing suicide prevention among health care systems.[2] Although several studies have explored the potential cost-effectiveness of elements of Zero Suicide, no rigorous evaluations of the overall cost-effectiveness of Zero Suicide have been conducted.

Case Studies

To gather additional information on the implementation and sustainability of Zero Suicide, we conducted case studies with eight health systems from across the country. These recruited case study sites include integrated health systems and organizations specializing in only behavioral health. We spoke with up to nine individuals who had been involved in Zero Suicide at each organization, ranging from Chief Executive Officers (CEOs) to physical and behavioral health providers.

Early Adoption

Although the specific approaches to early adoption varied across organizations, all organizations described initial commitments from key senior leadership as a prerequisite for next stages of adoption and implementation of Zero Suicide. Each organization obtained

preliminary information about Zero Suicide through a combination of workshops, trainings, and workforce surveys to determine implementation steps. Additionally, all organizations created or identified suicide prevention steering committees to facilitate implementation.

Ongoing Implementation

Ongoing implementation of Zero Suicide involved establishing and embedding Zero Suicide activities into everyday practice and changing staff culture around willingness to address suicide risk in their day-to-day work. Some providers struggled to accept the responsibilities of identifying and addressing suicide risk, especially in the case of primary care providers who did not have the requisite training in mental health and suicide prevention. In response, organizations provided ongoing training and expanded integrated services with behavioral health care. Organizations also used standardized guidelines and protocols to help codify necessary shifts to workflow for enhancing suicide prevention within their organizations.

Growth

To facilitate growth in their implementation of Zero Suicide, organizations leveraged community partnerships to carry out specific aspects of implementation, expand reach of suicide prevention practices to wider service areas, and provide further education and outreach to the community. Additionally, sites incorporated internal checks to ensure that Zero Suicide protocols were maintained, or improved, so that the needs of the patient population were met. Information sharing across electronic health records (EHRs) posed challenges for some organizations; however, dashboards and centralized documents for tracking key process and outcome measures helped identify areas for growth and improvement.

Sustainability

Organizations shared that the decision to implement and sustain Zero Suicide was founded in a desire to save lives and improve the quality of care, not to save money. Many of the case study organizations allotted substantial internal funding to implement Zero Suicide and train staff; however, they also described the ongoing maintenance costs of Zero Suicide as minimal. Some elements of Zero Suicide (e.g., screening, safety planning, follow-up calls) were described as low-cost but having a high-impact. Over time, all but one of the organizations in the case studies diversified their funding of Zero Suicide through a variety of external funding opportunities. The organizations also observed that their investments in Zero Suicide helped offset other costs of care for patients.

Some providers and leaders expressed that a greater concern than financial sustainability was sustaining fidelity to their implemented Zero Suicide protocols and practices. Organizations mentioned that monitoring and sharing success stories was crucial to

sustaining the work. Strategic community partners were also an important part of sustaining the work of Zero Suicide and making it part of the community's identity and not just the organization's identity.

Policy and Practice Implications

The findings from this study have implications for health systems, state and community leaders, and national funders and decision makers. Health systems that are planning to implement Zero Suicide can expect large upfront costs to implement training and facilitate a shift in the culture around suicide prevention, but smaller ongoing costs once activities are integrated into daily practices and protocols. These changes, however, can result in cost offsets and improvement in the overall quality of patient care. Health systems can also leverage or develop community partnerships to alleviate some costs and become recognized leaders for preventing suicide.

State and community leaders can assist in the sustainability of Zero Suicide by developing networks and coalitions that offer training, mentorship, and when possible, funding to support Zero Suicide initiatives in health systems. State Medicaid agencies can also develop reimbursement opportunities for elements of Zero Suicide that are evidence-based and cost-effective. State laws can also be developed to support suicide prevention, such as suicide prevention training requirements and follow-up requirements among those at increased risk of suicide.

The continued support from national funders such as the Substance Abuse and Mental Health Services Administration (SAMHSA), Indian Health Service (IHS), and Health Resources and Services Administration (HRSA) is particularly helpful to support start-up costs related to training, establish monitoring programs and evaluations, and expand Zero Suicide within or across multiple organizations and health care settings. Health insurance companies are often the main beneficiaries of the cost offsets resulting from Zero Suicide implementation. They can play a role in reimbursing suicide prevention activities (e.g., suicide screening, brief intervention, and referral to treatment [SBIRT]) and using the mechanisms of accountable care organizations (ACOs) and hospital value-based purchasing (HVBP) to allow for shared savings among health systems that transform their approach to addressing suicide. Nationally, wider support of suicide prevention training integrated with clinical training programs can also help alleviate cost on health systems and improve the nation's ability to prevent suicide.

Conclusions

Study findings suggest that there are many different paths to implementing, and sustaining, Zero Suicide within health care organizations. However, a common commitment to prioritizing the identification and support of those at risk of suicide leads to improved quality of care, cost offsets, and anecdotal evidence of lives saved. The continued support of state and community leaders and national funders and decision makers can make Zero Suicide more easily sustainable across the United States.

1. Introduction

Suicide is a significant public health problem in the United States, and health care systems can play a critical role in preventing suicide. Among individuals who die by suicide, roughly half visited a health care setting in the 30 days preceding their death.[1,3-5] About one-quarter of suicide deaths are among individuals who are actively receiving mental health treatment.[6] Although many psychological, biological, social, environmental, cultural, and historical factors influence an individual's suicide risk,[7] some health care organizations have taken a proactive approach to identifying and addressing suicide risk among their patients.

The U.S. Air Force provides an early example of a health care system enacting a system-wide approach to preventing suicide.[8] From 1990 to 2002, the Air Force implemented a multilayered intervention that included both community prevention efforts (e.g., social service provider involvement) and identification of individuals at risk for suicide in a health care system to facilitate their pathway to recovery and healing. The Air Force saw a 33% reduction in suicide deaths during this intervention.[8]

Another pioneering example in suicide prevention is the Perfect Depression Care program, which was developed within the HFHS following the 2001 Institute of Medicines *Crossing the Quality Chasm* report.[9] The goal of this program was to eliminate suicide by improving patient partnerships, clinical care, treatment access, and information flow. Over the initial 4-year follow-up study, suicide rates among mental health patients were reduced by 75%, from approximately 89 per 100,000 to 22 per 100,000.[10] As the HFHS has continued to invest in suicide prevention efforts, they have seen sustained reductions in the suicide rates among their mental health patient population.[11]

This early evidence of the impact that health care systems can have on reducing suicide rates led to establishing specific goals within the 2012 National Strategy on Suicide Prevention.[12] Namely, Goal 8 promotes suicide prevention as a core component of health care services, and Goal 9 promotes and implements effective clinical and professional practices for assessing and treating those identified as at risk for suicidal behaviors. In the same year, the National Action Alliance for Suicide Prevention's Clinical Care and Intervention Task Force reported on common factors that were key to the success that health care programs had in preventing suicide.[13,14] The task force recommended that the comprehensive approach taken by health care systems be called Zero Suicide.

Since that recommendation was made, a comprehensive toolkit has been created to guide implementation (https://zerosuicide.sprc.org/toolkit), and Zero Suicide has been implemented in hundreds of facilities and health systems across the United States.[i] The Surgeon General has also recently reiterated the need to adopt evidence-based care for

[i] To date, the Zero Suicide Institute estimates that more than 1,000 health care organizations are trying to implement Zero Suicide.

suicide risk in health care organizations.[15] Practice-based evidence has accumulated around the effectiveness of Zero Suicide in reducing emergency department visits, hospitalizations, and deaths. National studies are also being conducted to rigorously evaluate the impact of Zero Suicide initiatives that span multiple clinics and health systems.[16,17] Recently, two peer-reviewed studies were published on positive outcomes associated with Zero Suicide. One study in Australia found that individuals who participated in the Zero Suicide clinical suicide prevention pathway experienced significantly lower risk of repeated suicide attempts within 90 days of the first attempt.[18] In the United States, a study also found that increased fidelity to Zero Suicide practices resulted in a significantly decreased likelihood of suicide-related incidents.[19]

Currently, little is known about how organizations sustain the Zero Suicide initiative. SAMHSA has implemented three rounds of funding for Zero Suicide, but this funding only reaches a select number of health care organizations. It is unclear how organizations not receiving federal funding choose to implement and financially sustain their suicide prevention efforts. It is also unclear how organizations financially sustain their efforts after they have completed a grant related to suicide prevention.

This report was commissioned by the Office of the Assistant Secretary for Planning and Evaluation (ASPE) to better understand how organizations choose to implement and sustain a Zero Suicide initiative. In particular, the goal of this report is to address the following research questions (RQs):

1. How have organizations implemented Zero Suicide practices?
2. How have organizations sustained Zero Suicide practices?
3. Which components of Zero Suicide were most difficult to implement and sustain, and how were these difficulties overcome?

To answer these questions, we first reviewed the literature and consulted with subject-matter experts. **Section 2** presents the results of this review. We then conducted in-depth discussions with providers and leaders at eight health care organizations that implemented Zero Suicide. **Section 3** summarizes the findings from these discussions, and **Appendix A** has additional details about each of the case studies. **Section 4** concludes the report by highlighting policy and practice implications for health care organizations and potential funders and supporters of Zero Suicide.

2. Evidence from the Literature

2.1 Methods

The following key words were searched in pubmed.gov, Google Scholar, and general internet search engines: Zero Suicide, suicide prevention, health care systems, suicide, suicide intervention, health systems, vision zero. A snowball method was also adopted to identify material related to Zero Suicide, beginning with HFHS publications[10,20] and reports from the Zero Suicide Institute websites (e.g., zerosuicide.sprc.org, zerosuicideinstitute.com). Four subject-matter experts (Brian Ahmedani of Henry Ford Health, Julie Goldstein Grumet of the Education Development Center, Barbara Stanley of Columbia University, and Virna Little of the City University of New York) were also consulted to learn of any published or unpublished articles and presentations related to the implementation and sustainability of Zero Suicide.

2.2 Implementing Zero Suicide

Zero Suicide for health care systems was defined in the literature as a system-level or organization-level approach to directly address suicidal behaviors, to continually improve the quality and safety of care processes, and to strive for the aspirational goal of zero suicide deaths.[21] A Zero Suicide Toolkit was developed by the Suicide Prevention Resource Center to guide health care systems in implementing this approach and initiative (https://zerosuicide.sprc.org/toolkit). The toolkit outlines seven categories of activities, or "pillars" for preventing suicide within a health care system:[22]

1. LEAD system-wide culture change committed to reducing suicides.
2. TRAIN a competent, confident, and caring workforce.
3. IDENTIFY individuals at risk of suicide via comprehensive screening and assessment.
4. ENGAGE all individuals at risk of suicide using a suicide care management plan.
5. TREAT suicidal thoughts and behaviors using evidence-based treatments.
6. TRANSITION individuals through care with warm hand-offs and supportive contacts.
7. IMPROVE policies and procedures through continuous quality improvement.

Additional materials were also found in the literature that show how Zero Suicide can be operationalized within a health care organization. For example, HFHS has developed detailed Zero Suicide Prevention Guidelines that are publicly available.[23] Stanley and colleagues also developed the Assess, Intervene, and Monitor for Suicide Prevention (AIM-SP) model as a guide for implementing Zero Suicide in New York outpatient clinics.[17,24,25]

2.2.1 Experiences Implementing Zero Suicide

Two organizations that helped test the implementation of the Zero Suicide Toolkit were Centerstone, a large behavioral health nonprofit that implemented Zero Suicide at its locations in Tennessee and Indiana, and the Institute for Family Health in New York.[13] These organizations reported high adoption of the protocol. Within the first 2 years of beginning Zero Suicide work, Centerstone initially saw a 64% reduction in suicide rate from October 2012 to April 2015 among its patients.[13] This rate has slightly fluctuated throughout the years.

At the time this report was written, two large implementation and effectiveness studies on Zero Suicide are being conducted in the United States. One is with approximately 200 licensed freestanding or state-operated mental health clinics in New York and is expected to conclude in 2021.[17,25] It uses the AIM SP model to guide its implementation approach and is tracking protocol adoption, implementation barriers and facilitators, and outcomes such as suicidal behaviors, hospitalizations, and emergency department visits. The other is a 5-year study involving the HFHS and several Kaiser Permanente sites across the country that is expected to end in 2022.[16,26] This study is investigating suicide attempt and mortality outcomes across the multiple health systems. Thus far, both studies have found large variability in how Zero Suicide is practiced within each participating site. For example, the sites differ in the screening tools they use, in their levels of behavioral health and primary care integration, in the suicide-specific treatments they offer, and in the type and frequency of follow-up contacts after hospitalizations or emergency department visits.

The Suicide Prevention Resource Center has also developed several Zero Suicide Outcome Stories that provide examples of how organizations have implemented Zero Suicide and the practice-based evidence that they have begun to observe regarding the effectiveness of Zero Suicide (https://zerosuicide.edc.org/evidence/outcome-stories).

Although each organization presented in the published Outcome Stories has approached Zero Suicide differently, there were several commonalities across their implementation activities. Nearly all health systems reported that their implementation began with key leadership individuals (e.g., clinical directors, vice presidents [VPs], directors of quality management) attending a Zero Suicide Academy training. Roughly half of the organizations administered a workforce survey to assess staff knowledge, practices, and confidence in providing suicide care. All facilities trained either clinical staff or all facility staff in suicide prevention techniques suitable to their positions. To identify at-risk patients, two-thirds of facilities reported using the Columbia Suicide Severity Rating Scale (C-SSRS), whereas one-third of facilities began their screening with the Patient Health Questionnaire (PHQ). Following identification, the most-common practice to engage patients in a dialogue around suicide prevention was the Stanley and Brown Safety Planning method, which helps patients identify and record warning signs, internal coping strategies, people and social settings that

provide distraction, people they can contact for help, and ways to create a safe environment.[27]

Half of the facilities preparing safety plans also reported in their Outcome Stories that they counseled their patients on safe storage and access to lethal means. Many facilities also had established protocols for monitoring patient records and tracking death reports. These common elements align closely with the seven pillars of preventing suicide outlined in the Zero Suicide toolkit.

2.2.2 Implementation Challenges with Zero Suicide

Among the less publicized aspects of Zero Suicide are the challenges that health care systems have faced and how they have overcome these challenges. A few themes, however, have emerged within the literature regarding the challenges across each of the seven pillars of activities described in the Zero Suicide Toolkit. These challenges are described below.

Lead

One of the largest obstacles in implementation appears to be the cultural change needed across the system.[13] Many providers are skeptical about their organization's ability to prevent suicide and ultimately achieve zero suicide deaths.[28-30] In an ongoing study of Zero Suicide in Massachusetts, researchers found that 44% of their clinician respondents disagreed that most or all suicide deaths are preventable.[31] There is also concern about being liable for someone's suicide death.[29]

However, experiences from health systems implementing Zero Suicide have shown that a culture shift that spans across the multiple settings and layers of an organization can happen with committed leadership.[32]

Train

Many providers, even after training, do not feel comfortable performing clinical tasks required to identify and care for someone at increased risk of suicide,[24,31,33] such as safety planning with a patient. This challenge highlights the need for continued assessment of providers' confidence and abilities in implementing suicide prevention activities. Such assessments can guide health systems' continued efforts to offer tailored follow-up trainings. Additionally, research suggests that even brief trainings can have a positive impact on improving professionals' skills and confidence to address suicide.[34]

Another challenge with training is staff turnover. Vermont has reported challenges with staff turnover among those who receive specialized training in suicide-focused care.[35] This turnover results in ongoing investments in training and potential disruptions in offering high-quality evidence-based therapy to patients. Moreover, costs are incurred through training and loss of revenue when staff are taken offline to train, particularly in fee-for-service environments.

To minimize the burden of suicide prevention training on health systems, some researchers have proposed the implementation of Zero Suicide training in medical residency programs.[36]

Identify

Because there is not one universal screening tool currently recommended across health care settings, some multisite health systems struggle to standardize suicide-risk screening across sites.[37] Screening tools vary in their approach for identifying suicide risk. For example, an individual may say they are having thoughts of killing themselves right now, which, with the Ask Suicide Screening Questions screening tool, would classify them as an acute positive screen;[38] however, with the C-SSRS they might only be classified as moderate risk if they do not have a strong intent to act on those thoughts nor any specific plans. As a result, the threshold for placing a patient on a suicide-specific treatment pathway varies across sites. Some organizations also struggle with having a clear place to record the results of the screening tools within the medical record,[37] which compromises the standardization and accurate recording of suicide-risk information.

Other researchers have emphasized the need to maintain and understand the patient's narrative around suicidal risk and behaviors despite the use of structured screening instruments.[39] Provider training can enable providers with the skills to listen to the patient's narrative and to better understand the risk of suicide.

A developing focus within the identification element of Zero Suicide is how providers incorporate less-overt symptoms and risk factors when assessing an individual's overall risk for suicide.[40] Many screeners and assessments focus on the explicit communication of suicidal ideation. When assessing suicide risk, some of the more experienced providers may also consider less-overt risk factors, such as hopelessness and perceived burdensomeness, to determine their patients' suicide risks.[40] Incorporating these and other risk factors with suicide screeners and assessments will allow providers to more consistently and more comprehensively understand their patients' suicide risks.

Another developing identification strategy is the use of machine-learning techniques with data available in the medical records to predict suicide risk and flag individuals in need of outreach.[41,42] Although this approach has shown accurate classifications of individuals at general risk of suicide, some are concerned that these models result in high false-negative rates and that they poorly predict whether a person will die by suicide.[43] Because of this concern, these prediction models should not be used as standalone identifiers of suicide risk; however, they can help guide and enhance a provider's identification of those who may need to be engaged in suicide prevention efforts.[44]

Engage

A frequent challenge is retaining and engaging clients in treatment. In some of the clinical trials of cognitive behavioral therapy for suicide prevention (CBT-SP), researchers saw

approximately a 25% dropout or noncompletion rate among clients.[45,46] This dropout rate is very similar to those of cognitive behavioral therapy (CBT) in general.[47] A major concern when treating patients at risk of suicide, however, is worsening suicide risk after dropping out of treatment. Providing follow-up calls and caring letters after missed appointments is one approach that providers have used to try and address the suicide risk among those who drop out from treatment.[48] These follow-up and engagement protocols should be specified within a suicide care management plan (see the Zero Suicide Toolkit).

