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National Guard Suicide Prevention Innovation Framework

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Executive Summary

The National Guard Studies Program (NGSP) asked IDA to develop a systematic process to identify, select, and deploy evidence-based suicide prevention (SP) practices. In doing so, IDA accomplished two main objectives. First, IDA developed a Compendium of SP Strategies to organize and specify best practices utilized in the broader SP community and in the National Guard (NG). The compendium provides a common tool that states and territories can leverage as they design SP, psychological health, and resiliency programs that meet their local needs. The compendium directly complements the second objective of this project: an SP Innovation Process to identify, develop, and implement best practices within the NG. The SP Innovation Process draws on the Compendium of SP Strategies to understand gaps in NG programs. Further, as new evidence-based practices are developed through the innovation process, the compendium can be expanded.

Although this project focuses on SP specifically, this approach can easily be adapted to a broader set of prevention and psychological health promotion activities (e.g., substance abuse, resiliency, violence prevention and so forth). To this end, SP strategies are defined broadly to include an array of "upstream" prevention activities aimed at addressing risk and protective factors for suicide (e.g., social isolation, financial problems, social support, adaptive coping mechanisms). The broad focus of the current project is directly in line with NG's new holistic approach to wellness and fitness. The innovation process developed in this paper can be leveraged as NG implements Chief National Guard Bureau Instruction (CNGBI) 0300.01[1] to develop a Warrior Resilience and Fitness (WR&F) program.

IDA conducted this work in close collaboration with the National Guard Bureau (NGB) Psychological Health Program (PHP) to ensure that the innovation process aligns with the NG's organizational structures, operations, and resources. IDA also incorporated information from the May 2018 NGB SP Symposium and solicited feedback from the NGB Manpower and Personnel (J-1), the Army National Guard (ARNG) Resilience, Risk Reduction, and Suicide Prevention (R3SP), and the Air National Guard (ANG) SP Branch.

[1] Department of Defense, "National Guard Warrior Resilience and Fitness Program," CNGBI 0300.01 (Washington, DC: National Guard Bureau, 16 November 2018).

Compendium of SP Strategies

The Compendium of SP Strategies provides a set of best practices identified to be essential for a comprehensive approach to SP. These strategies are organized along six dimensions:

- **Identify people at risk.** Gatekeeper training, screening tools, predictive analytics, methods to detect imminent risk.
- **Assist people at risk and in crisis.** Ensure access to care, crisis intervention, active follow-up, organizational linkages, family education/involvement.
- **Reduce access to lethal means.** Safe storage options, means restriction counseling, partnerships with firearm dealers, barriers at suicide hotspots.
- **Change the culture to promote help-seeking and reduce stigma.** Total force fitness (TFF) framework, awareness campaigns, self-help resources, peer influence, leadership support.
- **Enhance life skills, resiliency, and connectedness.** Social-emotional learning, family and relationship programs, and social engagement.
- **Postvention.** Responsible media reporting, outreach to survivors, surveillance of suicide events.

The compendium also includes examples of specific programs with evidence of effectiveness and guidelines to successfully implement the strategies described (use evidence-based practices, foster collaboration, and evaluate effectiveness).

The compendium provides a common tool that states and territories can leverage as they design SP, psychological health, and resiliency programs that meet their local needs. Although the specific programs that states and territories select may vary, the compendium is meant to provide a common understanding of the key categories of programs necessary for a comprehensive approach to SP.

SP Innovation Process

The SP Innovation Process provides a strategy for the NG to identify, select, and implement the most effective practices for preventing suicide and promoting resiliency. States and territories are already implementing a broad array of programs aimed at preventing suicide and addressing risk/protective factors related to suicide. However, the NG lacks a systematic means by which to catalogue, assess, and disseminate these initiatives. The innovation process is intended to provide a more unified and strategic approach to SP.

The innovation process is a hybrid model that incorporates commercial firm strategies that solicit and develop ideas from staff at all levels and grant review processes that set priorities for research and request proposals on specific topics. The SP Innovation Process specifies six steps:

1. Survey the landscape to collect information about current NG programs and new ideas
2. Focus efforts by identifying promising programs/ideas along with gaps in current practices and research needed
3. Invite submissions for project proposals
4. Evaluate and select proposals through expert review
5. Provide technical assistance to develop selected projects
6. Disseminate information about new innovations, implement broadly, and evaluate to ensure quality improvement.

A full SP Innovation Process will require an investment of resources. Although IDA recommends a complete and robust process to ensure maximum benefit, resource limitations must be considered. The innovation process is meant to be flexible and can be implemented partially or in an incremental manner.

Recommendations

IDA recommends that the NG disseminate the Compendium of SP Strategies and deploy the SP Innovation Process. To summarize, the NG should

- Disseminate the Compendium of SP Strategies to NG states and territories to provide a common understanding of the essential components of an SP program.
  - Encourage NG states and territories to compare their current programs to the compendium and fill program gaps as needed.
  - Update the Compendium of SP Strategies on a regular basis to account for new innovations developed within the Guard and SP community.
- Deploy the SP Innovation Process to
  - Identify and select promising ideas, practices, programs and research within the NG.
  - Provide funding and/or technical assistance to develop selected projects.
  - Disseminate, implement, and evaluate new innovations.

- Assign responsibility for the SP Innovation Process to the NGB WR&F program.
  - Provide the WR&F program with staff and/or contract support to execute the process on an ongoing basis.
  - Allocate funding for the Innovation Process to award selected projects and develop, disseminate, implement, and evaluate promising programs.

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1. Introduction

The National Guard Studies Program (NGSP) asked the Institute for Defense Analyses (IDA) to develop a systematic process to identify, select, and deploy evidence-based suicide prevention (SP) practices. Current SP efforts within the National Guard (NG) are largely decentralized and are not regularly tracked or evaluated for effectiveness. The current project formalizes a process to unify and enhance the NG's approach to SP.

The current project has two main objectives (see Figure 1). The first objective is to develop a Compendium of SP Strategies to organize and specify best practices used in the broader SP community and within the NG. The compendium (see Chapter 2) provides a common tool that states and territories can leverage as they design SP, psychological health, and resiliency programs that meet their local needs. The compendium directly complements the second component of this project: the SP Innovation Process to identify, develop, and implement best practices within the NG (Chapter 3). The innovation process will draw on the compendium to understand gaps in NG programs. Further, as new evidence-based practices are developed through the innovation process, the compendium will be expanded.

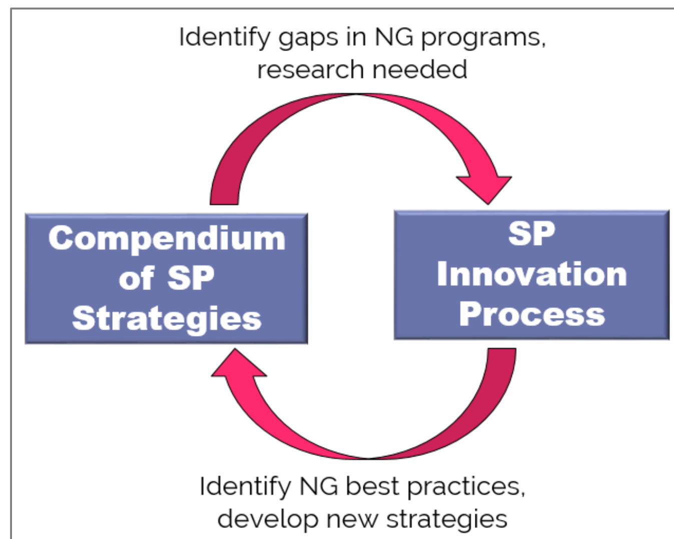

Figure 1. Complementary Project Objectives

Although this project focuses on SP specifically, the approach can easily be adapted to a broader set of prevention and psychological health promotion activities (e.g., substance

abuse, resiliency, violence prevention and so forth). To this end, SP is defined broadly to include a broad array of "upstream" prevention activities aimed at addressing factors that put individuals at risk of suicide (e.g., social isolation, financial problems, familial stressors) and factors that protect against suicide (e.g., social support, adaptive coping mechanisms). The broad focus of the current project is directly in line with the NG's new holistic approach to wellness and fitness. The innovation process developed in this paper can be leveraged as the NG implements Chief National Guard Bureau Instruction (CNGBI) 0300.01[2] to develop a Warrior Resilience and Fitness (WR&F) program.

IDA conducted this work in close collaboration with the NGB Psychological Health Program (PHP) to ensure that the innovation process aligns with NG organizational structures, operations, and resources. IDA also incorporated information from the May 2018 NGB SP Symposium and solicited feedback from NGB Manpower and Personnel (J-1), Army National Guard (ARNG) Resilience, Risk Reduction, and Suicide Prevention (R3SP), and the Air National Guard (ANG) SP Branch.

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2 Department of Defense, "National Guard Warrior Resilience and Fitness Program," CNGBI 0300.01 (Washington, DC: National Guard Bureau, 16 November 2018).

2. Compendium of SP Strategies

The Compendium of SP Strategies provides a set of best practices identified in the broader civilian and military SP communities as essential for a comprehensive SP program. These strategies are organized along six dimensions:

1. Identify people at risk;
2. Assist people at risk and in crisis;
3. Reduce access to lethal means;
4. Change the culture to promote help-seeking and reduce stigma;
5. Enhance life skills, resiliency, and connectedness; and
6. Postvention.

