# Suicide Research Prioritization Plan of Action

## Research Prioritization Task Force

www.suicide-research-agenda.org

National Action Alliance for Suicide Prevention
The Public-Private Partnership Advancing the National Strategy for Suicide Prevention

## Suicide Research Prioritization Plan of Action

This plan of action table outlines the connections between the Key Questions, Aspirational Goals, Research Pathways, Short-term Objectives and Long-term Objectives, which are discussed in *A Prioritized Research Agenda for Suicide Prevention: A Plan of Action to Save Lives*. Each Key Question relates to one or more of the Aspirational Goals. Under each Key Question, there are a number of Research Pathways and three Short-term Objectives and three Long-term Objectives. Multiple Research Pathways may lead to the achievement of a Short- or Long-term Objective. Below, each Research Pathway is only listed once; however, a Short-term or Long-term Objective may be listed more than once depending on the Research Pathways tied to their achievement. Each Short-term and Long-term Objective is bolded in its first mention in the table and not bolded in any instance after that.

For further background on each Key Question, please refer to the full Agenda, which can be accessed at: www.suicide-research-agenda.org.

# Suicide Research Prioritization Plan of Action Table

| Aspirational Goal | Research Pathways | Short-term Objectives | Long-term Objectives |
|---|---|---|---|
| **Question 1—Why do people become suicidal?** | | | |
| **Aspirational Goal 1: Know what leads to, or protects against, suicidal behavior, and learn how to change those things to prevent suicide.** | Examine cognitive styles or traits and psychopathology constructs (e.g., chronic insomnia, aggression, impulsivity, complicated grief, executive dysfunction) in conjunction with reports of stressful events (e.g., early childhood versus current interpersonal traumas, recent job loss) to refine ways to identify subgroups more or less at risk for suicide. Identify reliable neural circuitry markers of suicidality (e.g., ideation, intention, lethality of attempts). | **Identify biomarkers (e.g., genetic, epigenetic, immune function, neuropsychiatric profiles) and their interactions that are associated with current and future risk status.**<br><br>**Identify cognitive dysfunction/neural circuitry profiles (e.g., anhedonia, impaired executive functioning) associated with suicide risk that may be amenable to current interventions.** | **Identify multiple risk models based on integrated data sources (genetic, epigenetic, life event exposure, health conditions, traits, brain circuitry, neuropsychological profiles, etc.) for future intervention development.** |
| | Examine how positive social connections can mitigate various stressors, such as interpersonal loss (e.g., death, divorce), health events (e.g., sudden critical illnesses, loss of mobility), legal problems, or shame and bullying. Determine how positive attachments can mitigate the negative effects of childhood trauma. | **Discover models that explain contagion as well as resilient healthy social connections among at-risk groups.** | **Determine how to improve and sustain beneficial social connection processes that reduce suicide risk.**<br><br>Identify multiple risk models based on integrated data sources (genetic, epigenetic, life event exposures, health conditions, traits, brain circuitry, neuropsychological profiles, etc.) for future intervention development. |

| Aspirational Goal | Research Pathways | Short-term Objectives | Long-term Objectives |
|---|---|---|---|
| Aspirational Goal 1—Know what leads to, or protects against, suicidal behavior, and learn how to change those things to prevent suicide. (cont'd) | Apply network analysis approaches to understanding suicide acceptance and contagion, or resilience.<br><br>Determine whether the anonymity of online games or other social media affects expression of suicidal thoughts and how online reactions to suicidal content are helpful or harmful. | Discover models that explain contagion as well as resilient healthy social connections among at-risk groups. | Determine how to improve and sustain beneficial social connection processes that reduce suicide risk. |
| | Determine whether the "active ingredients" of interventions that reduce risk conditions (e.g., depression, addiction, insomnia, psychosis, agitation, pain) also reduce suicide risk.<br><br>Determine how the meaning of illness (as a stressful event) and mental and physical illnesses and their treatments affect brain functioning to contribute to suicide risk. | | **Determine if processes that reduce risk conditions (e.g., insomnia, addiction, agitation, pain) also mitigate suicide risk.** |
| | Conduct traumatic brain injury studies to determine what aspects of brain dysfunction link injury to suicide risk. | Identify cognitive dysfunction/neural circuitry profiles (e.g., anhedonia, impaired executive functioning) associated with suicide risk that may be amenable to current interventions. | |
| | Determine the role of inflammation and immune response in pathways to brain dysfunction, physical illness, and suicide risk. Explore the role of inflammation and determine the specificity peripheral and CNS cytokines as a potential biomarker for depression and suicide risk. | Identify biomarkers (e.g., genetic, epigenetic, immune function, neuropsychiatric profiles) and their interactions that are associated with current and future risk status. | Determine if processes that reduce risk conditions (e.g., insomnia, addiction, agitation, pain) also mitigate suicide risk. |