Increased availability of telehealth services during the COVID-19 pandemic may also help improve patient retention and satisfaction and reduce the number of missed appointments.[49,50,51] These improvements may lead to increased provider productivity and better provider-patient relationships, thus helping sustain the work of Zero Suicide. However, more research is needed to quantify the impact of these recent changes in how well patients engage in treatment.

Treat

Many providers lack the skills to directly treat suicide risk among patients because they were never taught those skills in their formal education.[52] Within the past couple of decades, suicide-specific treatments have been developed to help providers directly address suicide risk.[53,54] As these interventions become more widely integrated with formal training programs, more providers will be enabled to address suicide risk within the health care setting.

Some providers inconsistently conduct comprehensive safety planning with their patients.[31,34] Providers are also unlikely to counsel about firearm safety and lethal means restriction when they have not received training on how to do so.[55] Even when safety planning or lethal means restriction discussions take place, they are not always accurately recorded in the electronic medical record.[37,56,57] Because of these challenges, ongoing oversight and training are needed to help support providers and encourage high fidelity to the brief interventions for suicide prevention.

Transition

Studies have found that providing supportive contacts after psychiatric hospitalizations or emergency department visits can help reduce suicide; however, it is unclear what the most effective approaches are for offering this follow-up contact.[58] Supportive contacts can be by phone call, text message, email, or postcard. The content of these contacts varies by study, ranging from a simple message that the provider cares and can be reached when needed[59] to reassessing suicide risk and discussing coping skills.[60] As a result, health care systems struggle to determine what should be defined as adequate and effective follow-up during transitions and how it should be monitored.[37] Additional research on what is adequate

follow-up to help in transitions of care will allow health systems to better implement more-effective follow-up contacts and ensure that they are done well.

Improve

Some articles have highlighted the need for and challenges with establishing consistent definitions of suicide risk and data collection processes when implementing Zero Suicide.[16,37] Although these definitions can be challenging, they are an essential pillar for maintaining Zero Suicide efforts because they help identify what is going well and what needs to change. Not having an integrated medical and behavioral health EHR can pose additional challenges for sharing information and coordinating Zero Suicide efforts across settings and providers. To guide improvement, some health care systems use the Zero Suicide Organizational Self-Study to monitor how well they are implementing Zero Suicide.[19,33,61]

2.2.3 State Support for Implementing Zero Suicide

States enact a variety of efforts to help health care organizations overcome their challenges with implementing Zero Suicide. For example, Colorado is trying to raise additional state funds to help establish state-wide implementation of Zero Suicide.[62] Utah conducts an annual Zero Suicide Summit and has established a state-wide learning collaborative for those implementing the program.[63] Tennessee, via the Tennessee Suicide Prevention Network (TSPN), has also established a Zero Suicide Initiative Task Force to expand the implementation of Zero Suicide across other organizations within the state.[64] Missouri Department of Mental Health trained all its contracted treatment providers through a Zero Suicide Academy and have helped 28 agencies adopt three or more components of the Zero Suicide Toolkit.[65]

2.3 Paying for and Sustaining Zero Suicide

Some implementations of Zero Suicide have been funded through grant programs. In 2016, the National Institute of Mental Health (NIMH) established a grant program called Products to Support Applied Research Toward Zero Suicide Healthcare Systems.[66] Shortly thereafter, SAMHSA and the IHS established additional grant funding opportunities to support the implementation of Zero Suicide.[67,68,69,70] Across all these funding mechanisms, more than 40 health care systems or grantees have been awarded funds. Although the federal grant opportunities have played an integral role in the initial implementation of Zero Suicide across the country, they are time limited and are not sustainable, long-term solutions to maintaining Zero Suicide activities.[71]

One potential for sustaining Zero Suicide is through health insurance reimbursement for specific suicide prevention activities. The Suicide Prevention Resource Center has recently established a guidance document outlining how to bill for screening, assessment, suicide-specific treatment, and follow-up care.[2,72,73] There is no published evidence on the extent to which health care systems are using these billing codes to support Zero Suicide activities.

Several nonbillable tasks within Zero Suicide need to be supported financially by the health care system. These tasks may include staff training, data collection, data monitoring protocols, and use of staff members' time to help lead the initiative and encourage a cultural change across the organization. One approach that organizations have taken to rationalize investment in these activities is to quantify the potential cost offset or return on investment that comes from reducing suicide attempts and rehospitalizations. Wellstone Regional Hospital in Indiana experienced an 82% reduction in 90-day readmission rates, and Riveredge Hospital in Illinois experienced a 21% decrease in 30-day readmission rates.[74,75] The Chickasaw Nation Departments of Health and Family Services estimates that, because of the Zero Suicide program diverting patients from inpatient care, it saved more than $200,000 per year.[76]

There is also substantial evidence of the cost-effectiveness of specific suicide prevention activities and interventions that can be implemented as part of Zero Suicide:

- One study estimated that offering universal screening in the emergency department costs only $2,789 per additional attempt or death averted, and that offering universal screening plus additional support (i.e., safety planning, suicide hotline resources, and a series of follow-up phone calls over the course of the year based on the Coping Long Term with Active Suicide Program) costs only $5,020 per suicide attempt or death averted.[77]
- Another study examined suicide prevention activities that could be implemented in the emergency department and estimated that follow-up postcards both improved outcomes and reduced costs.[78] The study also estimated that follow-up telephone outreach costs $4,300 per life-year saved, and CBT-SP (which is the most effective but also the most expensive) costs $18,800 per life-year saved.
- A study in Belgium estimated that a suicide helpline consisting of telephone or chat services resulted in net savings of more than €2,100 (or about $2,500) per person for the society.[79]
- The Attempted Suicide Short Intervention Program (ASSIP) was evaluated in a randomized clinical trial in Switzerland.[80] The intervention consists of three manual-based therapy sessions followed by regular personalized letters over 24 months. Researchers found that the intervention had a 96% chance of being both less costly (due to reductions in hospitalizations and other health expenditures) and more effective in preventing reattempts.
- The implementation of a virtual Collaborative Assessment and Management of Suicidality protocol for suicidal patients in emergency departments was estimated to save $145 per patient from reduced personnel requirements and save hospitals an additional $412 per patient by reducing hospital readmissions by 50%.[51]
- One study conducted with suicidal U.S. Army soldiers examined the effects of brief cognitive behavioral therapy for suicide prevention (B-CBT) compared to treatment as usual.[81] It found that B-CBT averted 23-25 more suicide attempts and 1-3 more suicide deaths per 100 patients than treatment as usual did. B-CBT was estimated to save the U.S. Department of Defense $15,000-$16,630 per patient.

- One systematic review of economic evaluations examined quality improvement initiatives that help prevent hospital readmissions, such as assessing patients risk and needs, engaging patients or caregivers, reconciling medication, connecting patients to clinicians, and supplementing care by usual clinicians.[82] The review was not specific to suicide prevention interventions; however, some of the articles cited were focused on suicide prevention and the general quality improvement categories that were examined align with the main clinical pillars of the Zero Suicide initiative. The study found that, across all studies, readmissions declined by an average of 12.1%, and there were net health system savings of $972 per patient.

These studies suggest that, even without the support of grants and billing codes, implementing Zero Suicide may provide cost benefits to health systems and the society at large.

2.4 Gaps in the Literature and Purpose of Case Studies

Much practice-based evidence shows that Zero Suicide can have a substantial impact on reducing suicidal behaviors and outcomes. Documents and toolkits have been established to guide the overall implementation of Zero Suicide within health care systems. There has also been some discussion in the literature regarding challenges with implementation and guidelines for reimbursing clinical services related to Zero Suicide. The current literature, however, lacks detail on how health care systems are overcoming implementation and sustainability challenges with Zero Suicide. There is no information on approaches to funding the ongoing cost of Zero Suicide, particularly the nonbillable tasks. It is unclear which elements of Zero Suicide have the largest return on investment in suicide prevention.

To help fill these gaps in the literature, the next section of the report shares results from eight case studies of Zero Suicide. The cross-cutting themes highlight approaches to implementing and sustaining Zero Suicide and the challenges that have been encountered in the process.

3. Evidence and Experiences from Case Studies

3.1 Methods

A list of organizations that have implemented Zero Suicide was compiled through the literature review, discussions with subject-matter experts, and outcome stories available on the Zero Suicide website. Ten organizations were identified and prioritized to capture an ideal balance of behavioral health facilities, integrated health systems that offer both physical and behavioral health services, and integrated health systems without integrated EHRs. Of these ten originally identified organizations, seven opted to participate in the study. After two organizations declined and one had scheduling conflicts that prevented them from participating, an additional organization was identified and contacted to participate, bringing the total number of organizations to eight. These eight organizations are provided below in the order in which they were recruited:

- Henry Ford Health System (HFHS).
- Centerstone.
- AtlantiCare.
- Mental Health Center of Greater Manchester (MHCGM).
- Kaiser Permanente.
- Chickasaw Nation.
- Riveredge Hospital and Universal Health Services (UHS).
- Avera Health.

To recruit organizations into the study, an email was sent to the Suicide Prevention Coordinator (SPC) or listed contact identified through the organization's website and outcome stories. This preliminary email included information on the purpose of the study and goals of the case study discussions, the general discussion guide questions (see **Appendix B**), and how the questions in the guide would vary by types of key informants. We then requested a 30-minute phone conversation to discuss the study in greater detail. If the site staff were willing to participate, a single point of contact was established for identifying the key informants and scheduling discussions.

With input from the point of contact, a list of key informants was developed to have a broad view of the Zero Suicide work done at each organization. It included a mix of leadership, behavioral health providers, other direct care providers, individuals involved in site finance or quality management, and any consultants or committee members who oversaw the implementation of Zero Suicide at the organization. Up to nine total individuals were identified at each site to participate in these informant roles.

The discussions were between 30 minutes and 90 minutes long, depending on the informant's availability and involvement in Zero Suicide. Leadership and Zero Suicide Coordinators were typically scheduled for 60 minutes or more, whereas providers were more often scheduled for 30 minutes to accommodate their patient schedules. Each discussion guide was tailored to the participant's role and organization. Because of the COVID-19 pandemic, all discussions occurred virtually over Zoom and WebEx. The discussions were semi-structured, allowing the key informants to diverge at times from the core questions to share the elements of implementation and sustainability that they thought were most relevant and important to share. Discussions included one facilitator, one note-taker, and the participant. Brief notes to guide follow-up questions were taken by the facilitator, whereas in-depth notes were taken by the note-taker during the discussion. Discussions were recorded for note-taking purposes and the recordings were used to follow up on statements that appeared unclear or required more context. Occasionally, materials were mentioned prior to or during the discussions to help place statements in better context. Organizations were asked to provide these materials, if willing, to support or enhance statements made during the discussions.

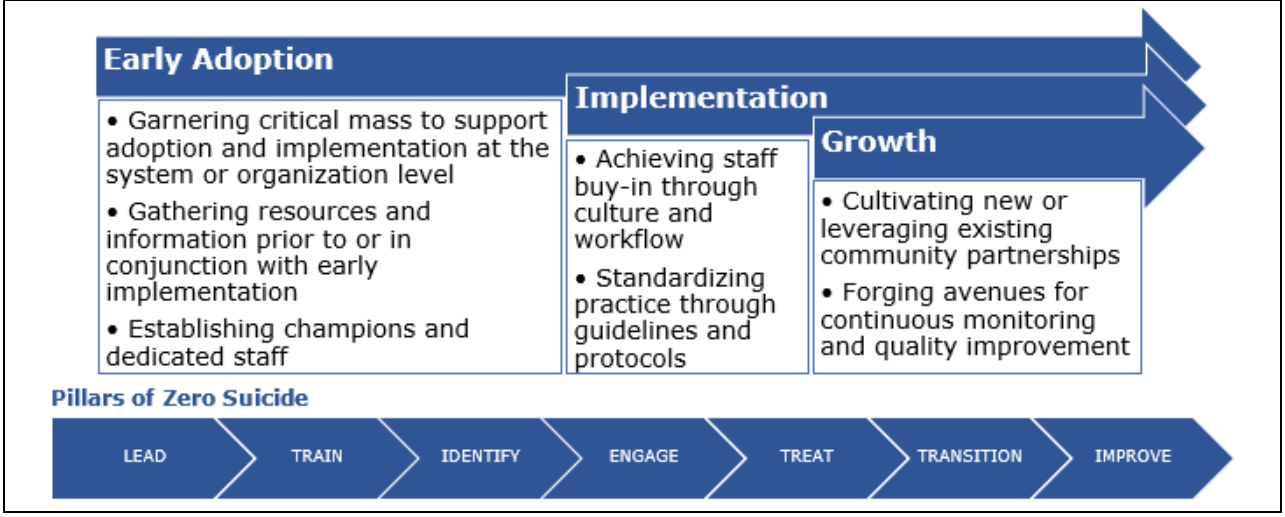
Each organization's discussions typically took place within 2 weeks. When the interview was complete, a two-page summary of key findings was written and shared with ASPE which are provided in **Appendix A** of this report. The notes taken during the discussions were also re-organized by each of the discussion guide questions outlined in **Appendix B**.

Once all case studies were completed, cross-cutting themes were identified for each of the three main research questions. These themes were identified as each of the analysts reviewed the summary documents and then met together to develop a consensus on the major themes that should be presented in this report. A suicide prevention researcher who did not participate in the discussions but reviewed the summary documents also provided input on the major cross-cutting themes that were evident in the discussion summaries. Additional details regarding the themes were pulled from the notes that had been organized by discussion guide question. The findings on overcoming challenges (RQ3) were integrated with **Section 3.2** and **Section 3.3**.

3.2 Implementation Themes

All organizations involved in the case studies had implemented elements of Zero Suicide across all seven of the pillars outlined in the implementation toolkit. The cross-cutting themes presented in this section are intended to supplement and not reiterate the content provided in the toolkit. We found themes related to early adoption, ongoing implementation, and growth of Zero Suicide, as outlined in **Figure 1**. We describe these themes and how they relate to the different pillars of Zero Suicide in the following subsections.

Figure 1. Implementation Themes across Case Study Sites



3.2.1 Early Adoption

Garnering critical mass to support adoption and implementation of Zero Suicide at the system or organization-level. All case study organizations described initial commitments made by key senior leadership that marked a prerequisite for the early adoption and funding of Zero Suicide. Support was provided by a range of players across sites, including health systems CEOs, regional leaders, and senior behavioral health staff. These key staff commitments essentially served to greenlight the system-wide culture change committed to reducing suicides comprising LEAD, the first pillar of Zero Suicide implementation.

Organizational Fit

The Zero Suicide initiative integrated with other organizational goals such as quality improvement, establishing a high-reliability organization, participating in an ACO, primary care behavioral health integration, SBIRT, or designing a system to support zero medical errors.

The organizations commonly emphasized that Zero Suicide was, and is, in alignment with system-level or organization-level goals. However, the way in which Zero Suicide was perceived to fit into the organization was, in part, dependent on previous or ongoing initiatives that varied from organization to organization, such as behavioral health integration, accountable care, and quality improvement. For example, one organization cited its earlier transition to integrated care--and the resulting teams-based approach--as a critical precursor to Zero Suicide implementation. For another organization, primary care clinics had already laid the groundwork for conducting patient screens and follow-up through SBIRT and were, therefore, better prepared to incorporate suicide prevention practices in those same settings.

Gathering resources and information prior to or in conjunction with early implementation. Case study organizations obtained preliminary information about Zero Suicide through a combination of formal and informal means. For example, four of the eight health care organizations elected to have staff participate in the Education Development Center's 2-day Zero Suicide Academy workshop, which provides training on the Zero Suicide framework and approaches to implementation to health and behavioral health care teams.[83] These trainings were most often held at an external location and were attended by select staff, but one organization elected for it to take place on site to accommodate attendance by a greater number of staff members. Other sites navigated early implementation with the assistance of a mentoring organization or agency with expertise in successfully implementing and sustaining Zero Suicide, although the degree and length of this mentoring varied from organization to organization.

Workforce Survey

Several organizations found it beneficial to do an initial workforce survey to understand the skills and confidence of providers in suicide prevention. One organization said that it was surprising to find out that 50% of its inpatient behavioral health staff felt uncomfortable talking about suicide with a patient. This finding highlighted the need to train and support staff in suicide prevention efforts.

Information-gathering was a precursor to TRAIN, the second pillar of Zero Suicide implementation. As organizations learned about Zero Suicide and their workforce attitudes and skills regarding suicide prevention, they were able to make informed decisions regarding the types of training to offer (e.g., B-CBT, CBT-SP, counseling on access to lethal means); the structure of the training (e.g., multi-day workshops, online); and the model (e.g., train-the-trainer, end users).

Implementation decisions were also influenced by cost considerations, previously established protocols within the health system, and the evidence base for different trainings. For example, many organizations used the PHQ to screen for suicidal thoughts because this was already being used within some settings of their health system. Other organizations used the C-SSRS screening and assessment tools because of the evidence regarding their validity and reliability.[84] One organization, however, implemented the Assessing and Managing Suicide Risk (AMSR) assessment approach[85] to evaluate its validity and reliability.

Gathering Data on Suicide

One organization worked with its state violent death reporting system to better understand which of its patients were dying by suicide. It found that about 60% of suicide deaths were among patients not receiving mental health services. This finding encouraged the organization to implement Zero Suicide across all settings of their organization to better identify and help all individuals at increased risk of suicide.

Establishing champions and dedicated staff. All organizations created or identified suicide prevention steering committees to meet on a regular basis during implementation of Zero Suicide. At some sites, the committee was interdepartmental, capturing a range of perspectives in and across groups such as behavioral health providers, quantitative researchers, and senior leadership. At others, the committee consisted primarily of the

behavioral health staff tasked with implementing Zero Suicide. Although some sites enacted Zero Suicide activities using existing staff, roughly half established new staff positions to facilitate key tasks, including patient-tracking and outreach and care coordination (e.g., peer specialist to provide Caring Contacts).

