Suicide is the tenth leading cause of death in the United States and is increasing in almost every state, despite rates falling globally. Often overlooked, health care systems and providers play an important and necessary role in reducing suicides. The myth has been that health care is not in a position to make a difference because most suicides do not occur within its scope, but emerging data paints a far different picture: 83 percent of those who die by suicide have seen a health care provider in the year before their death and 40–50 percent of suicide deaths have been within a month of a primary care visit.

Almost 40 percent of individuals who died by suicide had an emergency department (ED) visit in the year before their death but did not receive a mental health diagnosis. In another study of over 1,600 individuals with low acuity chief complaint visits to the ED, of the 48 percent who agreed to take part in a mental health assessment, 11 percent were at high risk for suicide behavior with 5 percent having had no diagnosis of depression or bipolar disorder. The health care landscape is ripe with the opportunity to identify, treat, and save people from suicide; however, most providers never ask people about their risk, most health care systems are poorly prepared to care for people at risk, and most individuals at risk often go undetected. These gaps in care are unnecessary based on current knowledge, and often fatal.

Recognizing the critical role of health care in preventing suicide, in 2012, the U.S. Surgeon General and the National Action Alliance for Suicide Prevention (Action Alliance) published a revised national strategy with new goals 8 and 9, calling for suicide prevention to become a “core component” of health care, and for improved professional and clinical practices. The emphasis called out health care explicitly as a setting to reduce suicides. Suicide prevention had not previously
been a priority. Most health care systems operated on the mistaken belief that suicide is an unfortunate but inevitable part of caring for persons with mental illness. Clinicians report being told, “If you haven’t experienced the suicide of a patient, you haven’t treated enough patients.”

While health care seems to be an obvious setting to identify and reduce suicides, current research suggests that no single approach will reduce suicide among individuals who are in care. Comprehensive, multi-component, system-wide approaches to suicide prevention have been shown to be effective in broad and diverse settings and likely are the keys to reducing suicide. Notably, training, protocols, practice guidelines, and quality assurance for fidelity to these practices must accompany any system-wide changes. Working closely with a health care system’s researchers and information technology staff, compliance officers and risk management staff are critical to adopting and sustaining practice changes.

One of the earliest examples that an innovative approach to suicide care within a health care system could be highly effective was at the Henry Ford Health System (HFHS). Following the 2001 Institute of Medicine’s *Crossing the Quality Chasm* report, HFHS, located in Detroit, Michigan, began a robust quality improvement program that initially was designed to reduce depression among patients. The goal of its Perfect Depression Care initiative was “zero defect” mental health care.

Stimulated by the call for fundamental changes to improve patient safety and aggressively pursuing zero defects, HFHS used deaths by suicide as one measure. Perfect Depression Care relied on suicide assessment for all behavioral health patients, means restriction for patients at acute risk for suicide, provider education, follow-up via phone calls, and peer support services. The HFHS Perfect Depression Care program reduced the suicide rate among patients receiving behavioral health care from an average of 96 people per 100,000 in 1999–2000 to an average of 24 per 100,000 in 2001–2010—a reduction of about 75 percent—signaling that sustained and robust health care improvements could affect suicide rates and setting a new bar for health care leaders.

Based on the impressive HFHS results, evidence from other organizations demonstrating that reducing suicide among behavioral health patients is possible, and the emerging evidence for specific interventions, the Action Alliance Clinical Care and Intervention Task Force recommended a seismic shift in values and culture along with a set of practices for optimal suicide care in health care, called Zero Suicide. Zero Suicide embraces the conviction that a radical and systematic approach to perfection is the only way to create dramatic change. In short, preventing suicide for those in care is possible.

Zero Suicide is both a concept—the unrelenting commitment to eliminate suicide deaths in health care—and a set of practices—implemented within a sustained practice change effort. The programmatic approach of Zero Suicide is based on the realization that suicidal individuals often fall through multiple cracks in a fragmented and sometimes distracted health care system, and on the premise that a systematic approach to quality improvement is as necessary as it would be to reduce any systemic harm. Zero Suicide fills the gaps that suicidal individuals fall through using training and evidence-based practices embedded in workflows to reduce harmful variation and increase patient safety. It bundles specific, evidence-based interventions shown to reduce suicide behaviors including:

- **LEAD**—A leadership-driven, safety-oriented culture committed to dramatically reducing suicide among people under care that includes suicide attempt and loss survivors in leadership and planning roles.
- **TRAIN**—A competent, confident, and caring workforce.
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■ IDENTIFY—Systematic identification and assessment of suicide risk among people receiving care.

■ ENGAGE—Compulsory suicide care management plans, or pathways to care, for those at risk that is both timely and adequate to meet the individual's needs and includes collaborative safety planning and restriction of lethal means.

■ TREAT—Use of effective, evidence-based treatments that directly target suicidality.