| Aspirational Goal | Research Pathways | Short-term Objectives | Long-term Objectives |
|---|---|---|---|
| Aspirational Goal 1—Know what leads to, or protects against, suicidal behavior, and learn how to change those things to prevent suicide. (cont'd) | Determine if there are neurocognitive deficits common to all types of suicidal behavior and which are associated with specific types of suicidal behavior (e.g., impulsive, chronic/ruminative, depressive). | Identify cognitive dysfunction/neural circuitry profiles (e.g., anhedonia, impaired executive functioning) associated with suicide risk that may be amenable to current interventions. | Identify multiple risk models based on integrated data sources (genetic, epigenetic, life event exposures, health conditions, traits, brain circuitry, neuropsychological profiles, etc.) for future intervention development. |
| | Explore how neurocognitive deficits can serve as targets for genetic, neurobiological, and brain imaging studies.<br><br>Evaluate the mechanisms by which neurocognitive deficits interact with social and environmental processes to influence suicidal behavior. | Discover models that explain contagion and resilient healthy social connections among at-risk groups.<br><br>Identify biomarkers (e.g., genetic, epigenetic, immune function, neuropsychiatric profiles) and their interactions that are associated with current and future risk status.<br><br>Identify cognitive dysfunction/neural circuitry profiles (e.g., anhedonia, impaired executive functioning) associated with suicide risk that may be amenable to current interventions. | Determine how to improve and sustain beneficial social connection processes that reduce suicide risk.<br><br>Identify multiple risk models based on integrated data sources (genetic, epigenetic, life event exposures, health conditions, traits, brain circuitry, neuropsychological profiles, etc.) for future intervention development.<br><br>Determine if processes that reduce risk conditions (e.g., insomnia, addiction, agitation, pain) also mitigate suicide risk. |

| Aspirational Goal | Research Pathways | Short-term Objectives | Long-term Objectives |
|---|---|---|---|
| Aspirational Goal 1—Know what leads to, or protects against, suicidal behavior, and learn how to change those things to prevent suicide. (cont'd) | Field integrated studies that combine multiple assessment approaches in large samples stratified for various characteristics of suicidal behavior and linked to daily experience of those at risk (e.g., are some neurocognitive deficits state-related just prior to an attempt?). | Identify cognitive dysfunction/neural circuitry profiles (e.g., anhedonia, impaired executive functioning) associated with suicide risk that may be amenable to current interventions. | Identify multiple risk models based on integrated data sources (genetic, epigenetic, life event exposures, health conditions, traits, brain circuitry, neuropsychological profiles, etc.) for future intervention development. |
| | Investigate different brain areas and cell populations to determine what brain systems/circuits and cellular fractions are affected by epigenetic changes associated with increased suicide risk.<br><br>Conduct prospective studies of epigenetic changes as a function of environmental stressors in longitudinal cohorts representative of the general populations. Determine the effects of possible covariates—such as gender, age, socioeconomic environment, and substance of abuse—on epigenetic changes.<br><br>Identify genetic mechanisms associated with the neural circuitry and suicidal behaviors that could elucidate molecular targets for interventions. | Identify biomarkers (e.g., genetic, epigenetic, immune function, neuropsychiatric profiles) and their interactions that are associated with current and future risk status. | Identify multiple risk models based on integrated data sources (genetic, epigenetic, life event exposures, health conditions, traits, brain circuitry, neuropsychological profiles, etc.) for future intervention development. |
| | Confirm the findings with microRNA sequencing and examine whether novel epigenetic regulations occur, or if there are any risk-conferring single nucleotide polymorphisms (SNPs) in microRNA sequences in patients with suicidal ideation.<br><br>Characterize microRNAs in various fractions of blood cells and examine whether microRNAs that are expressed in the brain are also expressed in blood cells for potential diagnostic and suicide risk value. Seek practical, peripheral biomarkers. | Identify biomarkers (e.g., genetic, epigenetic, immune function, neuropsychiatric profiles) and their interactions that are associated with current and future risk status. | |

| Aspirational Goal | Research Pathways | Short-term Objectives | Long-term Objectives |
|---|---|---|---|
| **Question 2—How can we better or more optimally detect/predict risk?** | | | |
| **Aspirational Goal 2—Determine the degree of suicide risk (e.g. imminent, near-term, long-term) among individuals in diverse populations and in diverse settings through feasible and effective screening and assessment approaches.** | Field screening studies with capacity for referral. Consider adapting programs such as Screening, Brief Intervention and Referral to Treatment (SBIRT) that have been used successfully in alcohol abuse detection and treatment.<br><br>Determine the relative value of screening approaches (within or separate from depression screening; passive and active ideation), and whether patient denial of ideation and plans are related to types of approaches. | **Improve care efficiencies and decision making tools by identifying screening approaches with concurrent and predictive validity with multiple care settings.** | |
| | Consider alternative validations for screens other than suicidal behaviors, including protective as well as risk factors. For example, a practical question could be to determine whether any clinical action is necessary, and the screen becomes an initial step in a clinical decision rule. Determine when acute risk trumps protective factors. Other validity outcomes could be suicide outcomes and service use. | Improve care efficiencies and decision making tools by identifying screening approaches with concurrent and predictive validity with multiple care settings. | **Determine low, moderate, and high lifetime-risk screening approaches for individuals so that appropriate preventive efforts can be sought.** |
| | Determine how clinical decision rules can help inform approaches to determine screening programs that are site-specific (e.g., VA, primary care, school-based clinics), and have recommended steps for identifying referral resources. | Improve care efficiencies and decision making tools by identifying screening approaches with concurrent and predictive validity with multiple care settings. | **Overcome low base-rate challenges and response bias by identifying innovative bio-statistical and other research methods.**<br><br>**Find a valid, feasible suicide risk screening approach that can be used across care settings, such as the Healthcare Effectiveness Data and Information Set (HEDIS).** |