The compendium also includes guidelines to effectively select and implement the strategies described: use evidence-based practices, foster collaboration, and evaluate effectiveness. Figure 2 provides an overview of the key strategies for SP, and Figure 3 provides examples of programs with evidence of effectiveness and programs that are informed by research.

This compendium provides a common tool that states and territories can leverage as they design SP, psychological health, and resiliency programs that meet their local needs. Although the specific programs that states and territories select may vary, the compendium is meant to provide a common understanding of the key categories of programs necessary for a comprehensive approach to SP.

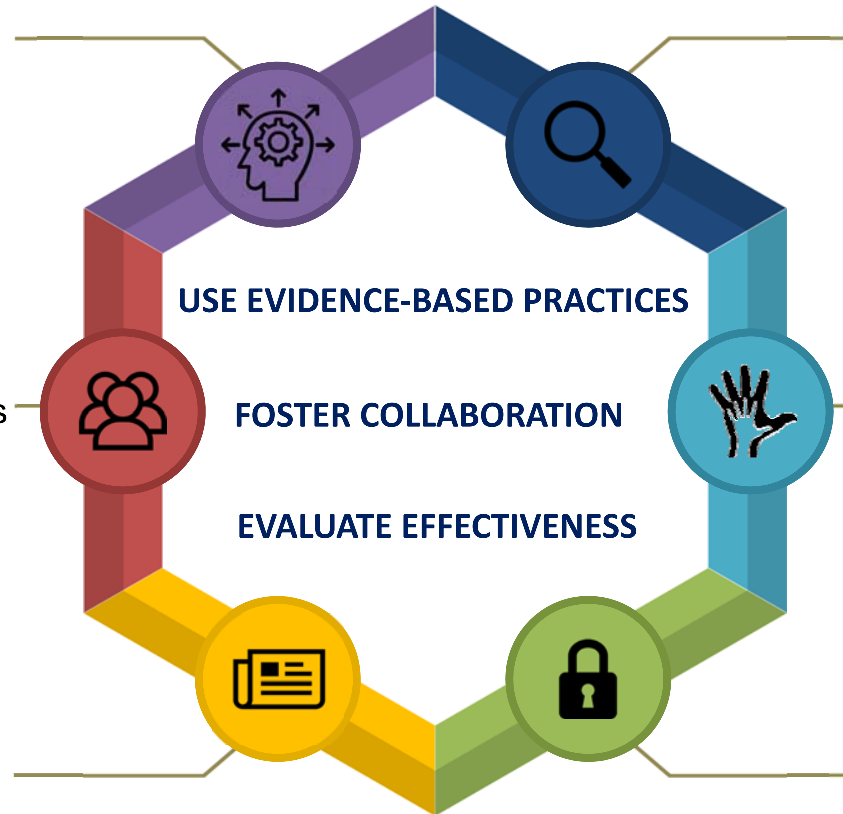
Figure 2. Compendium of Suicide Prevention Strategies

CHANGE THE CULTURE TO PROMOTE HELP-SEEKING AND REDUCE STIGMA

- Total force fitness framework
- Awareness campaigns
- Self-help resources
- Peer influence
- Leadership support

IDENTIFY PEOPLE AT RISK

- Gatekeeper training
- Screening tools
- Predictive analytics
- Methods to detect imminent risk



ENHANCE LIFE SKILLS, RESILIENCY, AND CONNECTEDNESS

- Social-emotional learning programs
- Family and relationship programs
- Initiatives to increase connectedness

ASSIST PEOPLE AT RISK AND IN CRISIS

- Ensure access to care
- Crisis intervention
- Active follow-up
- Organizational linkages
- Family education/involvement

POSTVENTION

- Responsible media reporting
- Outreach to survivors
- Surveillance of suicide events

REDUCE ACCESS TO LETHAL MEANS

- Safe storage options
- Means restriction counseling
- Partnerships with firearm dealers
- Barriers at suicide hotspots

Figure 3. Examples of Programs That Have Evidence of Effectiveness or Are Research-Informed

IDENTIFY PEOPLE AT RISK	ASSIST PEOPLE AT RISK AND IN CRISIS	REDUCE ACCESS TO LETHAL MEANS
▪ Applied Suicide Intervention Skills Training ▪ Question, Persuade, and Refer Gatekeeper Training for Suicide Prevention ▪ Kognito Family of Heroes ▪ Columbia-Suicide Severity Rating Scale ▪ Suicide Assessment Five-step Evaluation Triage	▪ Caring Contacts SP Intervention ▪ Safety Planning Intervention ▪ Education of primary care physicians ▪ *Star Behavioral Health Providers* ▪ *Partnership with Psych Armor Institute to educate civilian providers*	▪ Emergency Department Means Restriction Education ▪ Physical barriers at suicide hotspots ▪ Safe firearm storage devices ▪ *The Gun Shop Project* ▪ *Counseling on Access to Lethal Means*
CHANGE THE CULTURE TO PROMOTE HELP-SEEKING AND REDUCE STIGMA	**ENHANCE LIFE SKILLS, RESILIENCY, AND CONNECTEDNESS**	**POSTVENTION**
▪ Sources of Strength ▪ *Buddy-to-Buddy* ▪ *Peer-to-Peer Support* ▪ *Campaign to Change Direction* ▪ *Real Warriors* ▪ *Leadership Talking Points*	▪ After Deployment, Adaptive Parenting Tools ▪ *Team Readiness* ▪ Coping with Work and Family Stress ▪ Mindfulness-based Stress Reduction ▪ Life Guard ▪ Program to Encourage Active, Rewarding Lives	▪ Connect Suicide Postvention ▪ *DOD Leader Guide and Postvention Checklist* ▪ *Recommendations for Reporting on Suicide* ▪ *Tragedy Assistance Program for Survivors* ▪ *Responding to Grief, Trauma, and Distress After a Suicide: U.S. National Guidelines*

Note: Programs in italics are informed by research but have not been fully evaluated for effectiveness.

A. Methodology

IDA conducted a broad review of the SP literature, with a focus on SP strategy documents developed by government and non-governmental organizations (NGOs), including the Centers for Disease Control and Prevention (CDC), the Suicide Prevention Resource Center (SPRC), the American Association for Suicide Prevention (AASP), RAND Corporation, and Army, Air Force, and Department of Defense (DOD) SP strategies. The compendium most closely parallels the CDC's Suicide Prevention Technical Package[3] and SPRC's Comprehensive Approach to Suicide Prevention.[4] IDA changed the category labels to make them more intuitive and combined categories for greater simplicity. As such, the compendium integrates expertise from leaders in the field of SP into a concise framework that can be disseminated to broad audiences.

To gather examples of specific SP programs, IDA primarily searched three databases of evidence-based practices: the Substance Abuse and Mental Health Services Administration's (SAMHSA) National Registry of Evidence-based Programs and Practices (NREPP),[5] the Clearinghouse for Military Family Readiness (CMFR),[6] and SPRC resources and programs.[7] IDA narrowed the programs to those that the databases rated as having some evidence of effectiveness (rated as evidence-based or promising). Typically, programs rated as having some evidence of effectiveness had at least one rigorous study (randomized control trial or quasi-experimental design) that demonstrated an impact on suicidal behavior or risk/protective factors for suicide. Certain programs received different designations depending on the database. In particular, CMFR appears to use a more stringent criteria for designating a program as effective or promising compared to NREPP or SPRC. Differences in database ratings are noted in Appendices A–F.[8] Additional programs were added based on findings in the research literature, including meta-analyses, systematic reviews, and CDC's technical package on SP. Programs were noted to be informed by

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3 Deb Stone et al., *Preventing Suicide: A Technical Package of Policies, Programs, and Practices* (Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention, 2017), https://www.cdc.gov/violenceprevention/pdf/suicidetechnicalpackage.pdf.

4 "Resources and Programs," Suicide Prevention Resource Center, accessed November 1, 2018, https://www.sprc.org/resources-programs. https://www.sprc.org/resources-programs.

5 SAMHSA has recently discontinued NREPP. However, information about the programs previously contained within NREPP can be found within CMFR and SPRC.

6 "Find Programs," Clearinghouse for Military Family Readiness, accessed November 1, 2018, https://lion.militaryfamilies.psu.edu/programs/find-programs.

7 "Resources and Programs," Suicide Prevention Resource Center, accessed November 1, 2018.

8 For a comprehensive list of evidence-based databases, see "Database of Best Practices," Community Tool Box, https://ctb.ku.edu/en/databases-best-practices.

research if they did not have a rigorous evaluation completed but were based on best practices or research evidence.

IDA took a broad approach when selecting programs, examining not only those designed for SP, but also those related to risk and protective factors for suicide. Although most programs were not developed for a military population, IDA selected those that could potentially be applied to the NG (e.g., demographically similar populations). The list of programs catalogued is not meant to be exhaustive; rather, it presents examples of the types of initiatives that are essential for a comprehensive SP program.

To understand current NG practices, IDA referenced its previous research conducted for ARNG, part of which included a request for information from states and territories about their SP programs.[9] To understand ANG current practices, IDA held discussions with ANG SP and referenced publically available information. The information provided about ANG and ARNG programs is not comprehensive. A systematic cataloguing of NG's SP programs was beyond the scope of this study. Rather, the current paper provides a sample of activities to demonstrate the breadth of SP efforts and an avenue to examine best practices that could be extended more broadly. As described in Chapter 3, a standardized process for gathering information about current practices is needed to fully understand gaps in the NG's SP program and research.