Staff involvement in the steering committee and related Zero Suicide activities was largely informed by the overall organizational structure and applicable service line settings (e.g., behavioral health, primary care, inpatient care). Indeed, the approach to rolling out Zero Suicide varied across systems--some organizations began implementing Zero Suicide in select service lines (e.g., behavioral health services) before expanding to other settings, whereas others rolled out implementation in all service lines at once. The staff type and level of involvement differed in and across organizations over time accordingly.

In summary, implementation themes around early adoption of Zero Suicide provide additional insight into the process of building up the pillars of LEAD and TRAIN through support from key leadership, information and resource gathering, and dedicated staff involvement. Although the specific approaches to early adoption varied across organizations, commonalities were identified within each theme. Namely, all organizations described initial commitments from key senior leadership as a prerequisite for next stages of adoption and implementations of Zero Suicide. Each organization obtained preliminary information around Zero Suicide through a combination of workshops, trainings, and workforce surveys to determine subsequent aspects of implementation. Additionally, all organizations created or identified suicide prevention steering committees to facilitate implementation.

3.2.2 Ongoing Implementation

***Achieving staff buy-in through culture and workflow*.** A common goal across organizations was cultivating staff buy-in around the mission and activities comprising Zero Suicide. Leadership determined the strategies used to accomplish staff buy-in, including the following:

- **Aspirational messaging**. At several sites, care was taken to communicate that achieving zero suicide deaths is an aspirational goal meant to underscore the importance of quality in care and prevention across primary and behavioral health settings alike. Organizations also presented the idea that zero is the only acceptable number of suicide deaths that should be allowed within an organization. For one site, Zero Suicide was framed as achieving zero defects in care for patients at risk of suicide; at another, the strive for zero suicide deaths was compared to the strive for zero medical errors.
- **Organizational identity.** In addition to fostering individual staff's understanding and support of Zero Suicide, sites described an underlying shift in organizational identity intended to promote a sense of unity in and shared responsibility for suicide prevention. Statements like "this is what we do" and calls to both ethical duty and

broader initiatives were described as points of emphasis to staff members "from day one" of hire.

Challenge: Provider Resistance

Zero Suicide pillars affected: LEAD and TRAIN.

A commonly reported hurdle across health care organizations--particularly those with integrated behavioral health--was initial resistance to Zero Suicide on the part of providers. The speculated reasons behind this response varied, from discomfort in discussing suicide with patients to, in the case of primary care providers, a previous lack of accountability for identifying mental health issues, particularly if the presenting reason for the visit was physical in nature.

All organizations took these concerns seriously, and took steps to ensure the following:

- Suicide prevention training engendered a sense of ease when talking about and responding to suicide risk.
- Primary care providers were encouraged to consider health holistically.
- Quality assurance measures and EHR safeguards were used to track and facilitate adherence to protocols.

In turn, organizations reported unforeseen positive impacts from suicide prevention training, such that providers gained a greater ability to have meaningful dialogue with patients and thus provide higher-quality care.

- **Process-oriented changes to workflow.** At several sites, changes to clinical workflow and infrastructure were made to facilitate implementation of Zero Suicide and to act as a safeguard against user error or nonadherence to Zero Suicide protocols. In some cases, these changes came in the form of dedicated staff positions (e.g., SPC) or internal support from existing staff (e.g., quality improvement, information technology). In others, the EHR was customized to promote fidelity to Zero Suicide, although the extent of customization was subject to EHR capabilities and staff availability. For example, at roughly half of sites with EHRs, developments included automated processes such as online screenings and scoring, assessment templates, and designation of patients identified as at-risk or on the suicide prevention pathway. At the remaining sites, EHRs were primarily used to extract relevant data (e.g., manually entered screening results, provider notes) to electronic dashboards. Another common feature integrated in EHRs and external dashboards was a color-coded record to indicate a patient's risk stratification or placement on the suicide prevention pathway so that all providers who interacted with the patient were made aware of their risk status.

***Standardizing practice through guidelines and protocols*.** In addition to establishing a system-wide culture in which to enact suicide prevention practices, organizations cited standardized guidelines and protocols as key to embedding Zero Suicide activities in everyday practice, thus creating a foundation for pillars to IDENTIFY, ENGAGE, and TREAT. Although the settings in which Zero Suicide was implemented differed from site to site, based in part on services offered and population being

The Joint Commission Standards for Suicide Prevention

Health care organizations that are accredited by the Joint Commission must meet required standards in various aspects of patient care, including suicide prevention.[86] At some sites, citing the Joint Commission's requirements for assessing and addressing suicide risk helped facilitate the implementation and sustainability of Zero Suicide. Sites that had already implemented protocols were faced with additional costs and resources as they tried to adjust and align what they had done with what was being required.

served, sites frequently emphasized the need for uniformity in *how* screenings and crisis services were delivered within each setting. For example, suicide-risk screenings were incorporated at the beginning of every patient visit at all sites, with protocols tailored for specific patient populations and harmonized across participating primary and emergency settings as applicable. Notably, the strategies carried out to attain consistency across providers and settings varied by site. At one organization, screening protocols were printed out on mousepads to serve as reference; at others, EHRs were used to assist providers with screening and any requisite care coordination and patient follow-ups. As another example, screenings and crisis services with youth populations--be it in a medical or school-based setting--included hands-on activities and parent or guardian involvement in safety planning and treatment.

In summary, ongoing implementation of Zero Suicide is characterized, in part, by efforts to establish and embed Zero Suicide activities in everyday practices to facilitate pillars to IDENTIFY, ENGAGE, and TREAT patients. These efforts are primarily focused on necessary changes to staff culture and clinical workflow. Namely, organizations enact strategies including aspirational messaging, shifts to organizational identity, and process-oriented changes to workflow to cultivate staff buy-in around Zero Suicide. A key challenge in this process is provider resistance, especially in the case of primary care providers who may not have the requisite training in mental health and suicide prevention. In response, organizations can provide suicide prevention training and encourage a holistic perspective toward health, with additional safeguards provided by quality assurance and EHR processes. Organizations also consider standardized guidelines and protocols as especially important to codify necessary shifts to workflow in and across patient populations.

3.2.3 Growth

***Cultivating new or leveraging existing community partnerships*.** Community partnerships were used to support implementation activities and expand outreach to additional populations at most case study organizations. Roughly half of these partnerships were developed to fill a specific need in implementation, such as patient-tracking and contacts, afterhours care, and crisis calls. Other partners were used as a connecting force to share resources to enact quality suicide prevention care across wider service areas. For example, one health care organization participated in a coalition with an entity with state-based funding, and many volunteers available to build community awareness, training, and outreach. Other community organizations were used for similar

Partnering to Offer Follow-Up Calls versus Other Alternatives

Organizations enacted different approaches to follow-up calls to patients. Partnerships with pre-existing call centers reduced expenditures for the health systems, but they also created some additional challenges with information sharing. Follow-up calls by providers strengthened their rapport with patients, but they sometimes resulted in longer conversations that were not always billable. Some organizations tried to be more cost efficient by having designated staff or internal call centers provide follow-up calls to their patients.

purposes of education and outreach, including school-based programs, faith-based institutions, and law enforcement programs.

Forging avenues for continuous monitoring and quality improvement. All sites recognized that implementing Zero Suicide is an ongoing process, with room and encouragement for continuously adapting approaches to meet the needs of the patient population. To that end, sites enacted regular audits and accountability checks to ensure fidelity to Zero Suicide protocols and post-incident reviews when needed. The specific nature of audits varied, from general chart reviews to more-intensive examination of enrollment processes and trends (e.g., provider-specific activity in overriding automatic enrollment recommendations). Additionally, conversations among providers and administrators were viewed as an ongoing opportunity to identify and resolve any issues in communication or workflow.

Through monitoring efforts, some sites noticed lower-than-desired rates of suicide screening and follow-up assessments. As a result, sites worked to change their EHRs to include automatic reminders for filling out the screeners and follow-up assessments. One site also started to implement an online suicide screening tool, sending it to patients up to 48 hours prior to their appointment. Another organization partnered with an independent company called Tridiuum to ensure broader delivery of behavioral health screening and assessment. These organizations experienced initial improvements in the prevalence of screening and follow-up assessments, and they continue to monitor their growth in this area.

Challenge: Sharing and Tracking Health Records

Some organizations used multiple EHRs within their system, and one organization used only paper records. This lack of integration made it hard to share and track records and often created silos of information. To address these challenges, organizations created centralized suicide prevention dashboards or shared documents that pulled information across the different EHRs. These documents and dashboards provided summary statistics on process and outcome measures and helped track the individuals who were on the suicide prevention treatment pathway. With paper records, standard forms were created and protocols were established for summarizing and sharing information at each patient or provider transition.

Implementation themes around growth are best understood in relation to pillars to TRANSITION and IMPROVE Zero Suicide in and across organizations. Organizations leverage community partnerships to carry out specific aspects of implementation, expand reach of suicide prevention practices to wider service areas, or provide further education and outreach to the community. Additionally, sites incorporate internal checks to ensure that Zero Suicide protocols are maintained, or improved, so that the needs of the patient population are met. These checks generally include regular audits and post-incident reviews and continued communication among providers and administrators alike. Information sharing also poses a challenge in practice, however, dashboards and centralized documents for tracking key outcomes can help identify areas for growth and improvement.

3.3 Sustainability Themes

Organizations shared that the decision to implement and sustain Zero Suicide was founded to save lives and improve the quality of care, not to save money. Many of the organizations provided substantial internal funding to implement Zero Suicide and train staff; however, they also described the ongoing maintenance costs of Zero Suicide as minimal. Some elements of Zero Suicide were described as being low-cost but having a high impact. Over time, all the organizations in the case studies diversified their funding of Zero Suicide through a variety of external funding opportunities. The organizations have also seen that their investments in Zero Suicide helped offset other costs of care for patients.

Some providers and leaders expressed that a greater concern than financial sustainability was sustaining fidelity to their implemented Zero Suicide protocols and practices. This concern is one of the major purposes behind the IMPROVE pillar of Zero Suicide. Organizations mentioned that monitoring and sharing success stories was crucial to sustaining the work. Strategic community partners were also an important part to sustaining the work of Zero Suicide and making it part of the community's identity and not just part of the organization's identity.

3.3.1 Internal Funding

A common theme across all case studies was that they had senior leadership buy-in to support internal funding for Zero Suicide. Some of the larger organizations had to actively seek out a senior level sponsor within the organization, whereas a few of the others had a member of the executive leadership team involved from the beginning. Organizations that spanned multiple states received additional resources and financial support, as they engaged both regional-level and national-level leaders within their organizations.

Where possible, senior leadership and those who championed for Zero Suicide throughout the organization encouraged integration of suicide prevention practices into standard workflows to minimize the need for additional costs. This approach was particularly evident within the inpatient setting, where staff are salaried and do not typically get paid differently for offering more or different services. Zero Suicide meetings and trainings were also integrated with pre-existing staff meetings when possible. One organization gives their patients an annual allotment for taking time off from work to do trainings. Zero Suicide training was offered within this annual allotment. Because of the integration of Zero Suicide with standard practice, none of organizations said they had a specific line item in their budgets for Zero Suicide.

Rather than functioning with a budget around Zero Suicide, most organizations approached investments on an as-needed basis. These one-time approvals were typically for larger expenses, like training costs, EHR modifications, or hiring a staff member to help with a specific aspect of Zero Suicide (e.g., SPC or someone to offer follow-up calls). Some

organizations also had internal grant mechanisms that were leveraged to help in the initial implementation of Zero Suicide.

3.3.2 External Funding

Although all the case studies started implementing Zero Suicide through internal investments, all but one have since sought external funding opportunities. In many instances, it was because of the initial progress they made through internal investments that better qualified them to win external funding to support their ongoing efforts.

One major finding was that using procedure codes to get claims-based reimbursement for Zero Suicide activities was mostly limited to when suicidal individuals received clinical evaluations and psychotherapy services (see ***Table 1***). Organizations said that they typically did not bill for suicide risk screening unless it was done as part of an independent assessment or an evaluation with a provider present (e.g., procedure codes 90791, 90792, 99201-99215). Many of the organizations said that the screening procedure codes listed in ***Table 1*** (96127, G0444, G8431, G8510) were not in their contracts or were not reimbursed. Once a patient was identified and received a diagnosis, suicide-specific psychotherapy services were covered and reimbursed, and an add-on code (90785) was sometimes used to increase reimbursement because of the added complexity of the situation. Only one organization specifically said that it used the collaborative care management and chronic care management procedure codes to support its Zero Suicide activities; however, another organization said that it was exploring ways to reimburse follow-up engagement services through case management procedure codes and billing. As a standard practice, many of the health systems had designated staff to help uninsured patients become insured. Once they were insured, the health systems could be reimbursed for at least the evaluation and counseling sessions.

Many of the external funds and supports came through partnerships with states. Some states had received grants to fund a crisis call center, and the health care organizations partnered with those call centers to offer follow-up calls. Some states received Centers for Medicare & Medicaid Services demonstration waivers to pay for unique services that helped pay for elements of Zero Suicide (e.g., care transitions). One state also funded a health care organization's mobile crisis unit to help reduce the burden on emergency departments and the long wait times of patients experiencing a mental health crisis.

Table 1. Number of Organizations Using Different Procedure Codes to Reimburse Zero Suicide Activities		
	Used to Reimburse Zero Suicide Activities?	
Procedure Codes	Yes	No
96127, G0444: Administration, scoring, and documentation of a brief behavioral or emotional screening instrument	1	5
G8431: Screening for depression is documented as being positive, and a follow-up plan is documented	0	6
G8510: Screening for clinical depression is documented as being negative, and a follow-up plan is not required	0	6
90791: Psychiatric diagnostic evaluation (without medical services)	6	0
90792: Psychiatric diagnostic evaluation (with medical services)	4	2
99201–99215: Office or other outpatient visit for the evaluation of a new or established patient	6	0
90832, 90834, 90837: Individual psychotherapy 30, 45, and 60 minutes	6	0
90839, 90840: Psychotherapy for crisis, for first 60 minutes + crisis code add-on for each additional 30 minutes	5	1
99492, 99493, 99494, G0502, G0503, G0504: Psychiatric collaborative care management	1	5
99490, 99491, 99487, 99489, G0506: Chronic care management services	1	5
90785: Add-on codes for complexity (may be reported as appropriate with 90791, 90792, 90832, 90833, 90894, 90896, 90853, 90837, 99201-99255, 9930-99337, and 99341-99350)	5	1
Note: These procedure codes were identified from the *Financing Suicide Prevention in Health Care Systems: Best Practices and Recommendations*[2] and the *Safer Suicide Care Billing Tip Sheet*.[72] One organization also mentioned the use of the CPT codes: 3351F, 352F, 3353F, and 3354F--diagnostic/screening processes or results. Another organization mentioned the use of other therapy and evaluation codes (90853, 90846, 90847, 99354, 99355, 99417, G2212, 90833, 90838) and other phone and telehealth codes (99441-99443, 98966-98968, 98970-98972) for delivering care that supported its Zero Suicide activities. Reimbursement based on specific procedure codes was not applicable to two organizations that, as a result, were excluded from this table.		

Many of the organizations pursued federal grants to fund different aspects of their work. SAMHSA grants related to suicide prevention during the COVID-19 pandemic were pursued to help support the monitoring and delivery of suicide prevention services that they had already been implementing and wanted to expand. SAMHSA SBIRT grants helped establish resources in primary care clinics for doing screening and follow-up, which set the stage for doing additional screenings and follow-up related to suicide. One organization is the recipient of a grant with NIMH that is helping to fund an evaluation of their Zero Suicide work. Two organizations leveraged support through HRSA grants. One organization received a grant through the HRSA Evidence-Based Tele-Behavioral Health Network Program to help

fund behavioral health counseling and crisis assessment services in rural areas. The other organization partnered with a local university that had received a behavioral health nursing education grant, and part of the grant funds helped support a state-wide conference to inform nurses and health care providers about Zero Suicide. Only two of the eight organizations were recipients of a specific SAMHSA Zero Suicide grant, and at least one received funding from SAMHSA to attend a Zero Suicide Academy.

Some support was also achieved through community partnerships. One organization partnered with local emergency departments to be reimbursed for providing assessment and follow-up for suicidal patients. Two organizations partnered with the National Alliance on Mental Illness (NAMI), one to engage peer specialists in their Zero Suicide activities and another to help train staff on recognizing and addressing suicide risk. As one organization has become an expert in offering dialectical behavior therapy (DBT) for treating mental illness and preventing suicide, other local health care organizations have paid them to do clinical trainings.

Finally, two organizations helped sustain Zero Suicide through philanthropic efforts. One organization received philanthropic support to help pay for some staff training and is seeking to establish an endowed chair in suicide prevention research. Another organization has an annual fundraiser to increase awareness of mental health problems in the community and to help pay for a peer navigator who offers follow-up support to patients at increased risk of suicide.

3.3.3 Start-Up and Ongoing Costs.

Organizations said the largest start-up costs were for training staff and making changes to the EHR. Training staff included an initial organization-wide event to introduce the concepts of Zero Suicide and the purpose of the initiative (e.g., Zero Suicide Academy for the organization); training for screening and identifying individuals at risk of suicide (e.g., C-SSRS, AMSR); training on how to help keep suicidal patients safe (e.g., safety planning, crisis response planning, counseling on access to lethal means); and training for suicide-specific therapies (B-CBT, CBT-SP, DBT). To help minimize costs of training, all organizations either used a train-the-trainer approach--wherein a few staff received training to be able to teach the skills to other staff--or they created an online version of the training. One organization has invested substantial internal funds to develop an online dynamic training platform that uses patient simulations and other interactive features to train staff. It is designed to be used at flexible times to minimize lost earnings from taking a provider out of the clinic, and it is estimated to cost only a third of the price of typical in-person trainings.

Although customizations to EHRs are an ongoing practice for health care organizations, the organizations said they had to work to get the changes for Zero Suicide prioritized above other changes. These changes cost substantial time and money, not only to implement, but also for providers to learn to use them. Still, these changes were mentioned as being a critical step to sustaining Zero Suicide through integrating practices into the workflow and monitoring progress. Some of the EHR customizations included approaches to documenting and tracking the completion of screenings and safety plans, or alerting features (e.g., color-coding) of high-risk or suicidal patients so that all providers seeing the record know when an individual needs extra suicide prevention care.