| Aspirational Goal | Research Pathways | Short-term Objectives | Long-term Objectives |
|---|---|---|---|
| Aspirational Goal 2—Determine the degree of suicide risk (e.g. imminent, near-term, long-term) among individuals in diverse populations and in diverse settings through feasible and effective screening and assessment approaches. (cont'd) | In emergency care settings, research the effectiveness of documenting suicidal ideation that is expressed by intoxicated individuals (who may deny ideation when sober) as a component of treatment engagement.<br><br>Develop safe and fair approaches for obtaining collateral information from family members/guardians/significant others that can be explored through suicide risk screening and assessment. Develop methods for reporting results of screening back to family members/ guardians/significant others as appropriate.<br><br>Explore clinical decision-making methods to address disagreements between patient, family, and clinician impressions for suicide risk. | Improve care efficiencies and decision making tools by identifying screening approaches with concurrent and predictive validity with multiple care settings. | |
| | Find and test approaches that would translate screening programs into core performance measures, such as the Healthcare Effectiveness Data and Information Set (HEDIS). | Improve care efficiencies and decision making tools by identifying screening approaches with concurrent and predictive validity with multiple care settings. | Find a valid, feasible suicide risk screening approach that can be used across care settings, such as the Healthcare Effectiveness Data and Information Set (HEDIS). |
| | Determine the benefits of online screening approaches for various at-risk groups. What screening approaches are safe and helpful for individuals who prefer to share information with a provider who is based in health care services? What screening approaches are safe and effective for those who wish to avoid health care or are unable to seek health care services, such as through telehealth systems? | Improve care efficiencies and decision making tools by identifying screening approaches with concurrent and predictive validity with multiple care settings.<br><br>**Develop screening approaches using multiple methods that identify risk over time (e.g., activity monitors, mood assessments).** | |

| Aspirational Goal | Research Pathways | Short-term Objectives | Long-term Objectives |
|---|---|---|---|
| Aspirational Goal 2—Determine the degree of suicide risk (e.g. imminent, near-term, long-term) among individuals in diverse populations and in diverse settings through feasible and effective screening and assessment approaches. (cont'd) | Develop alternative or complementary screening methods that are less vulnerable to response bias or motivational demands (e.g., biological tests, behavioral tests, cognitive tests). | **Develop risk algorithms from health care data that can be used for suicide risk detection.**<br><br>Improve care efficiencies and decision making tools by identifying screening approaches with concurrent and predictive validity with multiple care settings.<br><br>Develop screening approaches using multiple methods that identify risk over time (e.g., activity monitors, mood assessments). | |
| | Test the benefits of routine brief screening of suicide risk factors in later life (e.g., distress, loss of function, chronic disease) at annual physical exams. Research could address the predictive validity of various risk or protective factors, while assessed risk information may provide opportunities to identify treatable morbidity.<br><br>Consider adaptive screening and testing software that shapes itself based on age, gender, circumstance, and experience, and looks for changes over time as a monitoring system for someone's mental health status. | Develop screening approaches using multiple methods that identify risk over time (e.g., activity monitors, mood assessments). | Determine low, moderate, and high lifetime-risk screening approaches for individuals so that appropriate preventive efforts can be sought. |
| **Aspirational Goal 3—Predict who is at risk for suicide in the immediate future.** | To understand current clinical practices and determine what needs to improve, analyze current health services data (e.g., electronic records, existing clinical notes) to examine factors or characteristics of individuals that may be markers or points in decision making for who gets hospitalized or discharged. | Improve care efficiencies and decision making tools by identifying screening approaches with concurrent and predictive validity with multiple care settings. | Overcome low base-rate challenges and response bias by identifying innovative bio-statistical and other research methods. |

| Aspirational Goal | Research Pathways | Short-term Objectives | Long-term Objectives |
|---|---|---|---|
| Aspirational Goal 3— Predict who is at risk for suicide in the immediate future. (cont'd) | Develop intensive monitoring of lifetime high-risk patients (e.g., positive family history for suicide, prior attempts, history for early abuse) to determine acute risk factors associated with suicide attempt/death, as well as factors that confer resilience (e.g., self-protective behaviors). | Improve care efficiencies and decision making tools by identifying screening approaches with concurrent and predictive validity with multiple care settings. | Determine low, moderate, and high lifetime-risk screening approaches for individuals so that appropriate preventive efforts can be sought. |
| | Develop tools to leverage information obtained from multiple assessments to inform clinicians' ability to identify an individual who may be likely to attempt suicide. Information could include self-reports of suicidal thoughts and biomarker tests. | Develop screening approaches using multiple methods that identify risk over time (e.g., activity monitors, mood assessments). | Determine low, moderate, and high lifetime-risk screening approaches for individuals so that appropriate preventive efforts can be sought. |
| | Test a combination of potential markers for near-term suicide risk (e.g., self-report, implicit association task, neuropsychological tests, biomarkers) within a treatment study with long-term follow-up and eventually link to death records. | Develop risk algorithms from health care data that can be used for suicide risk detection. | Determine low, moderate, and high lifetime-risk screening approaches for individuals so that appropriate preventive efforts can be sought. |
| | Encourage bio-statistical and other methodological development aimed at predicting low base rate outcomes in discrete time periods. | | Overcome low base-rate challenges and response bias by identifying innovative bio-statistical and other research methods. |
| | Explore the roles of patterns of care that are associated with increased risk, such as poor patient treatment adherence, patient-care provider 'ruptures in trust' or other therapeutic relationship changes. | Develop risk algorithms from health care data that can be used for suicide risk detection. | |