■ TRANSITION—Continuous contact and support, especially following acute care admissions.

■ IMPROVE—A data-driven quality improvement approach that informs system changes that will lead to improved patient outcomes and better care for those at risk.

Since its earliest inception in 2012, the Zero Suicide framework has been implemented, refined, and tested by a broad range of health and behavioral health systems demonstrating both feasibility and improved outcomes. Benefits have included a spectrum of care improvements such as those related to changes to screening or safety planning practices and also longer-term outcome measures such as decreasing rehospitalizations, cost savings, and especially reductions in suicide attempts and deaths.

Though still early on in adoption, several large health and behavioral health systems have obtained reductions in suicide deaths and attempts with sustained Zero Suicide implementation over the past several years. Avera Health, an integrated Catholic health system spanning five states in the upper Midwest, began implementing Zero Suicide in 2016 and approximately a year later observed a 97-percent decrease in suicide attempts among patients who had previously been hospitalized in the behavioral health inpatient units. At Centerstone, a large outpatient behavioral health nonprofit in Tennessee, the baseline rate for suicide before Zero Suicide implementation was 31/100,000. The suicide rate approximately three years into implementation dropped to as low as 11/100,000, a reduction of about 65 percent.

While Centerstone implemented the model broadly, a central innovation was creating a standard care pathway for individuals with acutely elevated risk, including immediate and persistent follow-up with any individual at risk missing a scheduled appointment. The Institute for Family Health (IFH), a network of 31 community health centers in New York State, saw a downward trend in its annualized suicide death rate, which began at an already low level of 6.15/100,000 to a remarkable level of 0.98/100,000, or less than 10 percent of the current national rate. Community Behavioral Health Centers (CBHCs) implementing Zero Suicide in Missouri saw a 32-percent reduction in suicide deaths over a two-year period during which the statewide rate was increasing.

Metrics related to reductions in rehospitalization and diversions from inpatient care are critical in evaluating the impact of Zero Suicide implementation on patient outcomes. In addition to the reduction in suicide attempts mentioned above, Avera Health saw a 52-percent reduction in emergency psychiatric assessments, a 32-percent reduction in ED readmissions among patients who had received inpatient behavioral health services previously, and a 45-percent decrease in rehospitalization (emergency department or inpatient setting) among patients with suicidal ideation (based on question 9 of the PHQ-9). Several inpatient psychiatric hospitals within the Universal Health Services (UHS) system, the largest inpatient psychiatric hospital system in the United States, also demonstrated drops in readmissions following suicide care improvements grounded in Zero Suicide and specifically focused on discharge planning and follow-up care. Notably, there was a nine percent decrease in 90-day readmissions and a 21-percent decrease in 30-day readmissions compared to previous year baselines in two separate
hospital locations where there was fidelity in implementation of new discharge planning and follow-up practices.\textsuperscript{19,20} At The Chickasaw Nation Departments of Health and Family Services, compared to a yearly average of 120-150 inpatient treatment admissions, an average of 200 diversions from inpatient treatment was observed after Zero Suicide implementation.\textsuperscript{21} A baseline comparison of mental health clinics in New York on dimensions of Zero Suicide fidelity and suicide deaths in the prior six months found fewer suicide deaths in clinics with better fidelity.\textsuperscript{22}

While implementing all of the components of the Zero Suicide framework outlined earlier are judged necessary to achieve optimal change, indicators of progress should also be context-specific and tailored to the organization’s mission (e.g., behavioral health/primary care, acute/continuing care) and its priorities for Zero Suicide adoption. Measuring the faithfulness to implementation of each specific clinical intervention as well as the bundle of interventions ensures fidelity in implementation, a key ingredient of success. For example, after embedding the Stanley/Brown safety planning template in their electronic health record, providing training, and closely monitoring adherence to this practice over two years, safety plan use at IFH by primary care providers for their patients who screened positive for suicide increased from 38 to 84 percent.\textsuperscript{23} In addition, AtlantiCare Health System, a large health system in New Jersey, increased the follow-up appointment show rate after discharge from inpatient psychiatric care from 50 to 100 percent among patients engaged in a new suicide prevention protocol consisting of a bundle of interventions that aligned with the Zero Suicide framework.\textsuperscript{24} Within each of these successful agencies, their relentless commitment to continuous quality improvement unearthed discrepancies in fidelity, areas for training, and opportunities to improve care.