EHR Modifications

Establishing forms and reminders in the EHR helped organizations sustain fidelity to Zero Suicide activities. These changes to the EHR included the following:

- Attaching forms for screeners and automatic follow-up screeners or safety planning templates when an individual screens positive for increased suicide risk.
- Color-coding records for patients who are on a suicide treatment pathway.
- Indicating in a prominent location on the EHR whether the person has had a recent suicide attempt.

Implementing Zero Suicide also included some administrative costs. These costs included the establishment of a Zero Suicide committee to help make decisions and sustain the implementation of Zero Suicide. Organizations suggested that these committees be multidisciplinary from across the layers and locations of the organization, and that they have the involvement of someone senior enough to get financial buy-in from the executive team. The Zero Suicide committee acts as a central hub for developing and reviewing protocols and practices, and then disseminating those through staff meetings.

For some organizations, the Zero Suicide committee was an ongoing cost; however, at least one organization discontinued the committee after several years of implementation. That organization still had specific staff that were devoted to overseeing and implementing Zero Suicide. Six organizations had an existing staff member assume suicide prevention coordination as part of their role, whereas the remaining two organizations hired a new staff member to be a SPC. A few of the organizations hired someone specifically to help provide follow-up and engagement calls with patients leaving a psychiatric inpatient unit or who are in crisis. Some new-hires were designed to help with suicide prevention in the context of broader mental health initiatives, such as providers to help with primary care mental health integration and peer-support specialists.

Challenge: Coordination

Organizations shared that, when Zero Suicide is first implemented, there are many different assignments and activities. They suggested that a program manager be identified from the beginning who could help coordinate and keep track of all these activities.

Ongoing training costs were typically integrated with new staff orientation. Booster sessions were also integrated on an as-needed basis with staff meetings. One challenge that organizations experienced was staff turnover of trained staff. One organization offered a booster session for several of its outpatient providers but did it on a weekend to avoid lost earnings from taking providers out of the clinic.

Challenge: Staff Turnover

Staff turnover results in ongoing training needs for the organization. It is particularly challenging when a staff member who leads suicide prevention trainings leaves the organization. Organizations suggested investing in several trainers throughout the organization to be able to compensate for setbacks in staff turnover.

Ongoing activities associated with oversight and monitoring of Zero Suicide were typically not seen as additional costs to standard practice. For example, auditing of medical records takes place irrespective of Zero Suicide implementation, and all the organizations mentioned auditing and performance reviews as a way in which they check to see whether Zero Suicide protocols are being followed.

Sites were asked to share what the low-cost, high-impact Zero Suicide activities are. The three activities that were consistently shared are screening, safety or crisis response planning, and follow-up calls. Even if these activities are not fully integrated with the EHR, they can be implemented with little cost to the organization. Proper safety planning does require training, but there are apps being developed and training modules that organizations have created to help staff learn how to safety plan with patients who screen positive for suicidal ideation or a recent suicide attempt. A quick follow-up call can be done when an at-risk patient misses an appointment or after they are discharged from a hospital. These follow-up calls do not need to be done by the provider; they can be done by junior-level staff or interns when a clear protocol is in place. One organization found that it was more efficient to have someone from intake and assessment, rather than the provider, follow-up after hospitalizations, especially when that person briefly meets the patient prior to discharge and is familiar with the patient's safety plan and discharge plan.

Overall, many of the ongoing costs of Zero Suicide can be paid for in the normal course of business, and those that cannot are typically low-cost with high potential impact for helping clients at risk of suicide. Screening may not be reimbursed, but it can help identify individuals in need of treatment, and once the individual starts receiving treatment, those treatment services are reimbursed. More telehealth being reimbursed has allowed for more-timely virtual follow-up appointments with patients who are at increased risk of suicide. The ongoing monitoring, training, and oversight of Zero Suicide is typically integrated with pre-existing practices and staff meetings so that any additional costs are minimal. The area where organizations have made the largest investments because of their commitment to preventing suicide is the one-time start-up costs related to training and EHR modifications.

3.3.4 Potential for Cost Offsets.

No rigorous return on investment study has been done for Zero Suicide as a whole; however, two organizations said they were planning on doing a comprehensive cost study, and many of the organizations found potential cost offsets from implementing Zero Suicide (see **Appendix A** and citations below):

- Readmission rates were reduced by 17%-21% following the implementation of Zero Suicide.
- Rehospitalization among patients with suicidal ideation decreased by 45%.
- Care transition teams reduced emergency department visits by 70% and hospital bed days by 90%.
- Mobile crisis teams diverted 94% of clients away from emergency departments.
- Diverting suicidal patients away from the inpatient setting and being able to address suicidality in the community saved an estimated $200,000 per year.[76]
- Enhanced crisis follow-up to patients discharged from the emergency department saved approximately $2.7 million from prevented psychiatric hospitalizations and rehospitalizations for suicide (see **Appendix C** for additional details).
- Overall expenses for the mental health division were reduced by $3.5 million over 3 years.[20]

Organizations expected to see reductions in emergency department visits and hospitalizations because Zero Suicide protocols allowed providers to recognize challenges earlier and address them in an outpatient setting. Some providers have seen fewer outpatient visits once suicide risk is identified and addressed, particularly when suicide prevention and other behavioral health services are integrated within primary care. Finally, effective ENGAGE protocols for Zero Suicide have helped reduce the number of missed appointments, thereby increasing provider productivity and earnings.

Some leaders and providers said that the publicity received by organizations around suicide and suicide prevention has impacted their costs and earnings. One organization experienced significant negative publicity for the high-profile suicide death of one of its patients. This event, and its significant cost repercussions, was used to encourage senior leaders in the organization to invest in implementing Zero Suicide to reduce overall suicide risk and the related liability concerns associated with suicide deaths. As organizations have implemented Zero Suicide, they have also received positive attention from their communities and have been recognized as leaders in suicide prevention efforts by local governments and other health care organizations. They believe this positive publicity has brought greater revenue and patient satisfaction.

One challenge with these cost offsets is that they do not always fully benefit the organizations offering the interventions. For example, outpatient behavioral health organizations do not financially benefit from reducing hospitalizations unless they are part of

a larger integrated health care system that offers both levels of care. Some organizations have tried to work with health insurance companies to agree to reimburse promising practices that are being implemented as a part of Zero Suicide (e.g., follow-up services for emergency department visits). Other organizations have joined ACOs to be able to establish shared cost savings across different settings.

Some providers shared that they viewed Zero Suicide as having a greater likelihood of being cost neutral than cost saving for an organization. They acknowledged that, although there are potential cost offsets, there are also increased expenditures that come with identifying and treating more health care needs and training staff to deliver this additional treatment. More research needs to be done to understand how the cost offsets balance with the cost increases.

ACOs and HVBP

There is an opportunity to establish more financial incentives for suicide prevention through ACOs and HVBP. To do this, organizations said that uniform suicide-related quality measures need to be established and adopted within the federal programs.

3.3.5 Sustaining Fidelity

All eight organizations reported a culture shift around preventing suicide, and they shared that suicide prevention had become an integrated part of what they do. Despite this integration, some leaders still expressed concern about sustaining and maintaining fidelity to the protocols and practices that had been integrated with their workflows.

Monitoring practices and outcomes was mentioned across all organizations to help sustain fidelity. Each organization had its own unique set of process measures (see **Appendix D**); however, there were commonalities: they all tracked whether an initial screening was done and whether follow-up actions were taken among those who screened positive. Organizations also typically track follow-up calls and the creation of safety plans or CRPs. Tracking the quality of these calls and plans has been challenging. To help with the quality of follow-up calls and outreach, organizations set up clear protocols for their staff to follow (see examples in **Appendix E**). Organizations are still trying to develop efficient ways to track the content and completeness of safety plans and CRPs. Some have specific sections in the EHR where safety plans are recorded in detail, whereas others develop a plan on paper and then upload an image to the medical record, which can be harder to track completeness.

Challenge: Time for Safety Planning

Some providers struggled to have enough time to create a thorough safety plan, especially when suicidal thoughts were not shared until later in a session. One organization allows providers to create an abbreviated version of the safety plan if the patient is lower risk. This abbreviated version focuses more on suicidal thoughts, keeping the environment safe, and establishing safety contacts. A complete safety plan is then created during the next available session.

One approach to monitoring used by all organizations is conducting regular chart reviews and workforce surveys. In these reviews, leaders can evaluate in greater detail the Zero

Suicide practices and the quality of the safety plans and other activities related to engagement and treatment. In addition to these regular audits, some organizations chose to do follow-up workforce surveys to understand providers' ongoing confidence and commitment to following Zero Suicide practices (https://zerosuicide.edc.org/resources/resource-database/zero-suicide-workforce-survey-resources). These follow-up surveys allow the organization to track improvement over time and to identify where there still are needs or concerns. When organizations identify systematic problems through audits or surveys, they work with the provider or entire unit to provide additional training and support.

Many organizations sought to track outcomes related to suicide and suicide attempts; however, they said it was difficult to capture a complete and accurate picture of all suicide-related outcomes, as many occur outside of their health systems. Integrated health systems were able to track suicide-related hospitalizations and emergency department visits more easily than outpatient behavioral health organizations were, although one organization mentioned that providers in the emergency department and inpatient settings do not consistently code suicide attempts in the medical records. To address this challenge, they started to train emergency department and inpatient providers about proper coding techniques for suicide-related behaviors. Other organizations have partnered with community surveillance efforts to help track suicide attempts and deaths that happen in the community. One outpatient organization, for example, worked with its state hospital association to gather better data on suicide-related hospitalizations. Two other organizations linked their patient records with state death records to identify those who died by suicide. These efforts have improved the organization's ability to track the impact it is having on preventing suicide over time.

Providers said that something that helped sustain their involvement in Zero Suicide activities was hearing success stories and seeing outcome metrics. One organization would regularly post metrics for units to see how it was doing with its participation in Zero Suicide activities. Other organizations established electronic dashboards and sent weekly reports to unit leaders on how the unit is performing and which patients are being flagged at increased risk of suicide. Many of the success stories came from the follow-up calls that were done with patients. One organization shared the experience of following up with a patient who missed an appointment and finding out that the patient was on a bridge thinking about suicide. Because of the follow-up call, the organization helped the patient step away from the bridge and got police to escort the patient to safety and treatment. Although these life-saving experiences may not happen with great frequency, they have a powerful impact on motivating the continued efforts of the Zero Suicide initiative within an organization.

Another way to facilitate sustained involvement in Zero Suicide was to incorporate individuals with experience related to suicide loss in the decision making process. Many of the organizations included survivors of suicide loss as a part of their Zero Suicide committees. One organization also encouraged leaders to share their personal experiences

with exposure to suicide loss. This vulnerability among the leaders of the organization helped other providers be willing to share their lived experience related to suicide, thus expanding the dialogue and commitment to prevent future suicide deaths.

Finally, establishing a network of community partnerships has helped sustain the Zero Suicide efforts of many of the organizations. One organization partnered with its local fire and police departments to establish a comprehensive mobile crisis team, and the fire and police departments also rely on the organization to do their Crisis Intervention Team trainings. Two organizations have established close relationships with local hotlines to offer follow-up calls. One organization has been heavily involved in the state suicide prevention network, offering training on Zero Suicide throughout the state. Another organization has also helped establish a state-wide gathering for health systems to learn about and discuss suicide prevention. Multiple organizations are trying to establish a network of Zero Suicide health systems, providers, and community services so that suicide prevention becomes part of the entire community's identity. This peer-support within communities is helping maintain momentum and fidelity to Zero Suicide protocols and practices.

4. Implications and Conclusions

The organizations reflected in the case studies discussed in this report all faced challenges in their implementation and sustainability of Zero Suicide; however, they forged solutions to their challenges as they continually strived to prevent all suicide deaths among those receiving care within their health systems. The purpose of this document is to highlight approaches, challenges, and solutions to implementing and sustaining Zero Suicide, so that other health systems may be better informed in their own approach to suicide prevention. These findings have implications not only for health systems, but also for other groups of decision makers that play a role in supporting Zero Suicide across many organizations and communities. These implications are outlined below by key stakeholder groups.

4.1 Health Systems

Organizations that have successfully implemented and sustained Zero Suicide are founded in a focus on quality of care and preventing suicide deaths, rather than costs. This foundation often stems from the commitment of a few senior leaders who are passionate about preventing suicide deaths; however, it is spread and maintained throughout the organization by teaching about the importance of the initiative, enabling staff and providers with the skills to address suicide risk, and sharing the successes and progress that is made toward preventing suicide.

Because most providers are not extensively trained in suicide prevention in their formal education, health systems committed to Zero Suicide must invest in training their staff to perform evidence-based suicide prevention practices. This training can be a substantial cost at the beginning, but the experiences from the case studies and the evidence in the literature suggests that implementing these trainings can offset costs and improve overall quality of care.

Most of the ongoing costs of Zero Suicide can be paid for under the normal course of business. Clinical assessments and psychotherapy for those at increased risk of suicide are reimbursable through common billing codes. Ongoing training, monitoring, and oversight can be integrated into pre-existing protocols and meetings. Additional costs for things like screening, safety planning, and follow-up contacts are not typically reimbursed; however, the organizations in the case study examples in this report invested time to do the activities because they were low-cost and high-impact.

The cases in this report all predominantly funded their Zero Suicide efforts through internal funds. These initial investments in Zero Suicide qualified the organizations for local and national funding opportunities. As a result, most organizations included in this report have received additional grants to help sustain and even expand their suicide prevention services. Many of the health systems have also received positive attention from their state and local communities because of their concentrated efforts to prevent suicide.

Leveraging new or existing community partnerships was a key aspect of implementing and sustaining Zero Suicide. Some health systems partnered with local call centers to help with follow-up calls and weekend crisis calls. Others established partnerships with police and first responders to address crises in the community, with other settings of care (e.g., the emergency department) to do suicide assessment and follow-up for them, or with local nonprofits (e.g., NAMI) to help with peer-support or general trainings related to suicide prevention and awareness. As the organizations gained experience with Zero Suicide and established community partners, they also mentored other health systems in implementing Zero Suicide, thus establishing a network of Zero Suicide providers throughout the community.

4.2 State and Community Leaders

States can facilitate the development of community networks focused on Zero Suicide. Some states (e.g., Colorado, Tennessee, Missouri, Utah) have implemented Suicide Prevention Networks. These networks and other state organizations can offer training and support to health systems in how to implement and sustain Zero Suicide. Some states have received federal grants to support the coordination of these activities. Others have provided their own grants to health systems within the state to provide specialized services that help with suicide prevention (e.g., mobile crisis units in New Hampshire). These state and community networks may also help providers and their patients connect with crisis support services, especially because of the nationwide implementation of the 988 number for the National Suicide Prevention Lifeline and SAMHSA's Mental Health Block Grant program 5% set aside requirement for crisis services.

State Medicaid programs can help reimburse some evidence-based aspects of Zero Suicide (e.g., safety or crisis response planning, care transition programs, peer navigation, follow-up contacts). Procedure codes are already established for some of these activities, but they are not always used in Medicaid contracts with health systems. The COVID-19 pandemic has also made telehealth services more widely available. Establishing state policies to continue allowing and reimbursing the use of telehealth services can extend the reach of suicide prevention within health systems beyond the pandemic.

State surveillance of suicide can be a helpful resource to health systems as they seek to understand the impact that Zero Suicide is having on communities. All 50 states now participate in the National Violent Death Reporting System,[87] and some states are also participating in the syndromic surveillance system for suicidal ideation and self-directed violence.[88] Establishing data-sharing agreements with health systems can not only help the health systems evaluate the impact of their suicide prevention efforts (as is being done with some of the case studies discussed in this report), it can also allow states to gather information from the health systems to better understand real-time suicide prevention needs across the state.

Finally, states can enact laws that support suicide prevention among health systems. Two laws were mentioned during case study discussions as having helped support Zero Suicide implementation and sustainability: one required follow-up appointments within 7 days after hospitalizations (Oregon State legislation: ORS 441.054), and the other required practicing clinicians to receive a certain amount of suicide prevention training every few years (Washington state legislation: RCW 43.70.442). These top-down standards and requirements can provide additional scaffolding that supports the long-term sustainability of Zero Suicide within health systems.

4.3 National Funders and Decision Makers

Federal agencies like SAMHSA and IHS have already invested a substantial amount of money to help support the implementation of Zero Suicide. The published literature and the experience from the case studies suggest that these agencies, and others like HRSA, can continue to provide valuable financial support to help organizations train providers in suicide prevention best practices; monitor and report on the quality of the suicide prevention practices being implemented; and expand the implementation of Zero Suicide across multiple settings of care within an organization or across partnering organizations.

Government and private health insurance can also play a crucial role in supporting and sustaining Zero Suicide among health systems. Many of the cost benefits from implementing Zero Suicide within a health system are accrued by health insurance companies. Health insurance companies can develop additional reimbursement codes for procedures specifically related to suicide prevention. For example, there are nationally available substance use and alcohol SBIRT procedure codes, but there are currently no suicide SBIRT codes. Suicide SBIRT codes could help fund the use of evidence-based screening tools and evidence-based safety planning or crisis response planning among those who screen positive.

Government and private health insurance can also leverage the mechanisms of ACOs and HVBP to incentivize system-wide changes to prevent suicide. To further use ACOs and HVBP to support suicide prevention, nationally accepted quality metrics related to suicide prevention would need to be established and integrated with these programs.

Finally, national leaders can help support the wider implementation of training in suicide prevention activities among all health care workers. The case studies and literature suggest that the training should not be limited to mental health clinicians, but extend to all clinicians, as the last providers typically seen by patients who die by suicide are not mental health providers.[1] This training could be integrated within formal training programs of clinicians and health providers. As more providers are trained, they will feel more comfortable and confident in discussing matters related to suicide and following Zero Suicide protocols that are implemented within health systems across the country.