| Aspirational Goal | Research Pathway | Short-term Objectives | Long-term Objectives |
|---|---|---|---|
| **Question 3—What interventions prevent individuals from engaging in suicidal behavior?** | | | |
| **Aspirational Goal 5—Find new biology treatments and better ways to use existing treatments to prevent suicidal behavior.** | Expand pharmaceutical industry trials so that new and repurposed medication trials target suicidal symptoms and related cognitive dysfunction (e.g., anhedonia, hopelessness, impulsivity) in order to increase the number of available pharmacological treatment options that might mitigate suicidal risk. Consider policies to encourage safe and fair recruitment of suicidal patients in trials, including consistent approaches to assessing adverse events. | **Identify feasible and effective, fast acting interventions (e.g., new medicines with properties similar to certain fast acting anesthetics, treatment engagement interventions).** | **Determine whether treatment of risk conditions (e.g., insomnia, psychosis, agitation, parental psychopathology), including optimal adherence and complete response, mitigates suicide risk.**<br><br>**Identify biomarkers (e.g., neurocognitive profiles, genes, traits) that point to promising treatments (new, repurposed) and/or predict treatment response.** |
| **Aspirational Goal 4—Ensure that people who are thinking about suicide but have not yet attempted receive interventions to prevent suicidal behavior.**<br><br>**Aspirational Goal 5—Find new biology treatments and better ways to use existing treatments to prevent suicidal behavior.**<br><br>**Aspirational Goal 6—Ensure that people who have attempted suicide can get effective interventions to prevent further attempts.** | Determine whether approaches that reduce risk conditions (e.g., insomnia, psychosis, agitation) also mitigate suicide risk, and whether more adherent and complete responses to these conditions are sufficient to mitigate risk. | | Determine whether treatment of risk conditions (e.g., insomnia, psychosis, agitation, parental psychopathology), including optimal adherence and complete response, mitigates suicide risk. |
| | Determine if there are neurocognitive profiles and cognitive styles/patterns of thinking (e.g., endophenotypes) among psychiatric and substance use patients that can predict response and/or are responsive to intervention.<br><br>Use imaging techniques to study the effects of interventions on the neural circuitry of adults and youths; elucidate factors and neural circuitry associated with resilience, recovery, non-response to treatment. | | Identify biomarkers (e.g., neurocognitive profiles, genes, traits) that point to promising treatments (new, repurposed) and/or predict treatment response. |

| Aspirational Goal | Research Pathway | Short-term Objectives | Long-term Objectives |
|---|---|---|---|
| Aspirational Goal 4—Ensure that people who are thinking about suicide but have not yet attempted receive interventions to prevent suicidal behavior.<br><br>Aspirational Goal 5—Find new biology treatments and better ways to use existing treatments to prevent suicidal behavior.<br><br>Aspirational Goal 6—Ensure that people who have attempted suicide can get effective interventions to prevent further attempts. (cont'd) | Design interventions that address rapid fluctuations in suicidal thoughts or behaviors. | Identify feasible and effective, fast acting interventions (e.g., new medicines with properties similar to certain fast acting anesthetics, treatment engagement interventions). | Determine whether treatment of risk conditions (e.g., insomnia, psychosis, agitation, parental psychopathology), including optimal adherence and complete response, mitigates suicide risk. |
| | Develop interventions to address the needs of the highest risk groups (e.g., recently discharged, multiple comorbid conditions, family history of suicide, individuals with near lethal attempts). | **Find interventions for the highest risk groups in care settings or community settings (substance abuse specialty; jails; American Indian reservations) that reduce the risk of suicide.** | **Refine treatments for different high-risk populations (e.g., demographic groups, disease groups) by identifying prognostic variables/moderators of response and associated mechanisms from secondary analyses.** |
| | Conduct medication and psychotherapy trials in populations who have substance use or dependence (e.g., nicotine, alcohol, opioid). Test treatments in settings where the high-risk individuals can be found (e.g., emergency departments, inpatient units, jails, detoxification units, residential care). Across diverse settings, test interventions that can be managed by providers and supported by family members and/or peers. | Identify feasible and effective, fast acting interventions (e.g., new medicines with properties similar to certain fast acting anesthetics, treatment engagement interventions).<br><br>**Determine if adjunct interventions (e.g., safety planning, adherence interventions) focused on suicidal crises for patients receiving usual care for health conditions (e.g., psychiatric, substance use, physical illness conditions) are effective.**<br><br>Find interventions for the highest risk groups in care settings or community settings (e.g., substance abuse specialty, jails, American Indian Reservations) that reduce the risk of suicide. | |

| Aspirational Goal | Research Pathways | Short-term Objectives | Long-term Objectives |
|---|---|---|---|
| Aspirational Goal 4—Ensure that people who are thinking about suicide but have not yet attempted receive interventions to prevent suicidal behavior.<br><br>Aspirational Goal 5—Find new biology treatments and better ways to use existing treatments to prevent suicidal behavior.<br><br>Aspirational Goal 6—Ensure that people who have attempted suicide can get effective interventions to prevent further attempts. (cont'd) | Measure inclusion of potential high-risk demographic groups (e.g., veterans, American Indian/Alaskan Natives, survivors of suicide loss, individuals with frequent stressful events) and examine mediators and moderators of response to determine if refinement or adaptation of interventions is necessary. | | Refine treatments for different high-risk populations (e.g., demographic groups, disease groups) by identifying prognostic variables/moderators of response and associated mechanisms from secondary analyses. |
| | Determine whether interventions require adaptation to address unique mediators or moderators of response for specific high risk communities (e.g., American Indian Reservations, substance abuse patients). | Find interventions for the highest risk groups in care settings or community settings (e.g., substance abuse specialty, jails, American Indian Reservations) that reduce the risk of suicide. | |
| | Include standard measures in studies of natural experiments of targeted efforts to treat high-risk individuals (e.g., clozapine treatment in schizophrenia in the presence of suicide risk; Office of Mental Health, New York State, 2012) to examine clinical response among more diverse patients. | Find interventions for the highest risk groups in care settings or community settings (e.g., substance abuse specialty, jails, American Indian Reservations) that reduce the risk of suicide. | Refine treatments for different high-risk populations (e.g., demographic groups, disease groups) by identifying prognostic variables/moderators of response and associated mechanisms from secondary analyses. |