B. SP Strategies

Suicide is a complex problem that cannot be solved through a singular approach. A variety of cross-cutting programs, practices, and interventions are needed to tackle the diverse risk and protective factors associated with suicidal behavior. Likewise, programs should target the broad population (universal programs) and individuals identified to be at greatest risk (selective/indicated approaches).

Traditionally, SP has focused on identifying those individuals at risk and connecting them with care. Although these programs are necessary, they only address a segment of the at-risk population because over half of individuals who die by suicide had not been connected to mental health care (i.e., do not have a mental health diagnosis).[10] As seen in Figure 4, even when selective/indicated approaches are effective, they have only an incremental impact on the overall suicide rate because they target a small population. Universal approaches that address common risk and protective factors for suicidal behavior

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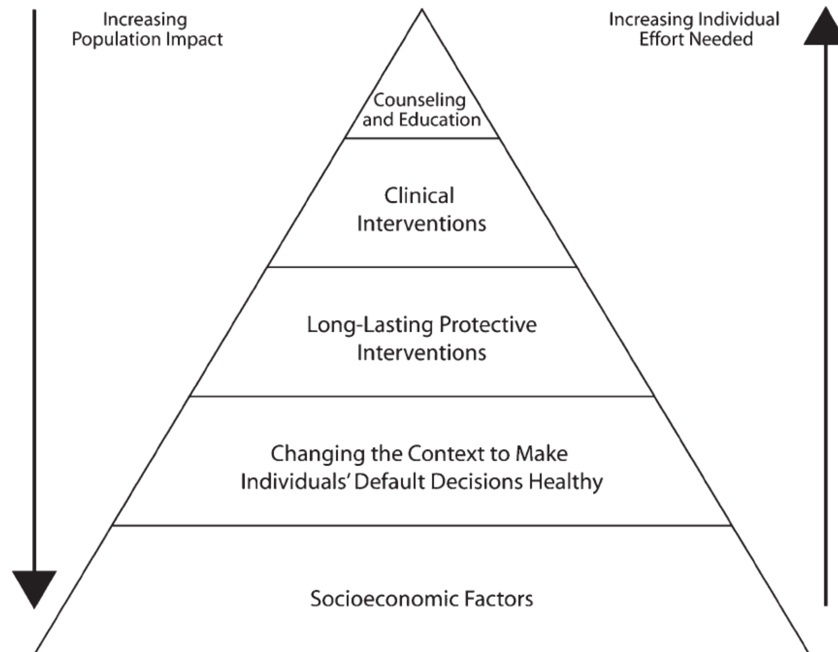
[9] James M. Bishop et al., *Geographical Variation in Army National Guard Suicide: Is the Guard Like the General Population?* IDA Paper P-9229 (Alexandria, VA: Institute for Defense Analyses, September 2018).

[10] Stone et al., *Preventing Suicide*.



Source: Thomas R. Frieden, "A Framework for Public Health Action: The Health Impact Pyramid," *American Journal of Public Health* 100, no. 4 (2010): 591, doi:10.2105/AJPH.2009.185652.

Figure 4. The Health Impact Pyramid

have the potential to substantially impact the suicide rate by virtue of impacting the entire population. These approaches not only have the potential to reduce the risk of suicide, but can also improve overall well-being by addressing life challenges before they escalate to a crisis point.[11] By one estimation, clinical interventions targeted at high-risk groups have the potential to reduce the overall population suicide rate by 3 to 6 percent, whereas universal approaches to reduce the unemployment rate, for example, could potentially reduce the population suicide rate by 10 percent.[12] A public health approach that incorporates universal and selective/indicated approaches and addresses a broad range of risk and protective factors for suicide is critical for the success of a SP program. These approaches are described in more detail in Subsections B.1–B.5.

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[11] Eric D. Caine, "Forging an Agenda for Suicide Prevention in the United States," *American Journal of Public Health* 103, no. 5 (May 2013): 822–829, doi:10.2105/AJPH.2012.301078.

[12] Glyn Lewis, Keith Hawton, and Peter Jones, "Strategies for Preventing Suicide," *The British Journal of Psychiatry* 171, no. 4 (October 1997): 351–354, https://doi.org/10.1192/bjp.171.4.351.

1. Identify People at Risk

A recent CDC analysis of U.S. suicide rates indicated that over half of individuals who died by suicide had not been diagnosed with a mental health condition.[13] Similarly, in the Army, less than 50 percent of Soldiers who died by suicide had a previous mental health diagnosis.[14] Given that a large proportion of individuals who die by suicide are not identified through traditional medical means, enhanced approaches are necessary to identify individuals at risk and connect them with care. Appendix A provides a list of programs that have evidence of effectiveness and programs that are informed by research.

a. Gatekeeper training

Training community members on strategies to identify and refer individuals at risk (i.e., gatekeeper training) is a common approach to SP. Army and Air Force mandatory training strategies involve a gatekeeper component. The ARNG provides Ask Care Escort (ACE) training to all Soldiers. Air Force provides Green Dot training to all Airmen. Green Dot is a sexual assault prevention program that teaches skills for bystander intervention and has recently been expanded to incorporate SP content.

The majority of ARNG state/territories also provide Applied Suicide Intervention Skills Training (ASIST) to their primary gatekeepers.[15] Some Directors of Psychological Health (DPHs) also have access to ASIST training. ASIST is an in-depth, two-day interactive workshop that teaches participants how to identify signs of suicide risk and refer individuals for care. In one evaluation of ASIST, those who spoke to ASIST-trained counselors on a crisis line remained on the call longer and indicated feeling less depressed and overwhelmed and more hopeful.[16] Other approaches with evidence of effectiveness include the Question, Persuade, and Refer (QPR) Gatekeeper Training for Suicide Prevention and the Kognito Family of Heroes.[17]

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13 Stone et al., *Preventing Suicide*.

14 Robert J. Ursano et al., “Risk Factors Associated with Attempted Suicide among US Army Soldiers without a History of Mental Health Diagnosis,” *JAMA Psychiatry* 75, no. 10 (2018): 1022–1032, doi:10.1001/jamapsychiatry.2018.2069.

15 ARNG will be discontinuing the use of ACE and ASIST. The replacement programs are not yet known.

16 Madelyn S. Gould et al., “Impact of Applied Suicide Intervention Skills Training on the National Suicide Prevention Lifeline,” *Suicide and Life Threatening Behavior* 43, no. 6 (December 2013): 676–691, doi:10.1111/sltb.12049.

17 Monica M. Matthieu et al., “Evaluation of Gatekeeper Training for Suicide Prevention in Veterans,” *Archives of Suicide Research* 12, no. 2 (2008): 148–154, https://doi.org/10.1080/13811110701857491; Glenn Albright et al., “Using an Avatar-based Simulation to Train Families to Motivate Veterans with Post-Deployment Stress to Seek Help at the VA,” *Games for Health* 1, no. 1 (February 2012): 21–28, https://doi.org/10.1089/g4h.2011.0003.

b. Suicide risk assessment tools

Suicide risk assessment tools, which provide a standardized process to inquire about suicidal ideation and behavior, are another common means to identify those at risk. DOD Periodic Health Assessments, along with pre- and post-deployment health assessments, include suicide risk evaluations. However, anecdotal information[18] suggests that these questions are delivered in a rote manner, without the sensitivity required to elicit honest responses. Research is needed to study the current screening process and, if needed, develop methods to train providers to use existing tools more effectively.

More comprehensive screening approaches are available to supplement current methods. The Columbia-Suicide Severity Rating Scale (C-SSRS) is a universal tool validated to detect suicidal ideation and a range of suicidal behavior.[19] With minimal training, non-medical providers can use the C-SSRS. The C-SSRS is currently used by all DPHs in ANG and in some ARNG states (e.g., Connecticut, Georgia, Indiana, and Michigan). The Suicide Assessment Five-Step Evaluation and Triage for Clinicians (SAFE-T)[20] is a guide specifically designed for clinicians to determine the appropriate level of intervention for those at risk. Approaches like the C-SSRS and/or the SAFE-T could complement universal screening approaches to provide more detailed and comprehensive risk assessments and action plans for those identified to be at risk.

c. Predictive analytics

A key limitation of screening and gatekeeper training approaches is that they rely on people to disclose suicidal ideation, however, self-report is often unreliable. People are reluctant to share their personal struggles for fear of appearing weak in a culture that values strength. Furthermore, suicidal ideation is not a static state and assessments at single time points may fail to capture a person at the point of crisis.[21] In a study of hospitalized patients

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[18] Dina Eliezer, *National Guard Bureau Suicide Prevention Symposium*, Summary Report, IDA Informal Product (Alexandria, VA: Institute for Defense Analyses, 2018).

[19] K. Posner et al., “Columbia-Suicide Severity Rating Scale (C-SSRS)” (New York, NY: The Research Foundation for Mental Hygiene, Inc., 2008).

[20] Education Development Center, Inc. and Screening For Mental Health, Inc., “SAFE-T: Suicide Assistance Five-step Evaluation and Triage for Mental Health Professionals” (Washington, DC (Education Development Center, Inc.) and Wellesley Hills, MA (Screening For Mental Health, Inc.), 2009), https://www.integration.samhsa.gov/images/res/SAFE_T.pdf.