4.4 Study Strengths and Weaknesses

Findings from the present study are bolstered by the type and array of data gathered through a literature review, key informant discussions, and case studies of health care organizations that have successfully implemented and sustained Zero Suicide. Case study sites were selected to capture key differences across organizations, resulting in a mix of behavioral health facilities, integrated health systems that offer both physical and behavioral health services, and health systems with multiple or no EHRs. Moreover, each case study comprised semi-structured discussions conducted with staff at different levels of the organization and community partners to represent a wide range of perspectives of Zero Suicide implementation and sustainability.

The study, however, remains subject to limitations in case study selection and implementation. First, the case study sites are not meant to generalize to all organizations enacting Zero Suicide, particularly given the heterogeneity observed in implementation and sustainability. Moreover, it is important to note that the health care organizations included in this study all successfully implemented and are sustaining Zero Suicide. As a result, findings do not include perspectives of organizations who have met with insurmountable challenges related to implementing and sustaining Zero Suicide. This perspective could be an area of future research.

Second, case studies were originally slated to take place via in-person site visits; however, the timing and scope of the COVID-19 pandemic prompted a change to virtual discussions with each case study. The potential loss of in-depth information afforded by in-person visits was mitigated in part by increasing the number of case study sites from five to eight. Additionally, semi-structured virtual discussions were conducted over a longer period of time than the original 2-day in-person visit to prioritize staff availability and reduce burden on sites.

4.5 Conclusion

Health systems are positioned to play a crucial role in preventing suicide deaths in our nation because of their contact with many who eventually die by suicide and their access to skilled professionals to help individuals in crisis. However, many providers do not come to an organization trained in or comfortable with discussing suicide risk with patients. Implementing Zero Suicide across a health system empowers providers to be able to identify and address suicide. It establishes clear protocols and practices for providers to identify suicide risk in any setting, address immediate crises, and get an individual into specialized treatment that can improve the patient's safety, stability, and mental health. It helps avoid hospitalizations and emergency department visits by addressing suicide risk in less intense settings. Sustaining Zero Suicide comes as activities are integrated into daily

protocols and work responsibilities, leadership maintains a commitment with people to champion the cause of suicide prevention throughout the health system, results are monitored and shared within and outside the organization, and communities are engaged. In summary, Zero Suicide is sustained with the mentality shared by many of the key informants that "suicide is everyone's business."

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Appendix A: Case Study Summaries

Below are brief summaries of the eight case studies that were conducted.

Case Study Summary: Henry Ford Health System

Site Overview: Henry Ford Health System (HFHS) is a large, integrated health system that offers a range of services, from primary care to inpatient services, within urban areas of southeastern Michigan. It began to implement Zero Suicide practices in 2001, although the practices were called Perfect Depression Care at the time.

Staff Interviewed: Department Chair, Director of Health Policy and Health Services Research, Director of Adult Outpatient Psychotherapy, Division Lead of Pediatric Psychiatry, Psychiatrist leading Behavioral Health Integration, Primary Care Internist, Inpatient Psychiatrist

Timeframe of Discussions: July 17, 2020 - September 14, 2020

Implementation Themes:

Adoption/Early Implementation

- HFHS garnered support from senior leadership to improve depression care and reduce the number of suicide deaths and established a team of committed behavioral health providers across their organization (i.e., the Blues Busters).
- HFHS's goal for suicide deaths is zero, and it wanted to achieve this aspirational goal through "perfect" depression care; it was not comfortable with saying that even one suicide death was acceptable.

Culture

- For more than a decade, HFHS has worked to change its culture around suicide prevention in the following ways:
  - Uniting around the aspirational goal of zero suicide deaths.
  - Addressing suicide independently and not just as a symptom of depression. HFHS was an early adopter of the knowledge that suicide occurs in many disorders and even among patients without a mental illness. This has helped strengthen their risk assessment.
  - Assessing for suicide risk and not just suicidal ideation. Nationally, suicidal ideation is the main symptom clinicians review in determining risk; however, for HFHS the absence of suicidal ideation does not mean no risk, and there are other symptoms and factors that may be more profoundly linked with suicide risk for a patient.
  - Helping providers be comfortable assessing for and addressing suicide risk.
  - Making suicide prevention a part of the organization's identity from the moment people are hired until the day they leave (i.e., "this is what we do").

Clinical Practice

- To support cultural and clinical changes, HFHS established clear guidelines and protocols. It trained staff on the protocols and had staff commit to following them.
- It also offered training to its clinical staff to be able to perform evidence-based psychotherapy to address suicide risk (e.g., CBT and DBT).
- Staff review charts to ensure protocols are being followed and perform critical incident reviews for any suicide attempts and deaths that occur among patients.
  - One person commented that these incident reviews have become more positive since implementing Zero Suicide because they feel more confident that they have done everything they could to prevent a suicide by following the Zero Suicide protocols.

Infrastructure

- HFHS has embedded Zero Suicide protocols into its EHR. Switching EHRs was a costly experience, but HFHS has incorporated the screenings, assessments, and record keeping necessary for documentation. The EHR also includes pop-ups and reminders to facilitate record keeping.
- They have developed an online PHQ-9 to send to clients before each visit to improve compliance with screening at every visit. HFHS is also working on making other outcome measures available online for the patient to fill out before their appointment.
- They identified low-cost, high-impact activities, such as including screening, caring contacts, and safety planning.

Sustainability Themes:

Funding Sources

- HFHS was awarded a grant from the National Institutes of Health in 2017 to evaluate the effectiveness of Zero Suicide and recently a grant from SAMHSA to implement a new emergency department model for Zero Suicide. However, most of HFHS' Zero Suicide work is funded internally (e.g., operations funds to pay for training, website and educational materials).
- The department chair has had access to a philanthropy account to help pay for some training, and HFHS is also looking for an endowment through philanthropic channels to help establish an endowed chair in suicide prevention research.

One-Time and Ongoing Costs

- HFHS made some large, one-time investments to support evidence-based trainings among staff and pay for changes to its EHR. These were the largest expenses for implementing Zero Suicide.
- Providers can bill for some assessments and care coordination; however, most of the Zero Suicide work is not billable. The activities are embedded in standard practice.

Cost Savings

- An initial analysis by HFHS found cost savings to the organization.[20] It is planning to do a more detailed cost study and anticipates savings due to the following:
  - Fewer emergency department visits and hospitalizations because challenges are recognized earlier in the outpatient setting and staff can address suicidal ideation in an outpatient setting.
  - Fewer unnecessary outpatient medical services; HFHS has already seen these services reduce within its Behavioral Health Integration program.
  - Higher provider productivity and lower rates of missed patient appointments.
- Some of the greatest financial benefits may be to health insurance plans and large integrated systems, rather than only outpatient behavioral health organizations.
- Financial sustainability was less of a concern than sustaining fidelity to the model.
- HFHS is willing to financially sustain Zero Suicide because they have embraced it.

Greatest Challenges:

Screening, Assessment, and Safety Planning

- Providers said that getting suicidal patients into a medical evaluation quickly and keeping crisis spots open when they are not always used can be challenging.
- Children and adolescents pose unique challenges in screening and assessment of suicide risk (e.g., impulsivity is weighted differently). Sometimes, they do not want their parents to know.
- Many patients are not willing to temporarily secure their guns outside of the home.

Recording and Sharing Information

- Sharing information about patients at risk for suicide across different health care systems is challenging (e.g., working with emergency departments outside of HFHS).
- There are competing priorities with investing in changes in their EHR.

Treatment Services

- Among patients at risk for suicide, not all care may be received at HFHS. For example, Medicaid patients must receive substance use disorder treatment in a community mental health center. Patients might have an emergency department visit not with HFHS.
- Due to medical students' minimal exposure and graduate students' mixed exposure to evidence-based psychotherapy, HFHS must ensure that staff are sufficiently trained in evidence-based psychotherapy.
- Trained staff experience turnover. As staff become more marketable with the additional skills, they may leave for another job.

Case Study Summary: Centerstone

Site Overview: Centerstone is a nonprofit behavioral health system with centers operating in several states. Services include primarily outpatient care for mental health and substance use disorders. They also provide school-based behavioral health services. Centerstone has implemented Zero Suicide at Centerstone of Tennessee and Centerstone of Indiana, with planning and piloting beginning in 2012.

Staff Interviewed: Centerstone Research Institute CEO, VP of Health Integration, VP of Crisis and Disaster Management, Director of Suicide Prevention, Project Director of School-Based and Intensive In-Home Therapy Services, VP of Crisis Access and the VP of Quality Improvement, co-leads of the Zero Suicide Initiative in Indiana. In addition, the Executive Director of the TSPN, a partner of Centerstone, was also interviewed.

Timeframe of Discussions: July 24, 2020 - October 8, 2020

Implementation Themes:

Adoption/Early Implementation

- Centerstone (Tennessee) piloted a tailored approach of HFHS's Perfect Depression Care model in 2013. Subsequently, Centerstone was able to visit Henry Ford to learn about Zero Suicide, which informed the development and implementation of Zero Suicide in Tennessee and Indiana.
- Centerstone (Tennessee) involved their Research Institute in adoption and implementation of Zero Suicide from the beginning; key staff, including the CEO, were part of steering committee efforts to identify best practices, monitor fidelity, and facilitate quality improvement.
- Implementation of Zero Suicide was a methodical process that prioritized staff buy-in, customization of the EHR framework, and fidelity to the model.
  - Both programs took 1 year to become fully operational. However, Indiana encountered a setback in their implementation when they switched EHRs in 2016, as the new vendor could not adopt the previously developed pathway, alerts, and data.

Organizational Culture

- Some Centerstone staff in both states were initially resistant to increased screening and schedule adjustments required within the Zero Suicide framework, so buy-in needed to be cultivated.
- Centerstone achieved this buy-in and associated implementation by:
  - Establishing that suicide prevention is part of every individual's job "from day one."
  - Embedding the screening/assessment process through the workflow of the EHR.
  - Conducting repeated trainings and workforce surveys to show that Zero Suicide is a long-term priority.

  - Using monthly fidelity audits of screening/enrollment to provide feedback to clinician and supervisor.

Clinical Practice

- Suicide-risk screening has been integrated at the beginning of every visit to identify individuals at high risk of suicide.
- The EHR tool that all clinicians use includes the PHQ-9 and the C-SSRS algorithm with automatic scoring and, as appropriate, prompts to enroll the individual in the suicide prevention pathway. Overriding the pathway recommendation requires a clinical explanation.
- Those who are placed on the pathway are denoted in the EHR system and receive suicide prevention services (e.g., Stanley-Brown safety plan, caring contacts, suicide-specific therapy).
- Screening and intervention vary slightly in the school-based setting in that it incorporates more hands-on activities (e.g., drawing) into the C-SSRS to allow the child to express their feelings and involves the school and parents/guardians in safety planning.
- Centerstone (Tennessee) has a director of suicide prevention to oversee all aspects of suicide prevention work, whereas Centerstone (Indiana) does not have a dedicated director of suicide prevention; instead, this is an additional responsibility of a leader.

Infrastructure

- Centerstone (Tennessee) has embedded Zero Suicide into its EHRs through custom modifications made by the information technology department and overseen by quality improvement and data analytics staff.
  - In addition to automatic scoring and enrollment in the suicide prevention pathway, the EHR tool provides alerts to providers when patients enter and exit the pathway and when a pathway patient "no shows" for an appointment and facilitates tracking fidelity (e.g., rates of enrollment for clinical staff) and key outcomes (e.g., length of time on pathway, treatment adherence).
  - Monthly audits are conducted by the quality improvement team on the enrollment process and pathway.
  - Post-incident review process informs screening and prevention protocols.
- Centerstone (Indiana) is still refining its EHR infrastructure with the new vendor after changing its EHR system in 2016. It has implemented an enrollment report that identifies who is on the suicide prevention pathway. It can also track completed C-SSRS and whether a provider opts not to place a patient in the suicide prevention pathway.

Sustainability Themes:

Funding Sources

- Early implementation at Centerstone was an internally funded agency initiative.
- When possible, it has used grants to support training costs (e.g., CBT-SP and DBT training).

- Centerstone was recently awarded two SAMHSA grants directly related to Zero Suicide: the COVID-19 Emergency Response for Suicide Prevention and Implementing Zero Suicide in Health Systems.
- The data analysis work led by the Research Institute has been successfully written into grants.

One-Time and Ongoing Costs

- Training is costly, as it incurs lost staff time and revenue. However, training staff on suicide prevention is considered a necessary investment.
- The Research Institute has used some grants and invested funds internally to create a new simulation-based training program.
  - It plans to make this program publicly available at one-third the cost of traditional training.
- An ongoing cost in Centerstone (Tennessee) is the Director of Suicide Prevention position.
- Most Zero Suicide activities are embedded in standard practice and are not billed as separate services.

Cost Savings

- The Centerstone Research Institute studied the cost impacts of its Enhanced Crisis Follow-Up Program that was originally funded under a grant and estimated $2.7 million in savings due to prevented psychiatric hospitalizations for suicide. The Institute plans to use this information to advocate for billing changes to support enhanced crisis follow-up services.
- The Research Institute is also trying to demonstrate that better training is cost-effective--with the goal of getting the cost of training bundled in future contracts.
- Screening and workforce surveys were identified as low-cost, high-impact activities, whereas EHR customization was described as a high-cost, high-impact activity. Safety Planning was also seen as low-cost and high-impact, but there was concern about fidelity to the model that would limit impact.

Greatest Challenges:

- There is not a dedicated dashboard to see process measures across patients, nor is there an easy way for quality improvement staff to see one clinician across all domains (e.g., screening, enrollment).
- Most people who die by suicide at Centerstone are not enrolled in the pathway; this may be because patients do not have suicidal ideation at screening or are unwilling to disclose suicidal ideation or intent.
- Many staff come into Centerstone without sufficient suicide prevention training. Pulling a clinician offline for needed training loses revenue by not providing face-to-face care during that time.
- The EHR systems do not track suicide attempts.
- Indiana's EHR system does not have the same level of adaptability and data processing as Tennessee's.

Case Study Summary: AtlantiCare

Site Overview: AtlantiCare is an integrated health system that includes two inpatient hospitals and over 100 outpatient clinics in southeastern New Jersey. It is the designated screening center for commitment to mental health treatment in Atlantic County. AtlantiCare first implemented Zero Suicide in 2015.

Staff Interviewed: AtlantiCare President and CEO, Senior VP and Chief Medical Officer, Chief Medical Ambulatory Officer, System Executive Director for Behavioral Health, Director of Quality Management, Clinical Director for Acute Psychiatry, Associate Chair of the Department of Psychiatry, SPC, Oncology Social Worker

Timeframe of Discussions: September 16, 2020 - October 1, 2020

Implementation Themes:

Adoption/Early Implementation

- In response to an increase in suicides and suicide attempts within the organization's service population, AtlantiCare developed an interdepartmental suicide prevention steering committee in 2014. The team explored best practices and found that Zero Suicide aligned well with their organization's philosophy around suicide prevention.
- Select members of the steering committee attended Zero Suicide Academy in 2015 and garnered support from senior leadership at AtlantiCare to host an on-site Academy and implement Zero Suicide across the organization.
- AtlantiCare conducted a workforce survey and found that many providers were initially uncomfortable asking about suicide. The on-site Zero Suicide Academy helped establish buy-in among medical and administrative leads across the organization. Consistent training over time has helped providers become more comfortable asking about and addressing suicide risk.

Culture

- Adapting organizational culture to embrace Zero Suicide included the following:
  - Establishing suicide as a problem in the community, not limited to behavioral health patients.
  - Establishing suicide prevention as a system-wide initiative (i.e., it is everyone's responsibility).
  - Framing the goal of zero suicides as aspirational.
  - Educating providers about suicide, showing greater empathy, and knowing how to screen for and address suicide within their health care system.
  - Prioritizing the treatment of suicidality when it is identified in a patient at any health care setting.

Clinical Practice

- To support clinical implementation of Zero Suicide, AtlantiCare created a position for a full-time SPC to maintain contact with patients on a suicide care management plan. The SPC communicates with patient providers to exchange relevant information on patient risk screenings.
- Suicide-risk screening was integrated as routine care in service lines across primary care, emergency, and inpatient settings. They use the C-SSRS screening tool, followed by a full assessment as needed. At least one department advocated to also use the PHQ with their patients.
- At the start, they provided hundreds of staff with CBT training. They have since implemented a train-the-trainer model to educate AtlantiCare providers on suicide prevention.
- There is an emphasis on making sure people are operating at their highest skill level so that work is distributed effectively across positions. For example, they have psychiatrists focus on providing services, and others coordinate schedules and facilitate care.

Infrastructure

- AtlantiCare has multiple, nonintegrated EHRs across different departments.
  - One EHR system spans across 60%-70% of practices, including inpatient services and emergency department.
  - AtlantiCare has a dedicated information technology team that helps manage the different EHRs, including integrating screenings and assessment and tracking electronic data points.
- AtlantiCare established a Zero Suicide e-dashboard that pulls information from the various EHRs.
  - It tracks fidelity to the model and captures how many patients are served through Zero Suicide.
  - It aligns with the standards established by the Joint Commission.
- Zero Suicide has become "hardwired" into AtlantiCare's system through having screening and reporting mechanisms programmed in their EHRs, regularly requiring trainings to expand and reinforce suicide prevention skills, and spreading the approach across the entire organization.
- As a result of their efforts, AtlantiCare has seen some reductions in rehospitalizations, and they achieved a year and a half with no suicide events identified in their monitoring system.

Sustainability Themes:

Funding Sources

- AtlantiCare funded early implementation of Zero Suicide internally, which involved both a financial commitment from the health system as well as a significant time commitment among behavioral health leaders, IT, and other service lines across the system.

- The AtlantiCare Foundation is a locally based philanthropic organization associated with AtlantiCare which has also helped to fund Zero Suicide.
- AtlantiCare was recently awarded a SAMHSA COVID-19 Emergency Response for Suicide Prevention Grant, which will support training/boosters and fund an additional full-time SPC position.
  - The grant consists of a component for domestic violence, which allows AtlantiCare to educate the staff of domestic violence organizations on how to reduce the number of suicide deaths and suicide attempts among victims of domestic violence.