Even with policy and protocol changes, compliance with suicide safe care practices can take years to successfully install and demonstrate change. For example, in The Netherlands, on average, 40 percent of all suicides were by patients treated by mental healthcare institutions (MHIs).\textsuperscript{25} Suicide researchers in The Netherlands observed a marked degree of practice variation in the care for patients at risk of suicide in The Netherlands with two out of three MHIs lacking well-defined suicide prevention standards. Essentially, whether suicidal patients received safe quality care was luck in getting to the right institution. As a result, in 2012, the Dutch practice guidelines for diagnosis and treatment of suicidal behavior were published alongside a train-the-trainer program. Evidence in The Netherlands indicated that implementing guideline recommendations for the diagnosis and treatment of suicidal behaviors significantly reduced the odds for patients to die by suicide. Marked practice variation, however, existed among the 24 specialist MHIs that were part of this study. Performance on six out of the 10 recommendations did not improve in three years, speaking to the need for a rigorous approach to quality improvement and compliance monitoring to achieve reliable safety and quality.

The evidence base for elements of safe and reliable suicide care has expanded dramatically in the past decade. Today, evidence exists for each of the individual components that are part of the Zero Suicide framework: standardized and routine screening and assessment,\textsuperscript{26,27} collaborative safety planning,\textsuperscript{28} reducing access to lethal means,\textsuperscript{29,30} treatment that targets suicidal thoughts and feelings directly,\textsuperscript{31} and follow-up during acute care transitions to reduce suicide,\textsuperscript{32} as well as for fidelity to the bundle of interventions.

Despite the evidence for each of these practices, they are still underutilized. Health professionals should use these
as a harbinger that suicide care and expectations of providers are changing, the American Medical Association recently adopted resolution 312. It states that the AMA will “engage with the appropriate organizations to facilitate the development of educational resources and training related to suicide risk of patients, medical students, residents/fellows, practicing physicians, and other health care professionals, using an evidence-based multidisciplinary approach.” This is a clear signal to providers that using what works in suicide care is equally as important as would be expected for any other medical diagnosis.

Similarly, Resolution 71: Creation of a Suicide Prevention Task Force and Resources for Pediatricians, Healthcare Organizations, Schools and Community Organizations Who Serve Children and Adolescents was one of the top 10 American Academy of Pediatrics (AAP) Board of Directors resolutions adopted in March 2018. The AAP has released resources for pediatricians and is creating a centralized location on the AAP website for suicide care. In addition, the AAP is partnering with national organizations to enhance training and educational efforts for pediatricians and to advocate at the community, state, and federal levels for access to evidence-based mental health services.

To support health care organizations seeking to adopt a Zero Suicide framework, there is an online evolving toolkit available at www.ZeroSuicide.SPRC.org that includes tools, resources, and the research behind the interventions, developed and managed by the SAMHSA-funded Suicide Prevention Resource Center (SPRC). Recognizing that the workforce is ill prepared, SPRC offers an online workforce survey for health care systems who are adopting Zero Suicide and want to assess the self-reported comfort, competence, and skill of their workforce. Of over 15,000 health care providers who have taken the survey, results reveal that...
less than one-third report feeling knowledgeable about warning signs for suicide, understand their organizational procedures for those at increased risk, and are confident in their ability to respond. Only 35.5 percent report using a standard tool, instrument, or rubric for screening or assessment despite the availability of these resources. Among those responsible for delivering treatment ($n = 4,101$), only one-third strongly agree that they are confident or comfortable providing treatment to patients with suicide risk. These results present opportunities for local and national organizations and health care systems to create a set of expectations, offer tools, and educate staff.

There is a groundswell of evidence now that focusing on health care systems and the education of providers is a realistic, achievable, and necessary target for reducing suicide. Compliance responsibilities for health care organizations treating patients with elevated suicide risk are evolving rapidly, but until recently, there were few explicit expectations. The Joint Commission’s 1998 Sentinel Event Alert\(^\text{39}\) established the first “bright line” accountability for suicide in health care by defining suicide of a patient in a hospital (originally, only applied to psychiatric units or facilities) as a sentinel or “never event.” Hospital accountabilities included a recommendation—not a requirement—for reporting to The Joint Commission, a requirement to conduct a Root Cause Analysis of the event, and to make indicated improvements. The Sentinel Event Alert was modified to apply to all areas within hospitals and to include suicides within 72 hours of discharge. More recently, under pressure from the Centers for Medicare & Medicaid Services (CMS), The Joint Commission has been focused in its surveys on eliminating “loopable” objects (anything that a patient could use with clothes or sheets to asphyxiate themselves) in psychiatric units.