| Aspirational Goal | Research Pathways | Short-term Objectives | Long-term Objectives |
|---|---|---|---|
| **Question 4—What services are most effective for treating the suicidal person and preventing suicidal behavior?** | | | |
| **Aspirational Goal 7—Ensure that health care providers and others in the community are well trained in how to find and treat those at risk.** | Learn from emerging literature on training providers in evidence-based psychotherapy practices. Those findings indicate the following can affect training effectiveness: characteristics of who is trained (e.g., motivation, prior training), norms for training within the organization, fidelity monitoring, and sustainability. Determine if similar components affect training in suicide assessment and management (e.g., are trainees more motivated due to legal concerns?).<br><br>The National Institute for Health and Clinical Excellence (2012) Guideline on Longer Term Management for Self-Harm included the following recommendations for provider training (p. 281), which could be empirically tested when optimizing training: include education about the stigma and discrimination often associated with self-harm; include individuals who have self-harmed in training efforts; assess the effectiveness of training by using service recipient feedback as one of the outcome measures; trained providers should have access to specialists in self-harm treatment; and consider the emotional impact of self-harm on the provider when determining the capacity to practice competently and empathically.<br><br>Consider the research opportunity afforded by policy changes (e.g., Washington State law on requiring continuing education in suicide assessment and management for social work licensing) to assess the effectiveness of training mandates. | **Identify efficient ways to increase the number of providers who implement adequate suicide assessment and management skills that improve care.** | |

| Aspirational Goal | Research Pathways | Short-term Objectives | Long-term Objectives |
|---|---|---|---|
| Aspirational Goal 7— Ensure that health care providers and others in the community are well trained in how to find and treat those at risk. (cont'd) | To translate science into practice, test models in various practice settings, across disciplines, and with diverse populations. Consider technology enhancements for standardizing training, practice opportunities for trainees, reaching trainees remotely, measuring outcomes (self-report and objective measures), and test approaches for booster sessions. | Identify efficient ways to increase the number of providers who implement adequate suicide assessment and management skills that improve care.<br><br>**In randomized practical trials, along with possible moderators (e.g., financial stress, patient age and gender) and intermediate outcomes (e.g., disengagement from care, functional limitations), find quality improvement components associated with reduced suicide risk.** | **Prevent suicidal crises and injuries through effective novel care system practice approaches matched to at-risk patient needs (e.g., alternatives to inpatient care).**<br><br>**Reduce suicide attempt and death outcomes through multiple, synergistic components of quality improvement within and across responsible systems (e.g., health care, justice systems, military installations, older adult care settings).** |
| | Develop research partnerships with those engaged in ongoing training (e.g., training programs, triage nurses, clinicians). Assess their perceptions, and patient perceptions, of the adequacy of assessments and care provided. | Identify efficient ways to increase the number of providers who implement adequate suicide assessment and management skills that improve care. | Prevent suicidal crises and injuries through effective novel care system practice approaches matched to at-risk patient needs (e.g., alternatives to inpatient care). |
| | Consider training community gatekeepers and professional providers simultaneously, to avoid ethical dilemma of identified at-risk individuals who are not seen by competent providers or competent providers who have too few patients to see. Consider how each group can inform and motivate the other in immediate skills training contexts, as well as longer-term outcomes for patients. | Identify efficient ways to increase the number of providers who implement adequate suicide assessment and management skills that improve care. | Reduce suicide attempt and death outcomes through multiple, synergistic components of quality improvement within and across responsible systems (e.g., health care, justice systems, military installations, older adult care settings). |

| Aspirational Goal | Research Pathway | Short-term Objectives | Long-term Objectives |
|---|---|---|---|
| Aspirational Goal 7—Ensure that health care providers and others in the community are well trained in how to find and treat those at risk. (cont'd) | Consider opportunities to change trajectories for helping people in distress and at risk (e.g., depressed, anxious) before they reach the point of suicide ideation or behavior. Deploy staff trained in engagement skills and motivation for interventions (e.g., offering hope) that can address the suicide risk factors in boundaried settings (e.g., court systems, unemployment offices, rehabilitation settings). | **In at-risk populations, substantially increase effective help seeking and treatment engagement (e.g., involve family members and peers, information disseminated by media).** | Prevent suicidal crises and injuries through effective novel care system practice approaches matched to at-risk patient needs (e.g., alternatives to inpatient care).<br><br>Reduce suicide attempt and death outcomes through multiple, synergistic components of quality improvement within and across responsible systems (e.g., health care, justice systems, military installations, older adult care settings). |
| | Assess the potential benefit of the availability of a highly skilled clinician/assessor in primary care settings, substance use rehabilitation, etc., who can assist providers who have a high volume, but low base rate of suicidal patients—similar to the Veterans Administration Suicide Prevention Coordinators. In addition to appropriate linkage to specialty care, determine if the skilled provider is able to reduce initial distress. | Identify efficient ways to increase the number of providers who implement adequate suicide assessment and management skills that improve care. | Prevent suicidal crises and injuries through effective novel care system practice approaches matched to at-risk patient needs (e.g., alternatives to inpatient care). |