One-Time and Ongoing Costs

- AtlantiCare made large, one-time investments to support remote and on-site Zero Suicide Academy and CBT trainings among staff system-wide.
- Ongoing costs include the SPC position and information technology. The SPC position currently operates at capacity, so the need to keep up with increasing caseloads is recognized.
- Most Zero Suicide activities are embedded in standard practice and are nonbillable. There are no specific billing codes for suicide prevention, and although case management may be billed, AtlantiCare is not reimbursed much money.

Cost Savings

- Screening was described as the main low-cost, high-impact activity, as it is believed to have saved lives by identifying at-risk individuals and providing them with needed care. Training was considered a high-cost, high-impact activity that improves quality of therapy delivered across patient populations.
- AtlantiCare has not completed any formal cost offset studies, but they will be able to assess cost savings in the future using a recently implemented e-dashboard.
- The organization recognizes the value of behavioral health and operates under the assumption that it reduces rates of other medical services.
  - Although behavioral health generally runs at a loss, AtlantiCare only perceives it as motivation to improve efficiency in their services.
- AtlantiCare is willing to financially sustain Zero Suicide because the cost of lives cannot be quantified.

Greatest Challenges:

- AtlantiCare expressed that there are still some silos in how patients are cared for and in where patient information is recorded, although in the past 3-5 years, there has been increased awareness around mental health and its significance. A project manager position in early implementation would have helped facilitate everyone's efforts around Zero Suicide.
- Multiple EHRs required additional work on the part of information technology, both in terms of initial customization for screening/assessment and ongoing management.
- Getting buy-in and developing confidence among medical providers with limited experience in suicide prevention was difficult. The referral process can also be time-consuming for providers.

- Since many of the patients AtlantiCare provides for are Spanish-speaking and bilingual, having on-site bilingual therapists across all health departments, primarily Oncology, would help increase reach.

Case Study Summary: Mental Health Center of Greater Manchester

Site Overview: The Mental Health Center of Greater Manchester (MHCGM) is a private, nonprofit system and community mental health center. It provides mental health services across several levels of care (e.g., residential, intensive outpatient, and outpatient) among both adults and adolescents. MHCGM started implementing Zero Suicide in 2017.

Staff Interviewed: Executive VP and Chief Operating Officer, Director of Quality Improvement, Director of Revenue Cycle Management, Director of Electronic Medical Records, Mobile Crisis Team Coordinator, Transition Team Leader, Peer-Support Specialist

Timeframe of Discussions: October 13, 2020 - October 30, 2020

Implementation Themes:

Adoption/Early Implementation

- In early 2017, family members of a patient who died by suicide met with the CEO to discuss ways to prevent suicide from happening among other patients. This conversation led MHCGM leadership to put a renewed effort and focus on suicide prevention.
- Select staff attended a Zero Suicide Academy that took place with several local organizations.
- MHCGM then established a Zero Suicide Implementation Team, which continues to meet monthly.
- One of the first activities of this Implementation Team was to conduct a staff survey regarding knowledge and comfort managing suicide risk. The survey results guided the development and delivery of specific trainings to improve staff's confidence and abilities in addressing suicide risk.
- MHCGM developed a Zero Suicide Foundations training and partnered with the New Hampshire chapter of NAMI to offer Connect training to all nonclinical staff members.

Organizational Culture

- Zero Suicide has become a top priority for MHCGM and has become integrated into its culture through regular trainings among all clinical and nonclinical staff.
- Everyone in the organization is involved in suicide prevention; even staff involved in billing are trained to recognize concerns related to suicide and get an individual connected with a therapist.
- Over the past few years, New Hampshire has also implemented a delivery system transformation 1115 Medicaid waiver, which has supported a culture of suicide prevention across the state through standardized screening and trainings.

Clinical Practice

- MHCGM screens for suicidal risk during each visit using the risk screenings and assessments embedded in service notes, PHQ, and/or the C-SSRS. Those who screen positive for suicide risk also develop a safety plan with their mental health provider.
- MHCGM works with local emergency departments to perform caring contacts after discharge.
- MHCGM also has care transition teams that help individuals after psychiatric and medical hospitalizations, emergency department visits, and incarcerations to get access to follow-up treatment and other needed community resources.
- Over the past 4 years, MHCGM has established a mobile crisis response team that conducts check-ins and responds to suicide-related 911 calls and requests from first responders for postvention. This team works closely with the local police department to provide 24/7 emergency response for mental and emotional crises.
- Certified peer-support specialists have been integrated with the care transition team, mobile crisis response team, and other services offered at MHCGM.
- For suicidal patients, MHCGM has trained clinical staff to provide CBT-SP, DBT for both adults and adolescents, Teachable Moment Brief Intervention (TMBI) for suicide attempt survivors, safety planning, and counseling on access to lethal means.

Infrastructure

- MHCGM has embedded Zero Suicide into its EHR through custom modifications:
  - Embedded PHQ, C-SSRS, Hope scale, and other screening assessment questions.
  - Electronic safety plan form.
  - Caring contact letter templates.
- MHCGM is working with the EHR vendor to include a color-coded Risk Console that will denote patients on the suicide prevention pathway who are at high risk for suicide.

Sustainability Themes:

Funding Sources

- MHCGM received a small local grant (~$25,000) to help support its monthly Zero Suicide Implementation Team meetings and some internal training to new staff.
- Trainings were also paid for, in part, through the Medicaid 1115 waiver and through internal investments by MHCGM.
- The care transition team was initially funded by the Medicaid 1115 waiver. The following changes have been made to make this service more sustainable:
  - The state Bureau of Mental Health Services health department now allows for presumptive eligibility for functional support services during care transitions, which helps cover some of the initial assessment and support.
  - The teams bill for targeted case management.

  - MHCGM is developing a partial position funding through grants to be able to provide transition team services to those whose insurance carriers do not pay for these critical, life-saving interventions.
- The state contracts with MHCGM to help pay, in part, for the mobile crisis team.
- MHCGM has established contracts with local emergency departments to provide assessment and crisis response services.
- Leadership is looking for ways to help pay for some of the Zero Suicide activities through grants regarding tangential but overlapping topics, like homelessness and COVID-19.

One-Time and Ongoing Costs

- Training is an ongoing and expensive cost, but MHCGM has tried to minimize this in several ways:
  - Using or creating online trainings that can be done at flexible times without the continuing cost of someone delivering the training.
  - Establishing a train-the-trainer approach with CBT-SP and TMBI.
  - Becoming experts in the field of DBT so that they can receive reimbursement for external trainings.
- EHR changes have also been an expensive one-time cost.

Potential Cost Savings

- The mobile crisis team has been able to divert 94% of its clients away from hospital emergency departments into appropriate behavioral health services.
- The care transition program has also reduced emergency department visits by 70% and hospital bed days by 90%.

Greatest Challenges:

- The EHR vendor has been slow to make the changes requested by MHCGM.
- MHCGM is still trying to expand its reach into the community to help prevent suicide. Since the beginning of the pandemic to the time of the discussions in September 2020, MHCGM had none of its patients die by suicide; however, there were approximately 30 suicide deaths in the community.
- There is a lack of inpatient mental health resources in the community, which mean that some patients wait in the emergency department for weeks. Zero Suicide has helped reduce this challenge by enabling MHCGM staff to address suicide in noninpatient settings.

Case Study Summary: Kaiser Permanente

Site Overview: Kaiser Permanente is a large integrated health system divided into eight regions across the United States. System-wide suicide prevention efforts started in 2014 and then focused on the Zero Suicide approach starting in 2016. This case study includes

perspectives from the national implementation team and Kaiser Permanente Care Management Institute (CMI) but focuses primarily on the experiences with Zero Suicide in the Kaiser Permanente Northwest (KPNW) region.

Staff Interviewed: Senior Consultant of Mental Health and Wellness (CMI), Principal Consultant of Evaluation and Analytics (CMI), Psychiatrist and National Zero Suicide Clinical Lead (KPNW), Program Manager (KPNW), Director of Addiction Medicine (KPNW), Director of Quality for Mental Health and Addiction Medicine (KPNW), Mental Health Service Area Manager (KPNW), Rapid Access Therapist (KPNW), Primary Care Behavioral Health Consultant (KPNW)

Timeframe of Discussions: October 19, 2020 - October 30, 2020

Implementation Themes:

Adoption/Early Implementation

- In 2016, CMI established the Mental Health and Addiction Leaders of Operations (MHALO) group, which decided to make suicide prevention a key priority area across all Kaiser Permanente regions.
- MHALO decided to focus suicide prevention efforts on the core activities of screening (using the PHQ and the C-SSRS for those who have had recent thoughts of suicide), safety planning, and follow-ups.
- Leaders in each region were then selected by MHALO to help implement suicide prevention activities. These leaders meet every other month as a suicide prevention learning collaborative.
- KPNW also established a Zero Suicide Committee. This committee adopted a system-wide approach after analysis of mortality data showed that only targeting behavioral health patients would miss approximately 60% of suicide deaths among KPNW members.
- Zero Suicide in KPNW was implemented broadly across thousands of primary care providers, mental health providers, and addiction medicine providers.
- There was an initial KPNW 2-day kickoff training in 2018 to establish the aspirational goal of zero suicide deaths and to teach providers about using the PHQ-9, C-SSRS, and safety planning.

Culture

- Zero Suicide fit within the organization's broader initiatives of feedback informed care, patient safety, and risk management.
- There was some initial concern regarding the name Zero Suicide, but Kaiser Permanente started to frame it as "zero defects in care for suicidal patients" and an aspirational goal of zero suicide deaths.
- The culture among mental health providers changed faster than among primary care providers.

Clinical Practice

- In KPNW, mental health and addiction medicine use a program called Tridiuum, which prompts patients to fill out the PHQ-9, C-SSRS, and other risk screeners prior to a scheduled appointment.
- Primary care providers wait until the patient is present or in a virtual waiting room before delivering the PHQ-9 and C-SSRS.
- KPNW has been expanding its Primary Care Behavioral Health Consultants program to help address suicide risk when someone screens positive on the PHQ-9 and C-SSRS.
- To help with access to mental health services, KPNW also has a crisis call center that will triage an individual's presenting mental health needs and counsel on access to lethal means; a solutions team that provides phone-based services to help connect a patient to services; and a rapid access team to provide bridge appointments for established mental health patients.
- Safety planning is provided by all behavioral health providers; however, when providers do not have sufficient time and the patient is lower risk, they will establish a truncated version that focuses on suicidal thoughts and behaviors, ways to keep the environment safe, and safety contacts.
- KPNW has recently hired peer specialists to provide caring contact following behavioral health-related emergency department visits.
- If KPNW is unable to provide a follow-up mental health appointment within 48 hours of an emergency department visit or hospitalization, they have contracted external mental health providers to provide that service.

Infrastructure

- Nationally, CMI has established eight suicide prevention metrics (see https://zerosuicide.edc.org/evidence/outcome-story/kaiser-permanente). They have established data use agreements with the state's vital statistics department to inform their metrics on suicide deaths.
- CMI has also helped establish resources in the EHR for recording C-SSRS and safety plans.
- KPNW conducts quarterly chart reviews to check for compliance with Zero Suicide practices.
- KPNW also provides booster training sessions to units upon request or when there is low compliance.

Sustainability Themes:

Funding Sources

- The MHALO group received a 3-year internal Kaiser Permanente grant to sponsor zero suicide implementation across the regions. This grant funded someone at the national level to help coordinate efforts, and it helped pay for some trainings around safety planning and a Zero Suicide Academy across regions.
- KPNW also received a small internal grant to help with EHR changes.

- Most Kaiser Permanente regions can operate on their existing budget integrating Zero Suicide into their current workflow.
- All KPNW therapists also have a training budget (40 hours of emergency department leave per year) that helps cover some of the training expenses related to Zero Suicide.
- Five Kaiser Permanente regions are participating in a grant from NIMH to evaluate Zero Suicide impacts.

One-Time and Ongoing Costs

- The major costs of implementing Zero Suicide are training and staff time.
- In many situations, salaried individuals take on additional tasks related to suicide prevention, though this does not change compensation.
- Booster training sessions are typically done during pre-established department meetings or huddles.
- KPNW stopped conducting monthly meetings with the Zero Suicide Committee as they transitioned from an implementation phase to a maintenance and sustainability phase.
- Expanding the number of Behavioral Health consultants has been expensive, but it is a part of a larger initiative to improve behavioral health integration and access to mental health treatment.

Cost Savings

- Initial discussions in KPNW presented this work as potentially cost neutral.
- There are increased expenses with identifying more individuals in need of treatment.
- There are potential savings from preventing repeat suicide attempts resulting in hospitalizations, lost productivity from providers who have a patient die by suicide, and liability or negative publicity from a suicide death that becomes very public (which KPNW experienced just before implementing Zero Suicide).

Other Drivers of Sustainability

- Washington State requires providers to be trained in suicide prevention.
- Oregon has a bill requiring caring contacts be sent following behavioral health–related emergency department visits.

Greatest Challenges:

- Maintaining fidelity to safety planning has been difficult. Regions track whether safety planning is done, but not the quality of safety planning. CMI plans to study this in the coming year.
- KPNW recently focused on reducing administrative time, which sometimes conflicts with the need to offer additional training and support to maintain fidelity to safety planning.
- There is a delay in access to comprehensive data on suicide death outcomes.

- Kaiser Permanente is still working to improve the EHR so that providers can more readily know if a patient was recently in the emergency department for suicide risk, or if a patient who cancelled an appointment was recently at risk of suicide.

Case Study Summary: Chickasaw Nation

Site Overview: Chickasaw Nation is a federally recognized, Native American tribe comprising 13 counties in south-central Oklahoma. Chickasaw Nation provides all tribal citizens with health care, including integrated behavioral health services at the Chickasaw Nation Medical Center and outpatient clinics. Chickasaw Nation Department of Family Services, in collaboration with the Chickasaw Nation Department of Health, began implementing Zero Suicide in 2015, mentored by the Oklahoma Department of Mental Health and Substance Abuse Services (ODMHSAS).

Staff Interviewed: Executive Officer of Integrated Services Division, Director of Medical Family Therapy, Senior Manager of Medical Family Therapy, Clinical Informaticist, Billing Office Director, Coding Supervisor, Executive Revenue Officer, Emergency Department Chief, Programs Director of Heartline

Timeframe of Discussions: November 6, 2020 - December 3, 2020

Implementation Themes:

Adoption/Early Implementation

- ODMHSAS received a SAMHSA grant to implement Zero Suicide in Oklahoma hospital systems in 2015. Chickasaw Nation was selected to receive guidance--not funding--to start Zero Suicide in its emergency department in 2016. The mentorship took place over 3 years, spanning a system-wide transformation and use of universal screening.
- Prior to Zero Suicide, there was no risk stratification (i.e., low/medium/high risk) in place, so any suicidal patients were automatically transferred to inpatient settings via emergency order of detention.
- Chickasaw Nation prioritized a standardized approach to screening across settings, including primary care. This universal screening, coupled with development of a suicide care pathway (termed the high-risk registry), was intended to prevent emergency department admissions.
- Implementation of Zero Suicide at Chickasaw Nation has been facilitated by key staff buy-in and a state-funded partnership with HeartLine, a 24-hour on-call behavioral health service that has been contracted as a gap filler to provide emergent crisis assessments on nights, weekends, and holidays.

Organizational Culture

- Chickasaw Nation has achieved and maintained buy-in throughout the health system through repeated emphasis of the importance of Zero Suicide in staff meetings and

with heads of departments, citing the Joint Commission's support of Zero Suicide as an evidence-based practice.

- Nursing leadership and buy-in around policy and protocol changes were considered especially important when first integrating standard screening across the entire system, as nurses are most active with at-risk patients.
- Providers who were previously used to relying on emergency order of detention in cases of suicide risk began to trust the standardized process, in part because therapists are readily available to help in cases of a positive screen; behavioral health providers were embedded in all clinics following Chickasaw Nation's transition to integrated care in 2014.
- Accountability checks and chart reviews are conducted monthly to ensure that the process has been followed correctly; any necessary adjustments are made through targeted training with staff.

Clinical Practice

- Screening has been integrated at the beginning of every visit to assess level of risk for suicide. Screening protocols are standardized across primary and emergency care settings.
- Clinicians use the PHQ-2, PHQ-9, and the C-SSRS.
  - All patients are screened using the PHQ-2 and PHQ-9 and, if necessary, the C-SSRS. If a patient is above the cutoff, a medical family therapist is assigned to create a safety plan and HeartLine referral for follow-up contacts, with additional outreach occurring within 72 hours.
  - The C-SSRS is then used to further stratify levels of moderate and high risk among those who screened positive. The determination of in-person follow-up versus inpatient referral is made based on patient's level of risk and support system.
- There is an on-call behavioral health service at the emergency department on nights and weekends to complete crisis assessments, with nurses submitting an "automatic consult" to notify appropriate staff in the Medical Family Therapy program when a patient has screened at risk for suicide.

Infrastructure

- The EHR was originally developed in 1989 for the U.S. Department of Veterans Affairs, and later passed to IHS who made it available to tribes.
  - The EHR's involvement in Zero Suicide is primarily limited to recording PHQ scores and creating the automatic consult described above. Once patients are identified for the suicide prevention pathway, the resulting high-risk registry is managed externally to the EHR.
- The high-risk registry tracks all Zero Suicide reporting elements, including each patient's suicide risk (color-coded based on C-SSRS scoring guidelines), recent service utilization, safety plan, and HeartLine activity. The registry additionally facilitates scheduling for repeated assessments.

Sustainability Themes:

Funding Sources

- Chickasaw Nation received initial training around Zero Suicide (including select staff attending a Zero Suicide Academy) through the state's SAMHSA grant, valued at approximately $125,000.
- Early implementation of Zero Suicide activities was largely an internally funded initiative, with staff incorporating it into their existing roles.
- When possible, Chickasaw Nation has used state funds and existing grants to support Zero Suicide.
  - Oklahoma funds HeartLine's role in implementing Zero Suicide, which is valued at approximately $30,000/year. The state additionally provided funds of $25,000 for a portion of a clinic informaticist's salary for 1 year to support data collection efforts around Zero Suicide.
  - An IHS grant covers all suicide training and purchase of mouse pads with crisis protocols.
- Chickasaw Nation was recently awarded a SAMHSA grant for the COVID-19 Emergency Response for Suicide Prevention, which will support additional internal and external Zero Suicide Academies.