[21] Evan M. Kleiman et al., “Examination of Real-Time Fluctuations in Suicidal Ideation and Its Risk Factors: Results from Two Ecological Momentary Assessment Studies,” *Journal of Abnormal Psychology* 126, no. 6 (August 2017): 726–738, http://dx.doi.org/10.1037/abn0000273.

who died by suicide during their stay or soon after, 78 percent previously denied having thoughts of suicide.[22]

Predictive analytic approaches aim to identify people at risk without relying exclusively on self-report. The Department of Veteran Affairs' (VA) REACH VET initiative is one of the few clinical applications of predictive analytics. Specifically, by analyzing hundreds of variables attained through electronic health records (EHRs), REACH VET identifies the top 0.1 percent of veterans at risk for suicide and provides them with enhanced care.[23] Similar EHR approaches have been documented in the literature, including the Army's Study to Assess Risk and Resilience in Servicemembers (STARRS) research.[24] Although predictive analytic approaches that rely on EHRs are not viable for the Guard, other strategies that incorporate administrative data and survey results may be more fruitful. In the Air Force's special operations community, Dr. Wayne Chappelle and Dr. James McEachen combined advanced screening measures and administrative data to provide leaders an aggregate view of the health and wellness of their unit. The NG is currently planning to pilot a similar approach.

d. Methods to detect imminent risk

Emerging approaches aim to detect imminent risk of suicide through unobtrusive means. These strategies include passive monitoring of mobile device usage[25] (i.e., sleep, movement, and socialization patterns),[26] implicit attitude measurement,[27] and text analysis

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[22] Katie A. Busch, Jan Fawcett, and Douglas G. Jacobs, "Clinical Correlates of Inpatient Suicide," *Journal of Clinical Psychiatry* 64, no. 1 (2003): 14–19, https://www.ncbi.nlm.nih.gov/pubmed/12590618.

[23] U.S. Department of Veterans Affairs, "VA REACH VET Initiative Helps Save Veterans Lives: Program Signals When More Help Is Needed for At-risk Veterans," (press release, Washington, DC: Office of Public and Intergovernmental Affairs, April 3, 2017), https://www.va.gov/opa/pressrel/pressrelease.cfm?id=2878.

[24] Gregory E. Simon et al., "Predicting Suicide Attempts and Suicide Deaths Following Outpatient Visits Using Electronic Health Records," *The American Journal of Psychiatry* 175, no. 10 (October 2018): 951–960, https://ajp.psychiatryonline.org/doi/pdf/10.1176/appi.ajp.2018.17101167; Ronald C. Kessler et al., "Predicting Suicides After Outpatient Mental Health Visits in the Army Study to Assess Risk and Resilience in Servicemembers (Army STARRS)," *Molecular Psychiatry* 22, no. 4 (April 2017): 544–551, doi:10.1038/mp.2016.110.

[25] "Announcing the Winner of our First 'Foursquare for Good' Program," Foursquare, November 27, 2018, https://medium.com/foursquare-direct/announcing-the-winner-of-our-first-foursquare-for-good-program-c512f62e966e.

[26] Lionel Levine, "Developing a Passive Sensing Solution to Assist the Veteran Community with Mental Health" (briefing, Los Angeles, CA: MITRE Corporation, 2018).

[27] Matthew K. Nock et al., "Measuring the Suicidal Mind: Implicit Cognition Predicts Suicidal Behavior," *Psychological Science* 21, no. 4 (April 2010): 511–517, doi:10.1177/0956797610364762.

of social media.[28] Anecdotal information suggests that NG leaders manually monitor social media for concerning posts by those in their command.[29] More automated approaches to monitor social media could be of potential use to the NG, once these methods have been developed and tested more fully. Although the aforementioned approaches are not yet ready for implementation, efforts should be made to monitor development in this area and consider pilot studies.

2. Assist People at Risk and in Crisis

Ensuring responsive, high-quality care for individuals at risk is critically important but can be particularly challenging for NG members who live in remote areas and/or do not have adequate access to health care. The Guard must rely on community partnerships to ensure that members receive appropriate care. Further, assisting individuals at risk goes beyond connecting them to behavioral health care in the community. Continued follow-up after crisis, family involvement and education, and organizational linkages are important components of caring for those in distress. Appendix B provides a list of programs that have evidence of effectiveness and programs that are informed by research.

a. Ensure access to care

Although DPHs and Behavioral Health Officers (BHOs) do not provide psychotherapy, knowledge of evidence-based approaches is critical to ensure that NG members are referred appropriately. A number of psychotherapy approaches are effective in treating individuals at risk for suicide, including Collaborative Assessment and Management of Suicidality (CAMS), Dialectical Behavioral Therapy (DBT), and Cognitive Behavior Therapy for Suicide Prevention (CBT-SP).[30] A key challenge for referral is that providers underutilize many of these approaches.[31]

Because traditional NG members do not have access to military health care, unless called to orders, the Guard must rely on community partners to ensure members receive behavioral health care. The NG is currently working with the VA to explore strategic solutions to make care available to all its members. For example, the NG recently developed a Memorandum of Agreement with the VA to ensure that Mobile Vet Centers (MVCs) are deployed to every drill weekend.

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[28] Diana Kwon, “Can Facebook’s Machine-Learning Algorithms Accurately Predict Suicide?” *Scientific American*, March 8, 2017, https://www.scientificamerican.com/article/can-facebooks-machine-learning-algorithms-accurately-predict-suicide/#googDisableSync.

[29] Eliezer, *National Guard Bureau*.

[30] Stone et al., *Preventing Suicide*.

[31] Craig J. Bryan et al., “Understanding and Preventing Military Suicide,” *Archives of Suicide Research* 16, no. 2 (2012): 95–110, https://doi.org/10.1080/13811118.2012.667321.

Telehealth or computer-based interventions are other promising strategies to provide care for geographically dispersed NG members. Depression Prevention (Managing Your Mood), a cost-effective computer-based intervention, has been shown to effectively reduce symptoms of depression.

b. Crisis intervention

DPHs and BHOs provide important crisis intervention for individuals known to be at risk. Crisis hotlines, such as Military One Source, provide another avenue for NG members to reach out for help. Several NG states and territories partner with their state's crisis line or have developed their own local crisis hotlines (e.g., Indiana, North Carolina, and Tennessee).

Collaborative safety planning is a key strategy to mitigate risk for those in crisis. The Safety Planning Intervention is an evidence-based approach in which individuals at risk work with clinicians to develop a safety plan (identify warning signs, develop a means restriction plan, and create coping strategies).[32] Although originally developed for Emergency Departments, the Safety Planning Intervention has been applied more broadly to include veteran and military populations.

To respond to traumatic events, the Arizona ARNG has implemented Traumatic Event Management (TEM) teams, a group of five to ten individuals that provides a flexible set of interventions aimed at stress management.[33] TEM training is available to a variety of professionals in the ARNG (i.e., BHOs, chaplains, and other gatekeepers).

c. Active follow-up

Transition points in care are a time of high risk for behavioral health patients. In a meta-analysis of studies, the suicide rate of patients recently discharged from psychiatric hospitalization was 100 times the global average suicide rate.[34] Risk for suicide is also

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[32] Marjan Ghahramanlou-Holloway et al., "Safety Planning for Military (SAFE MIL): Rationale, Design, and Safety Considerations of a Randomized Controlled Trial to Reduce Suicide Risk Among Psychiatric Inpatients," *Contemporary Clinical Trials* 39, no. 1 (September 2014): 113–123, https://doi.org/10.1016/j.cct.2014.07.003; Barbara Stanley et al., *Safety Plan Treatment Manual to Reduce Suicide Risk: Veteran Version* (Washington, DC: United States Department of Veterans Affairs, 2008), www.mentalhealth.va.gov/docs/va_safety_planning_manual.doc.

[33] Department of the Army, *Combat and Operational Stress Control*, FM 4-02.51 (Washington, DC: Headquarters, Department of the Army, July 2006), https://fas.org/irp/doddir/army/fm4-02-51.pdf.

[34] Daniel Thomas Chung et al., "Suicide Rates after Discharge from Psychiatric Facilities: A Systematic Review and Meta-Analysis," *JAMA Psychiatry* 74, no. 7 (July 2017): 694–702, doi:10.1001/jamapsychiatry.2017.1044.

greater following addiction treatment[35] or a mental health diagnosis.[36] Through the Caring Contacts intervention, patients discharged from hospitalization receive caring messages from hospital staff (i.e., expressing concern, providing resources). Research suggests that this intervention effectively prevents suicide death.[37]

The ANG has enhanced monitoring procedures for Airmen post-hospitalization. Likewise, nearly half of the ARNG states and territories also have established post-hospitalization procedures.[38] Strengthening post-hospitalization procedures throughout the Guard and working with community providers to promote caring communications may be important actions to implement. Further, given increased risk after mental health diagnosis and addiction treatment, expanding post-hospitalization procedures to these other at-risk groups may be beneficial.

d. Organizational linkages

Partnerships with community health providers are important to ensure that NG members receive high-quality care sensitive to their needs as military members. Star Behavioral Health Providers (SBHP) provides training for civilian providers on treating service members and serves as a resource for service members to find trained providers. The program was developed through a partnership between ARNG Indiana, the Military Family Research Institute (MFRI), and the Center for Deployment Psychology (CDP) and has now expanded to eight states. ANG's DPHs also regularly work with community providers to provide education and advice on military culture and procedures. Furthermore, the NG has recently developed a formal agreement with the PsychArmor Institute to connect community providers with resources to help them better understand NG culture.