| Aspirational Goal | Research Pathways | Short-term Objectives | Long-term Objectives |
|---|---|---|---|
| **Aspirational Goal 8—Ensure that people at risk for suicidal behavior can access affordable care that works, no matter where they are.** | Determine the values and goals for a desirable health care system (e.g., accurate assessment of problems, matching care to level of patient needs, skillful providers, care management available, designation of responsible providers [who owns the problem with the patient]) and determine where suicide prevention is functionally assigned. Determine how individuals can be helped earlier in the care system (e.g., reduced depression and pain, monitoring for life changes/stressful events). | | Reduce suicide attempt and death outcomes through multiple, synergistic components of quality improvement within and across responsible systems (e.g., health care, justice systems, military installations, older adult care settings).<br><br>**Sustain effective quality improvements (e.g., stakeholder feedback mechanisms, such as service ratings and 'report cards,' quality improvement collaborative involvement) that include input from those affected by those systems, including patients, providers, family members, policy leaders, and funders.** |
| | Evaluate the effectiveness of technology-enhanced services (e.g., online, phone text messaging, phone applications) as potential expansion or improved efficiency for health care services (e.g., direct to patient care, provider training, adherence to evidence based care) for reducing suicide risk. | In at-risk populations, substantially increase effective help seeking and treatment engagement (e.g., involve family members and peers, information disseminated by media). | Prevent suicidal crises and injuries through effective novel care system practice approaches matched to at-risk patient needs (e.g., alternatives to inpatient care). |

| Aspirational Goal | Research Pathways | Short-term Objectives | Long-term Objectives |
|---|---|---|---|
| Aspirational Goal 8—Ensure that people at risk for suicidal behavior can access affordable care that works, no matter where they are. (cont'd) | Develop and test approaches learned from adult collaborative care and expand to less studied groups or settings (e.g., pediatric care, older adult assisted living) and consider technology-enhanced delivery options.<br><br>Develop and assess alternative health care approaches to emergency medicine and/or inpatient care services (e.g., respite or safe house setting that offers time and social support). | Identify efficient ways to increase the number of providers who implement adequate suicide assessment and management skills that improve care. | Prevent suicidal crises and injuries through effective novel care system practice approaches matched to at-risk patient needs (e.g., alternatives to inpatient care).<br><br>Reduce suicide attempt and death outcomes through multiple, synergistic components of quality improvement within and across responsible systems (e.g., health care, justice systems, military installations, older adult care settings). |
| | Examine pay-for-performance reimbursement and per person payments to determine whether they are more successful in detecting and treating suicidal patients. | | Sustain effective quality improvements (e.g., stakeholder feedback mechanisms such as service ratings and 'report cards,' quality improvement collaborative involvement, etc.) that include input from those affected by those systems, including patients, providers, family members, policy leaders, and funders. |

| Aspirational Goal | Research Pathways | Short-term Objectives | Long-term Objectives |
|---|---|---|---|
| **Aspirational Goal 9—Ensure that people getting care for suicidal thoughts and behaviors are followed throughout their treatment so they don't fall through the cracks.**<br><br>**Aspirational Goal 10—Increase help-seeking and referrals for at-risk individuals by decreasing stigma.** | Explore inpatient to outpatient and emergency care to outpatient referral acceptance failures through mixed methods (interviews and longitudinal follow-up) to identify approaches to improve continuity of care (e.g., telephone support until outpatient care starts) and other network characteristics that are helpful (e.g., peer-support, perceptions that providers and care system is trustworthy and supportive). | In at-risk populations, substantially increase effective help seeking and treatment engagement (e.g., involve family members and peers, information disseminated by media). | Prevent suicidal crises and injuries through effective novel care system practice approaches matched to at-risk patient needs (e.g., alternatives to inpatient care).<br><br>Reduce suicide attempt and death outcomes through multiple, synergistic components of quality improvement within and across responsible systems (e.g., health care, justice systems, military installations, older adult care settings) to reduce suicide attempt and death outcomes. |
| | Test a registry approach to track clinical accountability for patients by a health care system, improve cross-platform/system care, and evaluate benefits of services/treatments. | | Sustain effective quality improvements (e.g., stakeholder feedback mechanisms such as service ratings and 'report cards,' quality improvement collaborative involvement, etc.) that include input from those affected by those systems, including patients, providers, family members, policy leaders, and funders. |
| | Test approaches to engage and retain older adult men, and those who are socially disconnected (e.g., peer navigators), in existing organizations with suicide prevention potential (e.g., Aging Services Network providers as members of comprehensive health care team). | In at-risk populations, substantially increase effective help seeking and treatment engagement (e.g., involve family members and peers, information disseminated by media). | Prevent suicidal crises and injuries through effective novel care system practice approaches matched to at-risk patient needs (e.g., alternatives to inpatient care). |