Costs and Cost Savings

- The Joint Commission standards require patient sitters for moderate- to high-risk patients in inpatient settings, which has required contracting a valet service at the hospital.
- Chickasaw Nation provides care at no cost to their patients. Although it receives federal funding via IHS, it relies heavily on third-party revenues. As a result, billing is a strategic process that works to capture third-party revenue when possible.
  - Billing codes are used for screenings and crisis care for the ~60% of patients on insurance.
  - Care for uninsured patients is uncompensated, so Chickasaw Nation is encouraged to enroll high-volume and high-usage patients into a premium assistance program.
  - Chickasaw Nation has a self-funded insurance plan for all employees, resulting in further emphasis on preventive care to circumvent costly inpatient admissions.
- The coding team who prepares claims has added two behavioral health coders in response to higher volume of screenings and crisis care.
- An internal study assessing cost offset of screenings on inpatient admissions demonstrated cost savings even without accounting for the inpatient costs incurred via patient sitters and tribal police.

Greatest Challenges:

- The EHR was cited as the largest barrier to Zero Suicide, due in large part to the lack of customization and patient-tracking mechanisms and to difficulty in extracting relevant data.

  - The EHR's suicide screening process is dictated by user entry, which can be a potential constraint in cases of nonresponse or mistakes.
- Joint Commission standards and recommendations around suicide prevention dictate hospital policies (e.g., presence of patient sitters) that may not be necessary or beneficial in all cases.
- Zero Suicide is implemented across multiple settings (e.g., outpatient facilities, emergency department), with staff composition differing across shifts. Communication with afterhours contractors can be difficult, so additional emphasis is placed on ongoing conversations throughout the week to resolve any issues.

Case Study Summary: Riveredge Hospital and Universal Health Services

Site Overview: Universal Health Services (UHS) is the largest system of inpatient psychiatric hospitals in the United States. Riveredge Hospital is owned by UHS and is the largest freestanding psychiatric hospital in Illinois. It serves the Greater Chicago area, offering over 200 inpatient beds and partial hospitalization, intensive outpatient, and outpatient services. Several facilities within UHS have implemented Zero Suicide; however, Riveredge was an early adopter, starting their efforts in 2016.

Staff Interviewed: CEO, former Chief Clinical Officer (CCO), Director of Performance Improvement, Director of Business Development, Director of Therapeutic Services, Coordinator of Outpatient Assessment and Referral, former Coordinator of Assessment and Referral, UHS Senior VP of Clinical Services

Timeframe of Discussions: November 10, 2020 - December 2, 2020

Implementation Themes:

Adoption/Early Implementation

- UHS has conducted several virtual Zero Suicide Academies to introduce the concept of Zero Suicide to cohorts of hospitals and to train senior staff at the hospitals regarding the seven elements of Zero Suicide.
  - Rather than doing a concentrated 2-day event, UHS has adapted these Zero Suicide Academies to take place over several shorter meetings that span 6 weeks to 3 months.
- UHS provided Riveredge with a 3-day training of trainers for the AMSR protocol (https://zerosuicideinstitute.com/amsr).
  - Over the following 2 years, Riveredge AMSR trainers then delivered the 6.5-hour AMSR training to the entire senior hospital leadership and all the clinical and intake assessment staff.
- A couple of clinical staff leaders at Riveredge became certified in CBT-SP, and they trained other clinical staff to use 3-4 of the manualized sessions in their normal clinical practice for suicidal patients.

- Riveredge established a monthly Zero Suicide committee that includes staff from all levels of the organization.
- Riveredge partnered with Loyola University to host a state-wide Zero Suicide Summit to promote Zero Suicide and train other hospitals, health systems, and providers in Zero Suicide.

Culture

- In their first workforce survey, just prior to implementing Zero Suicide, Riveredge found that about 50% of staff did not feel comfortable asking about suicide.
  - This culture improved as they trained staff on how to assess for suicide risk.
- Zero Suicide fit well with Riveredge's pre-established focus on patient safety and patient-centered care. Senior leadership at Riveredge also described suicide prevention as the organization's ethical duty.

Clinical Practice

- Patients seeking care at the hospital receive an initial AMSR assessment.
  - AMSR assesses suicide risk in terms of a patient's risk status (i.e., risk compared with peers outside and inside the hospital) and risk state (i.e., risk compared with the patient's baseline state).
  - AMSR assessment also includes discussions addressing access to lethal means, creating safety plans, and developing a meaningful treatment plan.
- Nurses review the AMSR assessment results when a patient arrives in their unit.
- Patients are asked to fill out daily check-in forms that include items on having suicidal thoughts.
- Riveredge works with NAMI to have peer specialists participate in inpatient group sessions.
- Just prior to discharge, patients participate in a bridge appointment to review the patient's safety plan and ensure access to medications and follow-up treatment.
  - A designated support person attends this appointment with the patient if possible.
  - Typically, a staff member within assessment and referral completes these appointments; however, Riveredge has also had interns do them, and the organization is transitioning to having a nurse do them so they can review and address any changes to medications.
- Within 3-days of discharge, the bridge appointment staff member calls the patient to see whether he or she attended the follow-up and to ask about emotional wellbeing and thoughts of suicide.

Infrastructure

- Riveredge does not have an EHR system, so they have created several forms to structure and record discussions with clients (https://zerosuicide.edc.org/evidence/outcome-story/riveredge-hospital).

- Riveredge regularly audits random samples of nurse practice notes and discharge risk assessments.
- All staff go through an annual recertification process for AMSR, which includes an online video with questions and a more in-depth review for assessment and referral staff.
- Riveredge has continuously invested in assessing and implementing anti-ligature building features.

Sustainability Themes:

Funding Sources

- Zero Suicide is paid for internally by Riveredge and other UHS hospitals as part of core work the facility does.
- UHS covered the initial cost of training trainers for AMSR, but Riveredge has covered the cost of training several hundred of their remaining staff.
- Riveredge does not bill for specific services because it has daily contracted rates with insurers.
- Peer specialists are paid for by NAMI, and they work with multiple hospitals in the area.
- The CEO is committed to Zero Suicide and works with the Chief Financial Officer to find funding as needed.
- UHS acknowledged that value-based purchasing or pay for performance could help support hospitals in implementing Zero Suicide; however, health insurers have not typically implemented these payment approaches with inpatient psychiatric hospitals.

One-Time and Ongoing Costs

- Riveredge pays for one full-time equivalent nurse salary for bridge appointments and follow-up calls.
- Initial AMSR training of all staff was a substantial cost of time. The ongoing cost is an additional day of new-hire orientation training per person.
- As some AMSR trainers have left the company, Riveredge needed to train new trainers.
- Other trainings and refreshers are integrated with monthly staff meetings.

Cost Savings

- Riveredge's Zero Suicide activities offer potential cost savings to health insurers and the community by helping patients access follow-up care and by reducing hospital readmission rates by 17%-21%.

Other Drivers of Sustainability

- Riveredge has been viewed as a leader of Zero Suicide within its community. Its work has been showcased to other health systems and the state legislature in Illinois.

- Sharing outcome stories and statistics with staff has given the workforce pride in what they are doing.
- Riveredge partners with Loyola University to help train nursing students in Zero Suicide activities.

Greatest Challenges:

- The CCO, who was the main champion for Zero Suicide, recently left Riveredge. Riveredge has been able to sustain Zero Suicide despite this loss because the CEO and other senior leaders are committed to Zero Suicide. They are in the process of establishing two directors (for nursing and clinical education) to lead the work.
- Not having an EHR has made it difficult to track more detailed process measures. Providers are also unable to access and review charts remotely, which has been challenging with the current pandemic.
- Riveredge has not been able to track whether suicide deaths occur between discharge and follow-up.
- Joint Commission established a requirement to use an evidence-based suicide assessment, and AMSR is evidence-informed but not yet evidence-based.
  - UHS received permission from Joint Commission to use AMSR if they studied the evidence of it, which UHS is currently doing in one of its facilities in Nashville, Tennessee.
  - Because UHS rolled out AMSR and Zero Suicide together, some facilities opted not to participate because they could still be compliant with Joint Commission requirements by implementing the C-SSRS, which does not require any formal training to use.

Case Study Summary: Avera Health

Site Overview: Avera Health is an integrated Catholic health system serving urban and rural communities in South Dakota, Minnesota, Iowa, Nebraska, and North Dakota. Their Behavioral Health Service Line, or their governing group of all their behavioral health clinics and services, decided to support the implementation of Zero Suicide starting in 2016. It has since expanded into primary care and emergency department settings as well.

Staff Interviewed: Clinical VP of Avera Behavioral Health Service Line, Assistant VP of Avera Behavioral Health Services, Clinical Manager of the Zero Suicide Steering Committee and Psychiatric Nurse Practitioner at Avera McKennan Behavioral Health Center, Clinical Behavioral Health Tech Educator at Avera McKennan Behavioral Health Center, previous Clinical Nurse Educator and current Nursing Manager at Avera McKennan Behavioral Health Center, Avera Zero Suicide Steering Committee

Timeframe of Discussions: December 4, 2020 - December 17, 2020

Implementation Themes:

Adoption/Early Implementation

- Senior behavioral health leaders from Avera and the Helpline Center in South Dakota attended a Zero Suicide Academy together. They have since worked to establish Zero Suicide within their organization and community.
- Avera Behavioral Health Service Line hosted a Zero Suicide kickoff meeting to establish buy-in among providers, discuss the importance of preventing suicide, and discuss screening for suicide.
- Avera leaders decided to begin implementation of Zero Suicide within the behavioral health services so that they could establish evidence and a team of experts before engaging other departments.
- A survey of staff attitudes and educational needs around suicide prevention was conducted.
- Question, Persuade, Refer (QPR) training (~90 minutes) was offered to all nonclinical staff, and Question, Persuade, Refer, Treat (QPRT) training (~8 hours) was offered to all clinical staff.
- QPR and QPRT was later substituted with an online suicide prevention training developed by Avera and B-CBT training for clinical staff.
- Direct care providers in behavioral health were also trained in developing CRPs and discussing lethal means safety.

Culture

- There was initial pushback regarding the possibility of achieving zero suicide deaths; however, striving for zero suicide deaths was compared with the common goal of striving for zero medical errors.
- A culture shift happened once providers started seeing the impact on their patients and once there was data showing improvements in patient outcomes and reductions in hospitalizations.
- To maintain the culture change, new-hires in behavioral health are mentored over 4-6 weeks so that they can learn to assess and treat suicidality. Staff also complete an annual suicide-risk training.

Clinical Practice

- All behavioral health patients are screened at each visit with the PHQ-9 and, if suicidal, the C-SSRS.
- Primary care patients are similarly screened annually or when presenting with a behavioral health condition.
- The emergency departments screen all patients aged 13-17 presenting with a behavioral health concern with the Ask Suicide Screening Questions, and all adult patients with the Patient Safety Screener-3.
- Behavioral health patients who are suicidal receive lethal means counseling and a CRP, a safety plan developed using B-CBT concepts.

- Patients in primary care or the emergency department are connected to behavioral health services in one of three ways:
  - An integrated behavioral health provider, if available at the facility.
  - An e-triage counselor, if available within the region, who provides a diagnosis and referral.
  - A level of care assessment, available 24-7, and referral to behavioral health services.
  - Each of these services involves an assessment of lethal means.
- Adult patients discharged from a psychiatric hospitalization receive follow-up phone calls.
  - Avera has partnered with the Helpline Center to provide follow-up calls in South Dakota.
  - Avera also has a behavioral health navigator to provide follow-up to patients who do not meet criteria for the Helpline Center program.

Infrastructure

- In their EHR, Avera tracks whether patients receive a PHQ-9, a C-SSRS if suicidal, a safety plan or CRP, and lethal means counseling.
- These process measures are tracked on a dashboard available to providers, and clinical managers are automatically sent reports each day on how their team is doing with screening.
- Avera is in the process of establishing a flag for those who have attempted suicide in the past 2 years and establishing an automatic notification to outpatient providers if their patient is hospitalized.
- Currently, a scanned image of the CRP card is uploaded to a patient's EHR.
- Avera has partnered with South Dakota to learn which patients died by suicide, and they found that some had never received behavioral health services.

Sustainability Themes:

Funding Sources

- Avera partnered with the Helpline Center to offer the QPR and QPRT training. The Helpline had a grant to cover the cost of the trainers.
- Avera paid for the development of their own short suicide-risk training, B-CBT training, and for one staff to become a B-CBT trainer.
- Follow-up calls with the Helpline Center are currently covered under a SAMHSA COVID-19 grant.
- Avera has an annual behavioral health fundraiser, which pays for their behavioral health navigator.
- In some locations, Avera was able to use a SAMHSA SBIRT grant to help pay for materials (e.g., tablets) for screening in primary care clinics, and for a counselor's time to help with the brief intervention and referrals.

  - Providers do not bill insurance for SBIRT unless the patient is seen by an integrated therapist.
- Avera received a HRSA grant for e-triage services.
- Avera is becoming an ACO, so the reduction in rehospitalizations among suicide-risk patients provides additional financial benefits to the health system.

Cost Savings

- Avera has seen a 45% decrease in rehospitalization among patients with suicidal ideation.

Other Drivers of Sustainability

- The Joint Commission's screening standards have helped sustain suicide screening in the hospital.
- Having data to show improvements in patient outcomes and to give providers feedback has helped sustain the work and get buy-in from leaders and providers across the organization.
- There is a national Zero Suicide listserv that has allowed Avera to learn from other health systems that are trying to implement and sustain Zero Suicide.
- Avera has involved people with experience related to suicide loss in their Zero Suicide committee and their ongoing trainings and events. This has helped provide more insight and meaning to their work.

Greatest Challenges:

- Continuity of care across health systems and settings is an ongoing challenge. Avera is trying to address this by using behavioral health navigators and by encouraging the implementation of Zero Suicide among other providers in the community.
- Avera's legal team had concerns about handing out gun locks to patients. Instead of providing gun locks, providers share information on how to store guns safely. Many family members of patients seek out this information.
- Avera switched its inpatient program protocol to CRPs on small cards instead of safety plan forms. In post-discharge follow-up calls, staff have seen an increase in the number of patients using and maintaining their CRPs.

Appendix B: Zero Suicide Discussion Guide

This discussion guide is intended to facilitate key informant discussions with a range of Zero Suicide stakeholders during case study site visits. Specifically, information gathered will be used to inform answers to the following research questions:

RQ 1: How have programs implemented Zero Suicide prevention practices?
RQ 2: How have programs sustained Zero Suicide prevention practices?
RQ 3: Which components of Zero Suicide were most difficult (or impossible) to implement and sustain?

Note: Themes are in **bold**, and questions are colored and labeled according to the relevant research question (RQ). These questions may be further tailored to the study site and key informant. Discussions will center on Zero Suicide implementation and sustainability prior to COVID-19. However, when applicable, key informants will be asked to distinguish any changes made to the Zero Suicide initiative (e.g., implementation, financing) in response to the pandemic.

---

1. Background Information

1.1 What is **your role** at [site]?

1.2 Before talking about Zero Suicide, can you tell us about the general structure and types of services offered at **your organization**?

1.3 When did your site **first begin to implement** the Zero Suicide framework?

2. Implementation

2.1 What **elements of Zero Suicide** has your organization implemented? (RQ1)

a. Which elements have **you specifically helped implement**? (RQ1)

2.2 How well have these elements **fit with your organization's other goals** and stated health objectives? (RQ1)

2.3 How **receptive have your clients been** to the Zero Suicide initiative? (RQ1)

a. How do you keep clients engaged in suicide prevention activities? (RQ1)

2.4 How has implementing **Zero Suicide impacted** the lives of your **clients**? (RQ1)

2.5 What **changes in clinical practice** took place, or are taking place, to implement Zero Suicide? (RQ1)

a. How has Zero Suicide impacted the **flow of clients** through your health system? (RQ1)

b. How has Zero Suicide changed the **need for resources and capacity** within your clinical practice? (RQ1)

a. What have been the **hardest clinical practices to change**? Why have they been hard to change? (RQ3)

b. What have been the **easiest clinical practices to change**? Why have they been easy to change? (RQ3)

2.6 What **cultural changes** took place, or are taking place, to implement Zero Suicide? (RQ1)

2.7 What **infrastructure changes** took place, or are taking place, to implement Zero Suicide? (RQ1)

c. How have these changes impacted the efficiency and effectiveness of delivering services and implementing Zero Suicide? (RQ1)

d. What changes were user friendly and well accepted? (RQ1)

e. What changes were **not well accepted** and later removed or revised? (RQ1)

2.8 What other **organizations**, if any, have **you partnered with** to implement Zero Suicide? (RQ1)

f. How **have these organizations helped** you implement Zero Suicide? (RQ1)

g. What roles have **community partners** played, if any? (RQ1)

h. What roles have **state partners** played, if any? (RQ1)

i. What **partnerships would you recommend** that other organizations try to establish while implementing Zero Suicide? (RQ1)

2.9 Overall, what have been the biggest **barriers in implementing** Zero Suicide? What have been the biggest **facilitators**? (RQ3)

3. Cost

Now we would like to talk a little bit about the cost of different aspects of the Zero Suicide initiative.