The Joint Commission also established a related National Patient Safety Goal (NPSG) for hospitals with a focus on reducing or eliminating inpatient suicides. NPSG 15.01.01 was just updated in 2018 and was designed “to improve the quality and safety of care for those who are being treated for behavioral health conditions and those who are identified as high risk for suicide.” A suite of suicide prevention resources to support Joint Commission Accredited organizations implementation of NPSG 15.01.01 was released November 2018.\(^\text{40}\)

A recent systematic analysis of suicide deaths in hospitals revealed that the number of inpatient suicide deaths is substantially less than had been conjectured. Williams et al\(^\text{41}\) used data from the Centers for Disease Control and The Joint Commission’s own database to show that the number of inpatient suicides in the United States is only about 70 per year. This data, combined with studies\(^\text{42}\) showing many more suicide deaths occur for patients being treated in outpatient settings, suggest that treatment efforts and the focus of compliance protocols should shift toward outpatient and emergency care settings. Given the still-inadequate supply of alcohol and drug treatment facilities, recent data are not available on suicide deaths among patients receiving substance misuse treatment; however, suicide rates are known to be extremely high for individuals with opioid use disorders.\(^\text{43}\)

There is a paradox and challenge, however, that will have to be overcome for suicide care in outpatient settings to be successful. Expectations for safe and effective suicide care are not yet broadly established, and providers lack training in working with suicidal individuals. In an environment marked by fear of liability and constrained resources, hospitalization may be used for people who could be managed in community settings. While suicide deaths on inpatient units are
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extremely rare, the rate of suicide deaths in the days and weeks following an inpatient admission is extremely high. This high incidence of suicide deaths following inpatient admissions reveals a severe fissure in care and an opportunity for better collaboration and continuity of care. It is incumbent that health care leaders, and those who accredit their institutions, find solutions to these challenges through innovation and accountability. Further, medication treatment alone for underlying health diagnoses is often the norm, rather than integrated care addressing both underlying behavioral health concerns with psychosocial interventions for suicidality.

The emerging compliance focus on preventing suicide must move beyond a focus on inpatient settings to improve safety and quality in ambulatory care settings and emergency departments. This emerging focus has been driven by the rise in and public concern about suicide rates, by the increased awareness of suicide’s nexus to health care, and by development of effective ways to detect and manage suicidality. These trends are shaping an increased focus on “suicide care” beyond inpatient psychiatric care and increasing the need for managing compliance with adequate “suicide care” practices.

In just the last few years, a cascade of effective suicide care practices have led to explicit increases in compliance-ready expectations and a roadmap for the future. In 2012, the updated U.S. National Strategy for Suicide Prevention signaled the emerging nature of this direction by adding goals specific to health care as an important setting for reducing suicide; galvanized by the work of a task force on clinical care and intervention, the Action Alliance made improved efforts in health care one of its major priorities; and successful demonstration that suicide could be reduced for those in care using a bundle of interventions was achieved.

In 2016, The Joint Commission issued Sentinel Event Alert 56, urging “all health care organizations providing both inpatient and outpatient care to better identify and treat individuals with suicidal ideation” (The Joint Commission, 2016). While such alerts do not have the force of accreditation standards, they signal attention to developing expectations. Other accrediting bodies (Council on Accreditation—COA and Commission on Accreditation of Rehabilitation Facilities—CARF) made changes to their standards. These developments indicate that improved opportunities for suicide care are becoming explicit compliance expectations, and health care systems should be prepared to adapt to these expectations.

A final and recent development signaling increased compliance expectations for health care settings was the release of the report “Recommended standard care for people with suicide risk: Making health care suicide safe.” This 2018 report by the Action Alliance synthesized research (on effective identification of people with near-term risk of suicide, and on effective, mostly brief interventions) with an assessment of the feasibility and practicality of implementing these actions in typical health care settings. It is expected to help define acceptable care in ordinary settings, and thus to identify a framework for compliance and risk management.

Conclusion

Every minute of every day suicide is impacting the lives of hundreds of people across the nation. It robs us of our family, friends, colleagues, and our community’s most valuable resource, our people. Perhaps surprisingly, health systems and settings are both a part of this problem and likely a central part of the solution. Medical and clinical professionals have always saved lives, but Zero Suicide shows they can have a far deeper impact.
Addressing care of suicidal patients is both a quality and safety imperative. Evolving accreditation requirements along with an improved understanding of the dynamics inside health care organizations has resulted in a singular focus on raising the questions and solving problems that at one time were deemed to be too time consuming or difficult to solve. The evidence now exists for the effectiveness of both the elements of suicide safe care and for the comprehensive, bundled approach known as Zero Suicide; however, much work must be done. It is clear that systematic and measurement-based approaches to implementation—in other words embedding compliance into care—are essential. These multi-layered approaches assure that no one slips through the cracks.

Insightful leaders committed to the pursuit of Zero Suicide will help us make significant strides toward eliminating these tragic and avoidable deaths. For health care organizations, in addition to training and implementing suicide care pathways, this will require extending compliance activities to assure implementation steps are adequate, and to minimize risk exposure. Payers and regulators will need to consider whether to embed expectations about standard suicide care practices in contracts, accreditation, and licensure requirements. Turning back the tide of rising suicide deaths is possible. Health care organizations around the world are becoming central players in solving this complex problem. This cannot occur successfully without building suicide care expectations into the clinical and compliance fabric of the health system.

Endnotes
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