| Aspirational Goal | Research Pathway | Short-term Objectives | Long-term Objectives |
|---|---|---|---|
| Aspirational Goal 9—Ensure that people getting care for suicidal thoughts and behaviors are followed throughout their treatment so they don't fall through the cracks.<br><br>Aspirational Goal 10—Increase help-seeking and referrals for at-risk individuals by decreasing stigma. (cont'd) | Test approaches that systematically address reasons why at-risk individuals do not seek care. Consider ways to avoid the risks of normalizing suicidal behavior while improving help-seeking. | In randomized practical trials, along with possible moderators (e.g., financial stress, patient age and gender) and intermediate outcomes (e.g., disengagement from care, functional limitations), find quality improvement components associated with reduced suicide risk.<br><br>In at-risk populations, substantially increase effective help seeking and treatment engagement (e.g., involve family members and peers, information disseminated by media). | Prevent suicidal crises and injuries through effective novel care system practice approaches matched to at-risk patient needs (e.g., alternatives to inpatient care).<br><br>Sustain effective quality improvements (e.g., stakeholder feedback mechanisms such as service ratings and 'report cards,' quality improvement collaborative involvement, etc.) that include input from those affected by those systems, including patients, providers, family members, policy leaders, and funders. |

| Aspirational Goal | Research Pathway | Short-term Objectives | Long-term Objectives |
|---|---|---|---|
| Aspirational Goal 9—Ensure that people getting care for suicidal thoughts and behaviors are followed throughout their treatment so they don't fall through the cracks.<br><br>Aspirational Goal 10—Increase help-seeking and referrals for at-risk individuals by decreasing stigma. (cont'd) | Test approaches to modifying self-stigma and/or beliefs that treatment for suicidal behavior is ineffective, blaming, embarrassing, or uncomfortable (common reasons for avoiding treatment) through various media (e.g., movie trailers on YouTube or Hulu, provide ways to link with crisis counselors).<br><br>Study the impact of policy/law changes on help-seeking by suicidal patients.<br><br>Test approaches focused on friend and family members' ability to facilitate help-seeking for at-risk individuals.<br><br>Test approaches that teach appropriate help-seeking to adolescents (e.g., in school settings), as adolescence is a time when many risk factors for suicide appear (e.g., depression, substance use, delinquent behavior). In the process of reaching adolescents, parents of the adolescents also could be engaged and taught approaches to recognizing when help-seeking is needed and how to access help. | In at-risk populations, substantially increase effective help seeking and treatment engagement (e.g., involve family members and peers, information disseminated by media). | |

| Aspirational Goal | Research Pathways | Short-term Objectives | Long-term Objectives |
|---|---|---|---|
| Aspirational Goal 9—Ensure that people getting care for suicidal thoughts and behaviors are followed throughout their treatment so they don't fall through the cracks.<br><br>Aspirational Goal 10—Increase help-seeking and referrals for at-risk individuals by decreasing stigma. (cont'd) | Test models of successful treatment engagement for substance use problems (e.g., Screening, Brief Intervention, Referral and Treatment—SBIRT) for suicidal patients. Using lessons learned from collaborative care programs that have successfully reduced depression in adults in primary care, test collaborative care approaches adapted for other at-risk subgroups (e.g., youth with substance use problems, adults with chronic pain). | In at-risk populations, substantially increase effective help seeking and treatment engagement (e.g., involve family members and peers, information disseminated by media). | Prevent suicidal crises and injuries through effective novel care system practice approaches matched to at-risk patient needs (e.g., alternatives to inpatient care). |
| | Test a case management/suicide risk manager approach that enhances engagement of patients in life-sustaining needs outside the health system (e.g., vocational trainers, parole supervisors) | In at-risk populations, substantially increase effective help seeking and treatment engagement (e.g., involve family members and peers, information disseminated by media). | Reduce suicide attempt and death outcomes through multiple, synergistic components of quality improvement within and across responsible systems (e.g., health care, justice systems, military installations, older adult care settings). |
| | Develop rigorous randomized control designs that can be rolled out in boundaried systems with electronic records (e.g., VA, prison health systems, police departments). Use designs with staged deployment and assessment of quality of care improvements to look at within site and across site system changes and suicidal behavior outcomes. | In randomized practical trials, along with possible moderators (e.g., financial stress, patient age and gender) and intermediate outcomes (e.g., disengagement from care, functional limitations), find quality improvement components associated with reduced suicide risk. | Reduce suicide attempt and death outcomes through multiple, synergistic components of quality improvement within and across responsible systems (e.g., health care, justice systems, military installations, older adult care settings). |

| Aspirational Goal | Research Pathways | Short-term Objectives | Long-term Objectives |
|---|---|---|---|
| **Question 5—What other types of prevention interventions (outside health care settings) reduce suicide risk?** | | | |
| **Aspirational Goal 11—Prevent the emergence of suicidal behavior by developing and delivering the most effective prevention programs to build resilience and reduce risk in broad-based populations.**<br><br>**Aspirational Goal 12—Reduce access to lethal means that people use to attempt suicide.** | Examine changes in suicide risk as a result of policies that affect risk factors in the populations (e.g., reduced access to firearms for people at-risk of suicide, improved monitoring of prescription medications to reduce overdose risk, reduction in smoking, reduced access to alcohol). (Aspirational Goals 11 and 12) | **Determine if policies that affect risk factors in the populations (e.g., advertising rules related to tobacco and alcohol, medication prescription practices) also reduce suicide risk.** | |
| | Add suicide outcome measures to relevant prevention trials (e.g., youth depression, youth substance use, college binge drinking) to determine added value for both short- and long-terms benefits for suicide reduction. (Aspirational Goal 11) | **Determine mechanisms of risk and resilience for suicidal behavior outcomes. Determine how these mechanisms operate in other types of mortality (e.g., accidents) as well.** | |
| | Find ways to integrate programs that reduce self-directed violence (prevention and treatment) with evidence-based programs that reduce other-directed violence and assess benefits for suicide outcomes. (Aspirational Goal 11)<br><br>Conduct community-based research on effective suicide mitigation strategies for high-risk demographic groups (e.g., American Indian and Alaskan Native youth, LGBTQ youth, older veterans, individuals with recent adjudication for driving under the influence). (Aspirational Goal 11) | | **Maximize intervention effects at a community level by combining suicide surveillance and prevention efforts with other effective community programs, such as prevention of substance abuse and child abuse and neglect.** |