3.1 As your organization has implemented Zero Suicide, which elements, strategies, or activities **had a low cost but a large impact**? Which **had a large cost but little impact**? (RQ1)

j. What type of **training is worth the cost**? How much is it worth the cost? (RQ1)

3.2 Has your organization done any **studies on costs** or cost offsets/savings from Zero Suicide? If so, what were the results of those studies? (RQ2)

3.3 What are the **billable services** related to Zero Suicide? (RQ2)

3.4 What are the **nonbillable services and activities** related to Zero Suicide? (RQ2)

3.5 How would you **rank** the Zero Suicide services and activities by magnitude of cost? (RQ2)

4. Sustainability and Funding

4.1 What have been your organization's **primary strategies** in sustaining Zero Suicide thus far? (RQ2)

4.2 What are your organization's **plans to sustain** Zero Suicide in the future? (RQ2)

4.3 Did you **receive any grant funding** for Zero Suicide? (RQ1)

a. What activities have the **grants funded**? (RQ2)

b. How will you **sustain** those activities **when grant funding ends**? (RQ2)

4.4 What **billing codes** does your organization use to get reimbursed for clinical activities? (RQ2) (This question and the sub-questions below may be asked with question 3.3.)

k. How did your organization **implement these billing codes**? (RQ1)

l. What process does your organization have for **recording the billing codes**? What is your **role in this process**? (RQ1)

m. How **frequently** are billing codes used for Zero Suicide? Would it be possible to get **aggregate estimates utilization** for the different billing codes? (RQ1)

c. What are the **biggest barriers to using billing codes**? What are the **biggest facilitators**? (RQ3)

4.5 How have **nonbillable activities** been **funded**? (RQ2) (This question and the sub-questions below may be asked with question 3.4.)

a. Do you have a **budget** for Zero Suicide? (RQ2)

b. If funded internally, what were the **factors that led to the investment decision**? How were **funds shifted** to pay for this? (RQ2)

c. What **other sources of funding** has your organization leveraged to help pay for Zero Suicide? (RQ2)

4.6 What have been the biggest **barriers in sustaining** Zero Suicide? What are the biggest **facilitators**? (RQ3)

5. Closing

5.1 What have we not asked about that **you think is important/relevant** to understanding Zero Suicide within your organization? (RQ3)

5.2 If you were to do things again, what would you **do differently**? (RQ3)

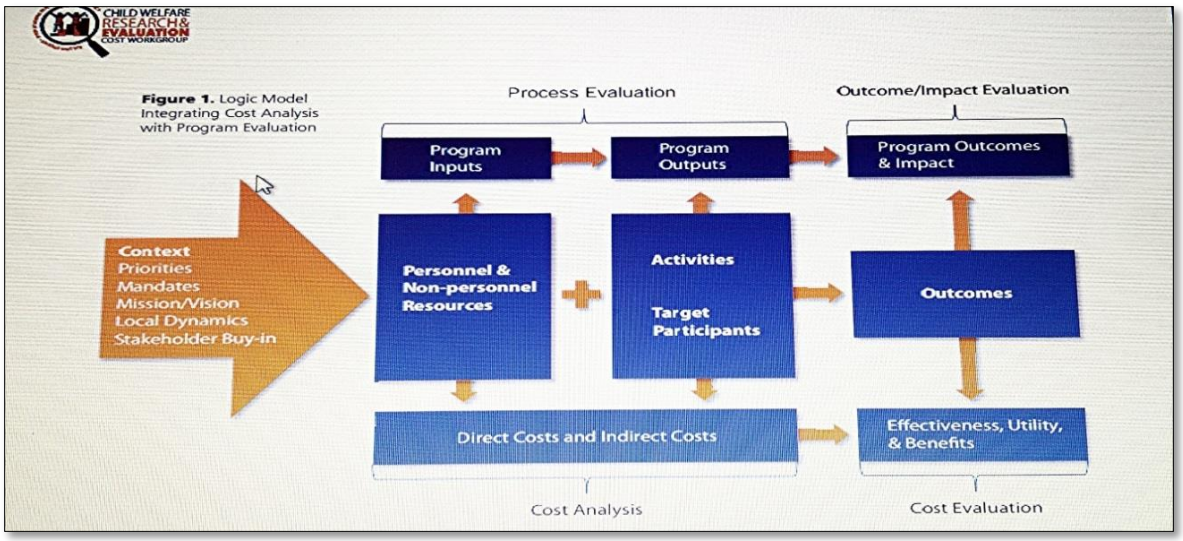
5.3 What **advice** would you give to another program that wants to implement Zero Suicide? (RQ3)

Appendix C: Centerstone Enhanced Crisis Follow-Up Program Cost Study

The evaluation team developed a framework to capture projected and actual costs associated with providing the follow-up service to Centerstone clients. The purpose of this sub-study was to assess the general estimated cost-effectiveness of the program.

Cost Study Description: Centerstone Research Institute worked in partnership with Centerstone to assess the cost of the C-CFP model by collecting service data that corresponds to grant-funded service activities. Cost-related data for our program included the following: service completions, duration of service, and estimated costs of services. **Figure C-1** illustrates how analyzing cost structure data complements program evaluation efforts to connect specific program inputs (and associated costs) with outcomes.

Figure C-1. Cost Study and Logic Model[89]



Cost Study Data Collection Procedures:

- Because the Centerstone EHR captured the duration and service content of each call, separate cost-study databases were not generated to collect this data from staff. Thus, the Centerstone EHR functioned as the primary data collection tool for this cost study.
- The evaluation team met with the project director to itemize direct and indirect expenses associated with grant services. Direct expenses included staff time associated with making the follow-up calls to adults enrolled in the program. Indirect expenses included items such as the cost of hiring and training staff and recurring technology maintenance fees.
- The evaluation team also worked with the project director to pull EHR information related to the cost study such as the total number of calls completed during the grant, the range and average of time per call, the number of successful program

completions and the recidivism rates (i.e., return to emergency department due to suicide risk) of program participants.

Cost Study Analysis: The C-CFP cost study analysis was completed according to best practice recommendations. Specifically, we used a guide created by James Bell Associates (i.e., Cost Analysis in Program Evaluation)[89] to frame our primary analysis questions. Cost study outcomes are described below.

- **Cost Study Question 2: What is the average cost per Centerstone Crisis High Risk Follow-up Program (CC-HRFP) participant enrolled?**

  Centerstone was awarded $773,325 for the implementation of the C-CFP; of which a total of $650,045.56 was spent during the grant award period. With grant funds allocated, Centerstone enrolled and served 951 individuals in the C-CFP. Thus, the average cost per participant enrolled was $683.54.

- **Cost Study Question 3: What is the average cost savings per individual diverted from a future episode of suicide-related psychiatric hospitalization?**

  In preparation for this cost study, the evaluation team met with the Tennessee Department of Health in hopes of ascertaining data related to the average cost of suicide-related psychiatric hospitalization in the State of Tennessee. The evaluation team utilized data compiled by the Tennessee Department of Health for 2016 suicide and suicide attempt hospitalization rates.

  According to data compiled by Hongyan Ma, MS (Epidemiologist, Tennessee Department of Health), the average cost in Tennessee during the grant period per incidence of psychiatric hospitalization related to suicide (i.e., suicide attempt) was $26,975. Thus, after accounting for the cost of C-CFP program and nondiverted hospitalization costs, the average cost savings for a single individual diverted from a psychiatric hospitalization due to suicidal behavior is estimated to be $26,263.79 (i.e., 97.4% of cost saved).

- **Cost Study Question 4: What is the estimated total cost savings of the CC-HRFP?**

  In our study of the CC-HRFP, of the 951 enrolled, 914 (96.1%) were not hospitalized for a psychiatric reason related to suicide during their 30-day enrollment in the C-CFP, whereas only 37 (3.9%) were hospitalized for a psychiatric reason related to suicide. According to a study conducted by Madsen et al.[90] comparing emergency department recidivism rates of patients hospitalized for suicidal (i.e., ideation, gestures, attempts) versus nonsuicidal psychiatric complaints, the 30-day recidivism rate was 17.5% for suicidal patients.

  Using the Madsen et al.[90] study as a benchmark, we calculated the projected amount of emergency department and hospitalization-related cost savings for our participants. The Madsen et al.[90] study outcomes are relevant as a theoretical benchmark considering that: (a) the sample was comprised of community-based adults; and (b) researchers analyzed recidivism rates for suicide-related risk (versus not a suicide risk) at 30 days. Specifically, we calculated the estimated total amount of cost saved using the process described below.

Percent difference in recidivism rates: 17.5%[90] – 3.9% (Centerstone C-CFP) = 13.6%.

Estimated number of individuals prevented from recidivism: 957 (C-CFP participants) * 0.136 = 125 persons diverted from additional medical care within 30 days.

Estimated cost savings of prevented psychiatric hospitalizations for suicide (i.e., if 125 persons had been hospitalized) = 125 persons * $26,975 (i.e., Tennessee 2016 average charge per suicide-related hospitalization) = $3.371,875 – $650,045.56 (grant award spent for service provision) = **$2,721,829.44**.

Section VI: Conclusion

Initial descriptive indicators of the C-CFP program goals (e.g., number served, referral linkages, zero suicide deaths) suggest that the C-CFP was effective in meeting and exceeding its goals. Further, cost analysis estimates for the C-CFP suggested that the program yielded substantial systemic net savings. That is, the cost to implement the program was markedly less than the projected cost of providing subsequent medical care for projected future hospitalizations.

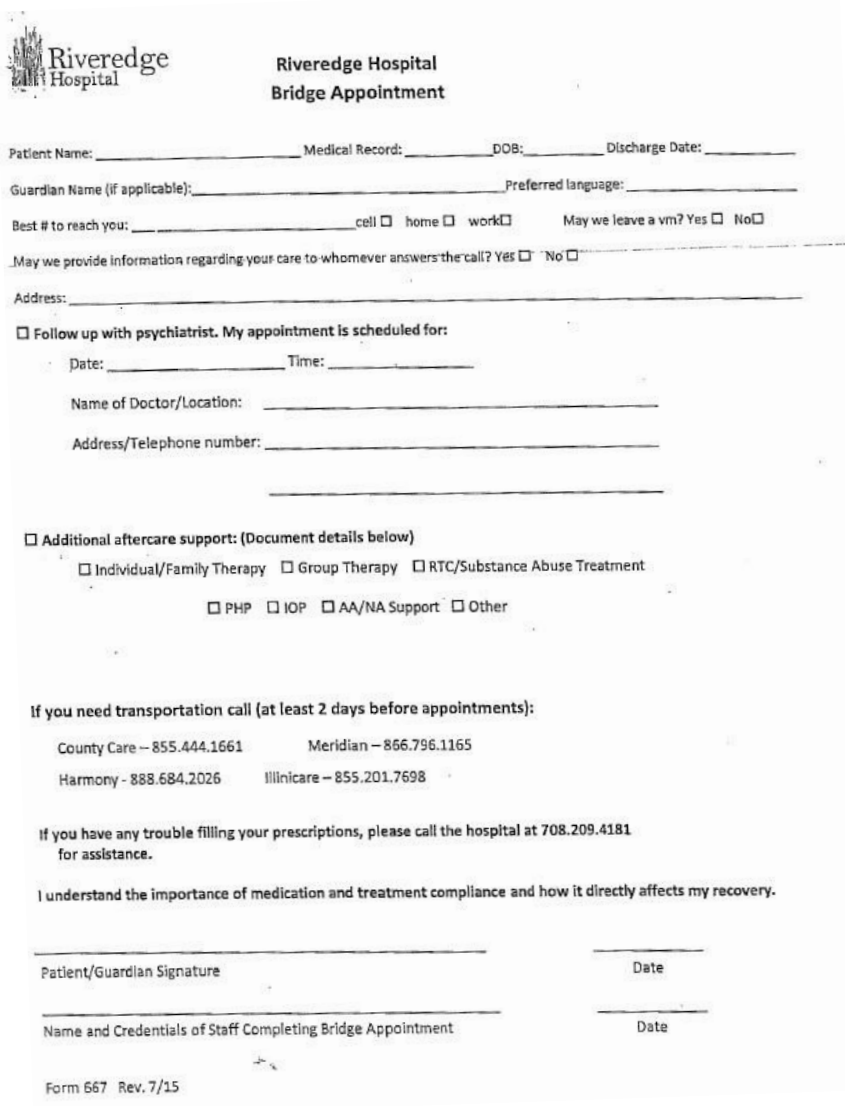
Appendix D: Process and Outcome Measures

Table D-1. Process and Outcome Measures by Zero Suicide Pillars of Implementation
Lead
• Results from workforce surveys
Train
• Staff trained in suicide prevention. • Change in safety plan usage following trainings.
Identify
• Suicide-risk screenings completed. • Suicide-risk assessment completed following positive screen. • Patients identified at moderate or high risk of suicide based on the assessment.
Engage
• Completion of suicide care management plan following positive screen. • Lethal means counseling following positive screen. • Follow-up appointments that were attended by patients who screen positive.
Treat
• Rate of referrals to specialized treatment. • Suicide prevention pathway declined or not completed by patient.
Transition
• Outpatient follow-up appointment scheduled within 48 hours of discharge. • Patients who attended a follow-up appointment within 48 hours of discharge. • Follow-up calls completed with a patient.
Improve
• Emergency department visits requiring psychiatric assessments • Psychiatric inpatient admissions • Rehospitalizations among patients • Intentional self-harm among patients • Suicide deaths among patients • Policy changes related to suicide prevention efforts

Appendix E: Examples of Forms and Letters Used with Zero Suicide

Bridge Appointment Form Used by Riveredge Hospital

These appointments were conducted prior to discharge between the patient and a staff member who specialized in this task. The discharge and safety plans are reviewed, as well as ongoing medications and treatment needs. The staff member who fills out this form with the patient will provide a follow-up contact within the next few days after discharge (see below) and will forward necessary medical records to the medical provider with whom the patient will be meeting.



Riveredge Hospital

Riveredge Hospital
Bridge Appointment

Patient Name: _____ Medical Record: _____ DOB: _____ Discharge Date: _____

Guardian Name (if applicable): _____ Preferred language: _____

Best # to reach you: _____ cell ☐ home ☐ work ☐ May we leave a vm? Yes ☐ No ☐

May we provide information regarding your care to whomever answers the call? Yes ☐ No ☐

Address: _____

☐ **Follow up with psychiatrist. My appointment is scheduled for:**

Date: _____ Time: _____

Name of Doctor/Location: _____

Address/Telephone number: _____

_____

☐ **Additional aftercare support: (Document details below)**

☐ Individual/Family Therapy ☐ Group Therapy ☐ RTC/Substance Abuse Treatment

☐ PHP ☐ IOP ☐ AA/NA Support ☐ Other

If you need transportation call (at least 2 days before appointments):

County Care – 855.444.1661 Meridian – 866.796.1165

Harmony - 888.684.2026 Illinicare – 855.201.7698

If you have any trouble filling your prescriptions, please call the hospital at 708.209.4181 for assistance.

I understand the importance of medication and treatment compliance and how it directly affects my recovery.

_____ _____

Patient/Guardian Signature Date

_____ _____

Name and Credentials of Staff Completing Bridge Appointment Date

Form 667 Rev. 7/15

Source: https://zerosuicide.edc.org/evidence/outcome-story/riveredge-hospital.

Post Discharge Caring Call Form Used by Riveredge Hospital

This form includes specific questions that are asked during the follow-up calls after a hospitalization. It is an opportunity to hear how the patient is doing, determine whether the patient is receiving appropriate treatment, and assess for suicide risk and behaviors.

Riveredge Hospital

Post Discharge Caring Calls

Patient Name:	Discharge Date:	Best contact number:
Address:		

"Hello, my name is _____. I am calling for (patient or caregiver's name).

"(Patient's Name), I am calling from Riveredge Hospital. This is a courtesy call to check on how you are doing since your discharge from our facility."

Target Date for 1st attempt: 72hrs post dc _____

Questions / Probes	*Patient Comments / Replies*	*Questions / Probes*	*Patient Comments / Replies*
How have you been doing since discharge?	Better: ☐ Worse: ☐ Same: ☐	Do you have any *immediate concerns* for your health or safety that cannot wait until your aftercare appointment? *If **YES**, elicit more information on how to assist, and offer guidance in seeking help.*	Yes: ☐ No: ☐ If Yes, comment_____
We want to remind you that you have a follow-up appointment with (name of provider) on (date/time). Will you be able to keep this appointment? *If **NO**, provide information from discharge instructions*	Yes: ☐ No: ☐ If No, new follow up plan:_____	Have you been able to obtain your prescription medications? *If **NO**, encourage patient to obtain medications, or to make this concern known to aftercare provider at next appointment.*	Yes: ☐ No: ☐ If no, why:_____
Have you had suicidal thoughts or attempts since discharge? *If **YES**, elicit more information on how to assist, and offer guidance in seeking help.*	Yes: ☐ No: ☐ If Yes, describe:_____	Have you engaged in any self-injury? *If **YES**, elicit more information on how to assist, and offer guidance in seeking help.*	Yes: ☐ No: ☐ If Yes, describe: _____

Follow up action taken:_____

Additional Comments:_____

Caring card sent: Yes No Date:

Attempts to contact:

Date: Start Time: End Time:	Name of Staff:	☐ successful ☐ no answer ☐ not available ☐ vm left ☐ refused call ☐ # disconnect/# not working
Date: Start Time: End Time:	Name of Staff:	☐ successful ☐ no answer ☐ not available ☐ vm left ☐ refused call ☐ # disconnect/# not working
Date: Start Time: End Time:	Name of Staff:	☐ successful ☐ no answer ☐ not available ☐ vm left ☐ refused call ☐ # disconnect/# not working

Form 409 Rev. 6/18

Source: https://zerosuicide.edc.org/evidence/outcome-story/riveredge-hospital.

Caring Letter Used by Centerstone

These letters are sent to patients when they have missed appointments and have not been responding to phone calls from Centerstone.

Date

Dear XXXX:

I hope you are doing well.

Over the past few weeks, I have not seen you for our scheduled appointments or been able to reach you. We have called you and your emergency contacts several times to check in, but we have been unable to make contact with you. I hope our not hearing from you means that you are feeling better, but if not, I hope you will remember that we are here if you need us.

Please know that I want to continue to be here for you, both to listen and to talk about how our working together is helping or not helping you. Also, I am happy to see if I can offer any community resources that might be helpful to your recovery.

I look forward to speaking with you soon, hopefully, for an update on how you are doing, and to offer any support that I can. Please call me at XXX-XXX and if I am not available and you need immediate assistance you can ask for the Clinic Manager.

Hope to hear from you soon,

Staff Name

Title

Source: https://zerosuicide.edc.org/resources/resource-database/centerstone-caring-letter-english-and-spanish.