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[35] U.S. Department of Health & Human Services, *2012 National Strategy for Suicide Prevention: Goals and Objectives for Action: A Report of the U.S. Surgeon General and of the National Action Alliance for Suicide Prevention* (Washington, DC: U.S. Deparment of Health & Human Services, 2012), https://www.ncbi.nlm.nih.gov/pubmed/23136686.

[36] Robert J. Ursano et al., "Suicide Attempts in the US Army During the Wars in Afghanistan and Iraq, 2004 to 2009," *JAMA Psychiatry* 72, no. 9 (September2015): 917–926, doi:10.1001/jamapsychiatry.2015.0987.

[37] Mark A. Reger et al., "Implementation Methods for the Caring Contacts Suicide Prevention Intervention," *Professional Psychology: Research and Practice* 48, no. 5 (June 2017): 369–377, http://psycnet.apa.org/record/2017-25334-001.

[38] Bishop et al., *Geographical Variation in Army National Guard Suicide*.

Current outreach efforts mainly focus on behavioral health care providers; however, it may be necessary to expand community outreach to primary care providers. A meta-analysis of SP strategies found that education for primary care physicians concerning depression treatment was one of the most effective suicide-reduction strategies.[39]

e. Family education/involvement

If given the right tools and resources, family members of individuals at risk can be important partners in the behavioral health care process. Empowering family members with the knowledge and tools to assist their loved ones may be a particularly effective way to ensure continuity of support for Airmen/Soldiers in their civilian lives. The National Alliance on Mental Illness (NAMI) Family to Family Education Program provides group-based education to caregivers of people with mental illness to increase knowledge, coping skills, and advocacy skills. The program is associated with a host of positive outcomes and decreased depression and anxiety.[40]

3. Restrict Access to Lethal Means

For individuals in crisis, the interval of time between planning a suicide attempt and acting on that plan is often brief. In a study of individuals who attempted suicide, 24 percent decided to act five minutes before the attempt, and 70 percent decided to act less than an hour before the attempt.[41] Extending the interval from intention to attempt by withdrawing immediate access to lethal means may allow the suicidal crisis to pass.[42] Appendix C provides a list of programs that have evidence of effectiveness and programs that are informed by research.

a. Safe storage options

Suicide attempts through the use of firearms have a high fatality rate, with 85 percent of those attempts resulting in death.[43] Methods to restrict access to firearms include

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[39] J. John Mann et al., "Suicide Prevention Strategies: A Systematic Review," *JAMA* 294, no. 16 (October 26, 2005): 2064–2074, https://jamanetwork.com/journals/jama/fullarticle/201761.

[40] Jason Schiffman et al., "Outcomes of a Family Peer Education Program for Families of Youth and Adults with Mental Illness," *International Journal of Mental Health* 44, no. 4 (2015): 303–315, doi:10.1080/00207411.2015.1076293.

[41] Thomas R. Simon et al., "Characteristics of Impulsive Suicide Attempts and Attempters," supplement, *Suicide and Life-Threatening Behavior* 32, no. s1 (Winter 2002): 49–59, https://pdfs.semanticscholar.org/2da9/450097f1f7586e9d6dd472f30ed866b243a5.pdf.

[42] Peter C. Britton, Craig J. Bryan, and Marcia Valenstein, "Motivational Interviewing for Means Restriction Counseling with Patients at Risk for Suicide," *Cognitive and Behavioral Practice* 23, no. 1 (February 2016): 51–61. https://doi.org/10.1016/j.cbpra.2014.09.004.

[43] Stone et al., *Preventing Suicide*.

providing firearm locks, safes, or remote storage options. In a systematic review of means restriction interventions, providing gun locks led to greater use of safe storage practices than economic incentives or counseling alone.[44] Gun locks are provided in the ANG, and gun locks and safe storage options are provided in some ARNG states and territories; however, the extent to which these options are well-known and utilized is unclear.

Community-based approaches to educate and distribute safe storage devices to gun owners have also shown efficacy.[45] The Nebraska ARNG provides education about safe storage of firearms during its general Safety Council briefing. Incorporating means restriction messages in contexts beyond SP may help to increase support and awareness.

b. Lethal means counseling and education

Means restriction counseling and education is another key strategy to promote safe storage practices. The Emergency Department Means Restriction Education (ED-MRE) intervention provides counseling for family members of adolescents and young adults who attempted suicide. This approach has been found to improve safe storage of firearms and other harmful substances.[46] A lack of training and guidance on means restriction counseling may deter clinicians from broaching the subject with patients.[47] Practical guides for means restriction counseling and free online courses may help overcome this knowledge gap.[48] SPRC provides a free online course on lethal means counseling to assist clinicians working with people at risk for suicide.[49]

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[44] Ali Rowhani-Rahbar, Joseph A. Simonetti, and Frederick P. Rivara, "Effectiveness of Interventions to Promote Safe Firearm Storage," *Epidemiologic Reviews* 38, no. 1 (1 January 2016): 111–124, https://doi.org/10.1093/epirev/mxv006.

[45] Joseph A. Simonetti et al., "Evaluation of a Community-based Safe Firearm and Ammunition Storage Intervention," *Injury Prevention* 24, no. 3 (June 2018): 218–223, http://dx.doi.org/10.1136/injuryprev-2016-042292.

[46] "Emergency Department Means Restriction Education (ED-MRE)," Clearinghouse for Military Family Readiness, accessed December 1, 2018, https://lion.militaryfamilies.psu.edu/programs/emergency-department-means-restriction-education-ed-mre.

[47] Craig J. Bryan, Sharon L. Stone, and M. David Rudd, "A Practical, Evidence-based Approach for Means-Restriction Counseling with Suicidal Patients," *Professional Psychology: Research and Practice* 42, no. 5 (2011): 339–346, http://dx.doi.org/10.1037/a0025051; Britton, Bryan, and Valenstein, "Motivational Interviewing for Means Restriction Counseling."

[48] "Safety Plan Quick Guide for Clinicians," Department of Veterans Affairs, accessed December 1, 2018, https://www.mentalhealth.va.gov/docs/VA_SafetyPlan_quickguide.pdf

[49] "CALM: Counseling on Access to Lethal Means," Suicide Prevention Resource Center, accessed December 1, 2018, https://www.sprc.org/resources-programs/calm-counseling-access-lethal-means.

c. Partnerships with firearm dealers

Recent efforts to work with firearm retailers to educate about suicide show promise. New Hampshire developed the Gun Shop Project to provide education to retailers and customers on suicide and firearm safety. Colorado and South Dakota have also adopted this approach. Although evidence of outcome effectiveness is not yet available, utilization of SP educational materials is high among gun shop owners contacted for the project.[50]

d. Barriers at suicide hotspots

Jumping from suicide "hotspots"—accessible and well-known public sites such as bridges, tall buildings, cliffs, or train tracks—is another particularly lethal manner to attempt suicide. A systematic review of interventions at suicide hotspots found that erecting barriers in front of these sites significantly reduced suicide deaths. Related methods, such as improving third-party surveillance or providing help-seeking information, demonstrated weaker evidence of effectiveness.[51]

4. Change Culture to Promote Help-Seeking

Although the military has made important strides in reducing stigma around mental illness, negative cultural attitudes and other barriers to help-seeking remain. Broad cultural change within the military and society at large is needed to dispel the notion that help-seeking denotes weakness and to reframe psychological health as an inextricable aspect of an individual's total health. Appendix D provides a list of programs that have evidence of effectiveness and programs that are informed by research.

a. Total force fitness (TFF)

DOD's TFF framework may provide a useful model to reframe the cultural narrative surrounding psychological health. The TFF framework affirms the interdependency

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[50] "Gun Shop Project," Harvard T. H. Chan School of Public Health, accessed December 2, 2018, https://www.hsph.harvard.edu/means-matter/gun-shop-project/.

[51] Georgina R. Cox et al., "Interventions to Reduce Suicides at Suicide Hotspots: A Systematic Review," *BMC Public Health* 13, no. 1 (March 2013): 214, https://doi.org/10.1186/1471-2458-13-214.

between physical, behavioral, and psychological health. Illustratively, physical illness, specifically chronic disease, is associated with death by suicide.[52] Sleep disturbance, in particular, has been associated with suicidal ideation in a military sample.[53] Further, exercise has been shown to reduce symptoms of depression.[54] Using a TFF approach, psychological health challenges can be reframed to just one aspect of an individual's total health, requiring the same care and attention as physical health concerns.

b. Awareness campaigns

Awareness/outreach campaigns educate the public about ways to seek help and provide messaging that counters prevailing cultural norms that inhibit help-seeking. Give an Hour's Campaign to Change Direction provides education about the signs of emotional pain and suffering so individuals can be prepared to identify risk and engage in healthy habits to prevent psychological problems.[55] The DOD-wide Real Warriors Campaign aims to reduce stigma associated with help-seeking. The campaign includes video testimonials of service members who have experienced psychological difficulties and demonstrated strength by reaching for help. It also includes a variety of print materials, and resources for providers and leaders.[56] ARNG and ANG SP programs raise awareness through a variety of approaches, including newsletters, brochures, social media pages, 5K runs, videos featuring suicide survivors, and suicide awareness training.