| Aspirational Goal | Research Pathways | Short-term Objectives | Long-term Objectives |
|---|---|---|---|
| Aspirational Goal 11—Prevent the emergence of suicidal behavior by developing and delivering the most effective prevention programs to build resilience and reduce risk in broad-based populations.<br><br>Aspirational Goal 12—Reduce access to lethal means that people use to attempt suicide. (cont'd) | Find useful methods (e.g., internet autopsies, web-based social media surveys) to identify risk in social media (e.g., cognitive availability of means) and processes of contagion. (Aspirational Goal 12) | Determine mechanisms of risk and resilience for suicidal behavior outcomes. Determine how these mechanisms operate in other types of mortality (e.g., accidents) as well. | **Reduce suicide risk through effective and durable means safety approaches that include multiple steps and/or synergistic components (e.g., social media images and messages, packaging, counseling, storage, barriers).** |
| | Develop and test social messaging designed to increase the use and uptake of lethal means safety actions among at-risk individuals, family members, and community leaders in responsible positions (e.g., removal of guns from home, gun locks, removal of lethal medications, designing pedestrian-safe bridges). Community leaders could include gun club leaders, campus staff, civil engineers, and heath care providers. (Aspirational Goal 12)<br><br>What are the most useful methods for providing safe information about suicide in traditional media? (Aspirational Goal 12) | | Reduce suicide risk through effective and durable means safety approaches that include multiple steps and/or synergistic components (e.g., social media images and messages, packaging, counseling, storage, barriers). |

| Aspirational Goal | Research Pathways | Short-term Objectives | Long-term Objectives |
|---|---|---|---|
| Aspirational Goal 11—Prevent the emergence of suicidal behavior by developing and delivering the most effective prevention programs to build resilience and reduce risk in broad-based populations.<br><br>Aspirational Goal 12—Reduce access to lethal means that people use to attempt suicide. (cont'd) | Test whether the incorporation of safer designs into new building and bridge structures prevents suicidal behaviors. Determine if the inclusion of safe designs in training curricula for medical and nursing, architecture, urban design, and civil engineering schools could be one process for this intervention approach (e.g., new Tappan Zee Bridge safety features). (Aspirational Goals 12 and 7)<br><br>Test approaches to safer prescribing so that individuals at risk receive medications with therapeutic value but less toxicity. (Aspirational Goal 12)<br><br>Conduct research to assess how suicidal individuals seek, plan (cognitive access), and gain physical access to suicide means, including where and how these acquisition pathways can be disrupted by key points of contact (e.g., gun sellers, military commanders, health care providers). (Aspirational Goal 12) | **Conduct research to identify effective, feasible approaches to reducing access to lethal means for suicidal individuals through community partnership agreements.** | Reduce suicide risk through effective and durable means safety approaches that include multiple steps and/or synergistic components (e.g., social media images and messages, packaging, counseling, storage, barriers). |

| Aspirational Goal | Research Pathways | Short-term Objectives | Long-term Objectives |
|---|---|---|---|
| Aspirational Goal 11—Prevent the emergence of suicidal behavior by developing and delivering the most effective prevention programs to build resilience and reduce risk in broad-based populations.<br><br>Aspirational Goal 12—Reduce access to lethal means that people use to attempt suicide. (cont'd) | Identify the individual, social, and ecological factors that influence public attitudes toward various ways to reduce access to suicide means. Determine how these factors can effectively be used in traditional and social media campaigns and/or individual counseling. (Aspirational Goal 12) | Conduct research to identify effective, feasible approaches to reducing access to lethal means for suicidal individuals through community partnership agreements. | Reduce suicide risk through effective and durable means safety approaches that include multiple steps and/or synergistic components (e.g., social media images and messages, packaging, counseling, storage, barriers).<br><br>**Reduce suicide risk and intermediate outcomes (e.g., isolation, depression) within organizations (e.g., schools, worksites, court systems) through successful applications of technology (e.g., phone applications) for monitoring and intervention delivery.** |
| | Test the synergistic effects of various combinations of efforts of cognitive means safety (social messaging), physical (actual) means safety laws (storage policies), and insurance (individual financial responsibility). (Aspirational Goal 12) | Conduct research to identify effective, feasible approaches to reducing access to lethal means for suicidal individuals through community partnership agreements. | Reduce suicide risk through effective and durable means safety approaches that include multiple steps and/or synergistic components (e.g., social media images and messages, packaging, counseling; storage, barriers). |
| | What are the most efficient ways of delivering means safety messaging and access to crisis counseling by those who help people at risk outside the health care setting (e.g., ministers, lawyers, gun shop owners, college counselors/faculty/peers)? (Aspirational Goal 12) | Conduct research to identify effective, feasible approaches to reducing access to lethal means for suicidal individuals through community partnership agreements. | Reduce suicide risk and intermediate outcomes (e.g., isolation, depression) within organizations (e.g., schools, worksites, court systems) through successful applications of technology (e.g., phone applications) for monitoring and intervention delivery. |


NATIONAL
Action
Alliance
FOR SUICIDE PREVENTION