Awareness/outreach campaigns are an important strategy for changing the cultural conversation around suicide; however, care must be taken to ensure that these communications do not inadvertently increase risk for vulnerable individuals. AASP has developed

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[52] Renee D. Goodwin, Andrej Marusic, and Christina W. Hoven, "Suicide Attempts in the United States: The Role of Physical Illness," *Social Science & Medicine* 56, no. 8 (April 2003): 1783–1788, https://doi.org/10.1016/S0277-9536(02)00174-0.

[53] Jessica D. Ribeiro et al., "Sleep Problems Outperform Depression and Hopelessness as Cross-Sectional and Longitudinal Predictors of Suicidal Ideation and Behavior in Young Adults in the Military," *Journal of Affective Disorders* 136, no. 3 (February 2012): 743–750, https://doi.org/10.1016/j.jad.2011.09.049.

[54] Felipe B. Schuch et al., "Exercise as a Treatment for Depression: A Meta-Analysis Adjusting for Publication Bias," *Journal of Psychiatric Research* 77 (June 2016): 42–51, https://doi.org/10.1016/j.jpsychires.2016.02.023; Siri Kvam et al., "Exercise as a Treatment for Depression: A Meta-Analysis," *Journal of Affective Disorders* 202 (15 September 2016): 67–86, https://doi.org/10.1016/j.jad.2016.03.063.

[55] "The Campaign to Change Direction," Give an Hour, accessed December 3, 2018, https://www.changedirection.org/.

[56] "Real Warriors," Psychological Health Center of Excellence (PHCoE), accessed December 3, 2019, https://www.realwarriors.net/.

a framework for successful and safe SP messaging to help prevention specialists design training and outreach programs.[57]

c. Self-help tools/resources

Providing access to self-help resources not only gives individuals the means to connect with care in a private manner, but can also change cultural norms by demystifying and normalizing behavioral health services. A vast amount of self-help information is available online. However, the sheer number of psychological health websites within DOD and civilian communities may provide redundant information and create confusion. Military OneSource helpfully combines an array of self-help resources in one place. Likewise, some NG states and territories have developed their own smart phone applications to centralize resource information (e.g., the ARNG in Pennsylvania, New York, Mississippi, and Missouri). The Warrior Sustainment and Resilience Application (WiSER), developed for the Indiana NG, aims to provide convenient access to resources for service members and their families. Given the proliferation of state-specific self-help resources and applications, it may be beneficial to explore options for a common Guard-wide mobile app and/or psychological health toolkit.

d. Peer influence

Social influence approaches seek to shift norms about behavioral health by enlisting peer leaders to disseminate program content. Sources of Strength is a multi-stage intervention that leverages peer leaders and adult advisors to promote attitude change regarding suicide, help-seeking, and coping skills.[58]Although originally developed for high school students, the program has been applied in colleges and community-based settings. According to CMFR, the program has also been adapted for the Georgia NG, but no further information could be found on its current implementation status.

Peer support programs connect individuals with resources through trusted peer leaders. Caution is needed to ensure that peers receive appropriate training and have access to professional staff and resources. The Michigan ARNG partnered with the University of Michigan and Michigan State University to develop its Buddy-to-Buddy program. Through

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[57] "Action Alliance Framework for Successful Messaging," Action Alliance for Suicide Prevention, accessed December 3, 2018, http://suicidepreventionmessaging.org.

[58] Peter A. Wyman et al., "An Outcome Evaluation of the Sources of Strength Suicide Prevention Program Delivered by Adolescent Peer Leaders in High Schools," *American Journal of Public Health* 100, no. 9 (September 2010): 1653–1661, doi:10.2105/AJPH.2009.190025.

the program, trained peers within the unit and trained veteran volunteers provide support.[59] The California NG's Peer-to-Program also trains peers to provide support for unit members.[60]

e. Leadership support

Leadership support is essential to cultural change. A key factor in the success of the Air Force's evidence-based SP program was the cultivation of leadership support at all levels.[61] To reinforce the Air Force's SP messaging on a regular basis, the ANG has developed quarterly leadership talking points on SP. However, the initiative is not mandatory, and the ANG has no way of tracking utilization or outcomes. Connecticut's Preventative Maintenance Checks and Services (PCMS) of service members also serves to reinforce cultural norms that support help-seeking on regular basis. Designed to be delivered during drill downtime, PCMS allows leaders to proactively address problems. A Guard-wide initiative at the end of 2015 tasked leaders to call their subordinates to check in about their lives before the holidays. Anecdotally, when executed well by supervisors, this process boosted morale and helped identify individuals in need. No further action has been taken beyond an initial year of check-ins and a subsequent year of non-mandatory surveys. The NG may benefit from greater focus on leadership-driven initiatives.

5. Enhance Life Skills, Connectedness, and Resiliency

"Upstream" approaches that address risk and protective factors related to suicidal behavior and equip individuals with the skills to handle life challenges are pivotal to SP efforts. This broad set of approaches not only has the potential to improve overall well-being, but may also prevent or lessen the impact of adverse life events that could trigger a suicidal crisis. Appendix E provides a list of programs that have evidence of effectiveness and programs that are informed by research.

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[59] John F. Greden et al., "Buddy to Buddy, a Citizen Soldier Peer Support Program to Counteract Stigma, PTSD, Depression, and Suicide," *Annals of the New York Academy of Sciences* 1208, no. 1 (October 2010): 90–97, https://doi.org/10.1111/j.1749-6632.2010.05719.x.

[60] Nisha Money et al., *Best Practices Identified for Peer Support Programs* (Arlington, VA: Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury, January 2011), 41–42, https://www.mentalhealthamerica.net/sites/default/files/Best_Practices_Identified_for_Peer_Support_Programs_Jan_2011.pdf.

[61] Kerry L. Knox et al., "The US Air Force Suicide Prevention Program: Implications for Public Health Policy," *American Journal of Public Health* 100, no. 12 (December 2010): 2457–2463, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2978162/.

a. Social-emotional learning

Problem-solving difficulties, impulsive behavior, and emotional reactivity are psychological factors that put individuals at increased risk of suicidal behavior.[62] Social-emotional learning programs aim to counteract these potential vulnerabilities by equipping individuals with enhanced coping, stress management, and emotional regulation skills. Researchers have developed a variety of evidence-based approaches to social-emotional learning for those identified to be at risk and for the general population.

Coping with Work and Family Stress is a workplace intervention program focused on reducing stress at work and home, improving coping skills, and enhancing social support. It is effective at improving coping skills and connectedness and reducing anxiety.[63] Defender's Edge, specifically developed for the Air Force, is a psychological skills training program. The program frames psychological skills as essential for job performance (e.g., adrenaline management, mission focus, fatigue countermeasures).[64]

ANG's DPHs regularly develop life-skill programs (e.g., lunch and learns) that are tailored to the needs of their wing. Likewise, ARNG states and territories have a number of programs aimed at improving life skills and resiliency. The Life Guard program, piloted in the Arkansas NG, provided an interactive workshop to develop resilience and adjustment after deployment. Compared to a control group, participating Guard members exhibited lower depression and greater relationship satisfaction.[65] Although Life Guard appears to be a promising program, it is unclear whether it continued past the initial evaluation phase. Currently, resiliency training is not mandatory in the ARNG and ANG and may have difficulty gaining traction with leadership. Anecdotally, ANG DPHs have indicated that they have difficulty securing time on the limited training schedule for resiliency training.

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[62] Matthew K. Nock et al., "Suicide Among Soldiers: A Review of Psychosocial Risk and Protective Factors," *Psychiatry: Interpersonal and Biological Processes* 76, no. 2 (Summer 2013): 97–125, doi:10.1521/psyc.2013.76.2.97.

[63] H. Saadat et al., "Wellness Program for Anesthesiology Residents: A Randomized, Controlled Trial," *Acta Anaesthesiologica Scandinavica* 56, no. 9 (October 2012): 1130–1138, https://doi.org/10.1111/j.1399-6576.2012.02705.x.

[64] Craig J. Bryan and Chad E. Morrow, "Circumventing Mental Health Stigma by Embracing the Warrior Culture: Lessons Learned from the Defender's Edge Program," *Professional Psychology: Research and Practice* 42, no. 1 (February 2011): 16–23, http://dx.doi.org/10.1037/a0022290.

[65] Dean Blevins, J. Vince Roca, and Trey Spencer, "Life Guard: Evaluation of an ACT-based Workshop to Facilitate Reintegration of OIF/OEF Veterans," *Professional Psychology: Research and Practice* 42, no. 1 (February 2011): 32–39, https://bobcat.militaryfamilies.psu.edu/sites/default/files/placed-programs/blevins,%20roca,%20spencer%202011.pdf.

b. Family and relationship programs

Family and relationship conflict is a key stressor that can precede a suicidal crisis.[66] Conversely, family members can also be important sources of social support and connectedness. Thus, strengthening family relationships has the potential to protect against suicide. After Deployment Adaptive Parenting Tools (ADAPT) is a four week program for service members and their families to develop emotional regulation and mindfulness skills after deployment. Reserve and NG members who completed the program reported increased parental locus of control, which, in turn, reduced distress and suicidal ideation.[67] The Creating Lasting Family Connections Marriage Enhancement Program (CLFCMEP), a community-based effort for couples, has some evidence of effectiveness for increasing feelings of social competence and connectedness.[68]

c. Increasing connectedness

Social connectedness and social support are associated with decreased suicide risk.[69] Among service members, higher unit cohesion is associated with a lower likelihood of post-traumatic stress disorder (PTSD) (individuals with PTSD have an increased risk of suicide).[70] Some social-emotional learning and family and relationship programs, described previously, positively impact connectedness and social support. However, interventions that directly aim to improve connectedness, beyond addressing family relationships, are few and far between. Team Readiness is an NG worksite substance abuse prevention program that aims to foster a healthy organizational climate. It is an adaptation of

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66 Jeffery Martin et al., "A Comparative Review of U.S. Military and Civilian Suicide Behavior: Implications for OEF/OIF Suicide Prevention Efforts," *Journal of Mental Health Counseling* 31, no. 2 (April 2009): 101–118, https://doi.org/10.17744/mehc.31.2.a6338384r2770383.

67 Abigail H. Gewirtz, David S. DeGarmo, and Osnat Zamir, "Effects of a Military Parenting Program on Parental Distress and Suicidal Ideation: After Deployment Adaptive Parenting Tools," Supplement, *Suicide and Life Threatening Behavior* 46, Supp. 1 (April 2016): S23–S31, doi:10.1111/sltb.12255.

68 "Creating Lasting Family Connections Marriage Enhancement Program (CLFCMEP)," Clearinghouse for Military Family Readiness, accessed December 5, 2019, https://lion.militaryfamilies.psu.edu/programs/creating-lasting-family-connections-marriage-enhancement-program-clfcmep.

69 Evan M. Kleiman and Richard T. Liu, "Social Support as a Protective Factor in Suicide: Findings from Two Nationally Representative Samples," *Journal of Affective Disorders* 150, no. 2 (5 September 2013): 540–545, https://doi.org/10.1016/j.jad.2013.01.033.

70 Kevin Brailey et al., "PTSD Symptoms, Life Events, and Unit Cohesion in U.S. Soldiers: Baseline Findings from the Neurocognition Deployment Health Study," *Journal of Traumatic Stress* 20, no. 4 (August 2007): 495–503, https://pdfs.semanticscholar.org/b693/5e12ef97e08b7124b34c84cedfebebcbd396.pdf.

the evidence-based Team Awareness program.[71] Within the Army, Strong Bonds is a chaplain-led retreat aimed at strengthening connectedness for couples, families with children, and single Soldiers. The retreat features small-group activities that support bonding and connect Soldiers with community resources.[72]

6. Postvention

Postvention refers to a broad range of activities following a suicide death or attempt, including providing care for survivors of suicide loss, promoting safe messaging to the public about suicide events, and collecting information related to suicide deaths for surveillance (i.e., tracking and reporting of information related to suicide). Research on effective postvention approaches is scarce, and practices within DOD are not well established.[73]

A number of resource guides are available to inform the public about postvention strategies. DOD has a checklist of activities for leadership after a suicide death and attempt.[74] The National Action Alliance for Suicide Prevention (NAASP) assembled a task force of postvention experts to design its national guidelines.[75] Likewise, experts collaborated to develop guidelines for reporting on suicide in a non-harmful manner (e.g., avoid sensationalizing and referring to "successful" suicide).[76] Some research suggests that changes in media portrayals of suicide can decrease suicide rates; however, this effect has only been documented in one European city.[77]

Few postvention programs have been evaluated for their effectiveness. One exception is the Connect Suicide Postvention program, which is currently used in the New Hampshire

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[71] "Team Readiness," Clearinghouse for Military Family Readiness, accessed December 5, 2018, https://lion.militaryfamilies.psu.edu/programs/team-readiness.

[72] "Strong Bonds," U.S. Army, accessed December 5, 2019, https://strongbonds.jointservicessupport.org/About-Us.

[73] Rajeev Ramchand et al., *Suicide Postvention in the Department of Defense: Evidence, Policies and Procedures, and Perspectives of Loss Survivors*, RR-586-OSD (Santa Monica, CA: RAND Corporation, 2015), https://www.rand.org/pubs/research_reports/RR586.html.

[74] Department of Defense, "Leader Guide and Postvention Checklist" (Washington, DC: Under Secretary of Defense for Personnel and Readiness, Defense Suicide Prevention Office, June 2016), http://www.dspo.mil/Portals/113/Documents/Final%20DoD%20Leaders_PostSuicide_Checklist.pdf.

[75] National Action Alliance for Suicide Prevention, *Responding to Grief, Trauma, and Distress After a Suicide: U.S. National Guidelines* (Washington, DC: National Action Alliance for Suicide Prevention, April 2015), https://www.sprc.org/sites/default/files/migrate/library/RespondingAfterSuicideNationalGuidelines.pdf.

[76] "Reporting on Suicide," reportingonsuicide.org, accessed December 10, 2018, http://reportingonsuicide.org/about/.

[77] Thomas Niederkrotenthaler and Gernot Sonneck, "Assessing the Impact of Media Guidelines for Reporting on Suicides in Austria: Interrupted Time Series Analysis," *Australian and New Zealand Journal of Psychiatry* 41, no. 5 (May 2007): 419–428, https://doi.org/10.1080/00048670701266680.

ARNG. The training is designed to build the capacity of organizations to respond to a suicide death and involves discussions and interactive scenarios. Compared to pre-participation attitudes, program participants felt more prepared to help those in need and were less likely to endorse attitudes that stigmatized help-seeking.

Surveillance regarding suicide ideation, attempts, and completions is particularly challenging for the NG because of its limited ability to track members when they are not activated. The Defense Suicide Prevention Office (DSPO) and the Uniformed Services University of Health Sciences (USUHS) conduct an annual DOD-wide suicide death review to understand suicide trajectories. The death-review team has had difficulty reviewing NG member deaths because of the limited information available.[78] In response to this concern, the NG is working with the death-review team to provide records and more detailed information on NG member deaths by suicide. This suicide death-review project could provide valuable insights to guide SP efforts.

C. Methodology to Select, Implement, and Evaluate SP Strategies

Section B summarizes SP programs of value but does not specify *how* to implement these practices. Getting to Outcomes (GTO)[79] and SPRC's Strategic Planning Approach[80] are two approaches that NG states and territories can use to guide their local implementation process. Subsections C.1–C.3 summarize a few key principles necessary for effective program implementation.

1. Use Evidence-based Practices

When deciding on programs and practices to implement, selecting practices with evidence of effectiveness or, at the very least, programs that are well-informed by research is essential. Appendices A–F provide examples of such programs. Beyond the list of programs in the appendices, however, there are many other programs with evidence of effectiveness that may better meet a state/territory's specific needs. Databases of evidence-based practices are a key resource that NG states and territories can use to select promising programs.[81] CMFR is particularly useful because it summarizes a broad range of public health

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[78] Eliezer, *National Guard Bureau*.

[79] Matthew Chinman, Pamela Imm, and Abraham Wandersman, *Getting To Outcomes™ 2004: Promoting Accountability Through Methods and Tools for Planning, Implementation, and Evaluation*, TR-101-CDC (Santa Monica, CA: Rand Corporation, 2004), https://www.rand.org/pubs/technical_reports/TR101.html.

[80] "Strategic Planning," Suicide Prevention Resource Center, accessed November 13, 2018, https://www.sprc.org/effective-prevention/strategic-planning.

[81] For a comprehensive list of evidence-based databases, see "Database of Best Practices," Community Tool Box, https://ctb.ku.edu/en/databases-best-practices.

programs and notes whether practices have been applied to the military.[82] Although existing approaches must often be adapted for the local context, it is better to start with an evidence-based approach than to develop something entirely new.

2. Evaluate Effectiveness

Prevention programs do not always generalize effectively to different contexts or populations and may wane in effectiveness over time. Thus, having an ongoing evaluation plan in place to ensure that SP programs are having their intended impact is critical. Anecdotally, NG state/territories often limit their evaluation strategies to measures of program utilization or participant satisfaction. Although these measures are important components of an evaluation plan, it is also critical to assess whether programs are effective in achieving their key objectives. Measuring the effectiveness of programs in reducing suicide deaths is particularly challenging due to the low base rate of suicide events. More frequent behaviors, including suicidal ideation and suicide attempts, may be of greater use. In addition, NG can track a host of proximal outcomes that reflect risk and protective factors for suicide, including, but not limited to, social connectedness, attitudes about help-seeking, knowledge about available resources, safe storage practices, coping skills, and depression. RAND's Suicide Prevention Program Evaluation Tooklit, developed specifically for DOD, provides step-by-step guidance on SP program evaluation.[83] The PhenX Toolkit provides an expert-curated online repository of psychological and biological measures that can be leveraged for program evaluation.[84]

Robust program evaluation requires comprehensive data systems. The NG has minimal information on members' physical and psychological health since members are not provided medical services unless they are in activated status. Although the NG tracks members who die by suicide, detailed information about the circumstances surrounding the event are often unavailable. Further, inconsistent data elements across the ANG and ARNG poses a barrier to comprehensive analysis across the Guard.

To enhance program evaluation capacity, the NG must improve its data systems to ensure that all states and territories have access to comprehensive, accurate, and consistent information. The NG requires a better data infrastructure to allow for evaluation of outcome effectiveness, implementation effectiveness (i.e., program implemented as intended), program acceptability (i.e., satisfaction and utilization), and program utility (i.e., time and

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[82] "Find Programs," Clearinghouse for Military Family Readiness, accessed November 1, 2018.

[83] Joie D. Acosta et al., *RAND Suicide Prevention Program Evaluation Toolkit*, TL-111-OSD (Santa Monica, CA: RAND Corporation, 2013), https://www.rand.org/pubs/tools/TL111.html.

[84] "Suicide Specialty Collection," PhenX Toolkit, accessed November 20, 2018, https://www.phenxtoolkit.org/sub-collections/view/3.

money saved). The Guard, in tandem with its effort to pilot a predictive analytic approach, is exploring mechanisms to improve its analytic capability.

3. Foster Collaboration across Related Organizations

A number of destructive behaviors that the NG works to prevent are also associated with suicide risk. For example, sexual assault and bullying have been linked to suicidal ideation and behavior among victims and perpetrators.[85] Substance abuse is a key risk factor for suicidal ideation and behavior.[86] Recent increases in death by suicide among younger adults in the United States have coincided with increases in death by overdose among this same population. These parallel trends are likely to have common societal causes.[87] Legal trouble stemming from destructive behaviors and other Uniform Code of Military Justice (UCMJ) violations may also be associated with suicidal behavior.[88] The Air Force is developing initiatives to ensure safety for Airmen under investigation, including mandatory mental health evaluations.

The Army and Air Force have moved toward greater integration of their prevention initiatives. Internal collaboration across related programs is evident throughout the NG. In the ANG, the DPH and SP programs are positioned under the Surgeon General, which provides an organizational structure that facilities collaboration. The ARNG organizes its R3SP program separately from its behavioral health program; however, collaboration between these areas, along with the substance abuse program and chaplain staff is quite common. A few ARNG states (e.g., Massachusetts and Ohio) have realigned their R3SP program to fall under the Surgeon General.

A comprehensive approach to SP—one that addresses a broad set of risk and protective factors for suicidal behavior—requires a diverse set of collaborators. Suicide Prevention Program Managers (SPPMs), BHOs, and DPHs cannot implement these initiatives on

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[85] Andra Teten Tharp et al., "A Systematic Qualitative Review of Risk and Protective Factors for Sexual Violence Perpetration," *Trauma, Violence, & Abuse* 14, no. 2 (April 2013): 133–167, https://doi.org/10.1177/1524838012470031; Ann John et al., Self-Harm, Suicidal Behaviours, and Cyberbullying in Children and Young People: Systematic Review," *Journal of Medical Internet Research* 20, no. 4 (April 2018): e129, doi:10.2196/jmir.9044.

[86] Murray B. Stein et al., "Alcohol Misuse and Co Occurring Mental Disorders Among New Soldiers in the U.S. Army," *Alcoholism: Clinical and Experimental Research* 41, no. 1 (January 2017): 139–148, doi:10.1111/acer.13269.

[87] Colin Dwyer, "U.S. Life Expectancy Drops Amid 'Disturbing' Rise in Overdoses and Suicides," *National Public Radio*, November 29, 2018, https://www.npr.org/2018/11/29/671844884/u-s-life-expectancy-drops-amid-disturbing-rise-in-overdoses-and-suicides.

[88] Department of Defense, *DoDSER: Department of Defense Suicide Event Report*, Calendar Year 2016 Annual Report (Washington, DC: Under Secretary of Defense for Personnel and Readiness, 2016), https://www.pdhealth.mil/sites/default/files/images/docs/DoDSER_CY_2016_Annual_Report_For_Public_Release_508_2.pdf.

their own. Collaboration with related programs and community organizations is essential for tackling a problem as complex as suicide. The development of the NG WR&F program will bolster and expand the Guard's integrative approach to prevention and risk management.

Further research will be needed to move forward in an evidence-based manner. Research thus far has largely developed interventions for specific problematic behaviors rather than pursue an integrative approach. Efforts must be taken to develop evidence-based programs that are effective at addressing multiple high-risk behaviors. To do so, it is important to coordinate program evaluation for high-risk behaviors related to suicide. Programs designed to reduce one high-risk behavior could potentially have an impact on other high-risk behaviors. For example, the Air Force's SP program not only reduced suicidal behavior, but also lowered incidents of family violence, homicide, and accidental death.[89] Likewise, a program designed to improve parenting for NG and Reserve families also reduced suicidal ideation.[90]

D. Recommendations

IDA's main recommendations focus on how to leverage the Compendium of SP Strategies to improve the NG's SP programs. Chapter 3 provides further detail on the application of the compendium in the context of the SP Innovation Process.

- Disseminate the Compendium of SP Strategies to NG states and territories to provide a common understanding of the essential components of an SP program.
- Encourage NG states and territories to compare their current programs to the compendium and fill program gaps as needed.
  - Appendices A–F provide examples of evidence-/research-informed strategies that could be utilized. States and territories can also use evidence-based databases to identify additional programs that meet their specific needs.
- Comprehensively assess SP programs across the Guard, compare these programs to the Compendium of SP strategies, and identify program gaps that need to be filled (e.g., new programs to implement, research needed).
- Update the Compendium of SP Strategies on a regular basis to account for innovations developed in the NG and new research/programs developed in the broader SP community.

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89 Stone et al., *Preventing Suicide*.

90 Gewirtz, DeGarmo, and Zamir, "Effects of a Military Parenting Program."

- Leverage publically available resources on program implementation and evaluation
  - To select programs, use evidence-based databases;[91]
  - To implement programs, use implementation toolkits;[92] and
  - To evaluate programs, use program evaluation guides[93] and repositories of psychological measures/instruments.[94]

Although a full assessment of the NG's SP programs is needed to develop a comprehensive set of recommendations for program improvement (see Chapter 3), IDA presents a limited set of recommendations.

- Monitor research on emerging technology—mobile apps, social media text analysis, implicit measurement—as potential strategies to detect imminent suicide risk.
  - Examine how leaders use social media to monitor NG member well-being and develop techniques to facilitate the process.
- Evaluate current post-hospitalization procedures in the NG and develop guidance based on best practices. Given increased suicide risk after mental health diagnosis and addiction treatment, explore the feasibility of expanding post-hospitalization procedures to these other at-risk groups.
- Examine strategies to increase awareness and utilization of firearm safety resources. Although the ARNG and ANG are following best practices by providing firearm locks, awareness of these resources may be insufficient to drive change. Research is needed to determine whether firearm safety measures are being disseminated effectively and to develop improved strategies, if needed.
- Pilot and assess the effectiveness of leadership-support approaches including regular check-ins with subordinates and leadership talking points. Although these approaches have been implemented in the past and are currently ongoing in the ANG (talking points), research is needed to assess effectiveness and determine whether broader application is warranted.
- Given the proliferation of state-specific mobile applications, explore the feasibility of a common NG-wide app and/or a SP/behavioral health toolkit.

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[91] For a comprehensive list of evidence-based databases, see "Database of Best Practices," Community Tool Box, https://ctb.ku.edu/en/databases-best-practices.

[92] Chinman, Imm, and Wandersman, *Getting To Outcomes™ 2004*.

[93] Acosta et al., *RAND Suicide Prevention Program*.

[94] "Suicide Specialty Collection," PhenX Toolkit, accessed November 20, 2018.

- Develop and evaluate approaches to life skill/resiliency training that can be delivered in small doses during drill weekends rather than during hour-long trainings once a year. Since resiliency training is not mandatory and training time is limited, leaders may be more amenable to short-format approaches.
- Develop and evaluate approaches to enhance connectedness among NG members. Ensure that the perspectives of young NG members are incorporated in program development, given generational differences in socialization practices.
- To pursue more integrative approaches to preventing destructive behaviors (e.g., suicide, sexual assault, hazing, domestic violence, and so forth), conduct research to develop evidence-based programs designed and evaluated for preventing multiple destructive behaviors.
- Standardize, streamline, and synchronize data collection processes across the ARNG and ANG to allow for more robust program evaluation.

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3. SP Innovation Process

The SP Innovation Process provides a framework for the NG to identify, select, and implement the most effective practices for preventing suicide and promoting resiliency. As discussed in Chapter 2, states and territories are already implementing a broad range of programs aimed at preventing suicide and addressing related risk/protective factors. However, NG lacks a systematic means by which to catalogue, assess, and disseminate these initiatives. The innovation process is intended to provide a more unified and strategic approach to SP across the Guard.

To develop the SP Innovation Process, IDA drew on its past experience developing similar frameworks for DSPO[95] and the DOD laboratories,[96] along with models of innovation from industry and government. IDA's Innovation Process for the Guard is a hybrid model that incorporates commercial firm strategies that solicit and develop ideas from staff at all levels and grant review processes that set priorities for research and request proposals on specific topics.

A. Process Overview

This section describes the SP Innovation Process and its six component steps (see Figure 5 and Figure 6):

1. Survey the landscape to collect information about current NG programs and new ideas
2. Focus efforts by identifying promising programs/ideas along with gaps in current practices
3. Invite submissions for project proposals
4. Evaluate and select proposals through expert review
5. Provide funding and/or technical assistance to develop selected projects
6. Disseminate information about new innovations, implement broadly, and evaluate to ensure quality improvement.

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[95] Susan L. Clark-Sestak et al., *Strengthening the Contributions of the Defense Suicide Prevention Office to DOD's Suicide Prevention Efforts*, IDA Paper P-8248 (Alexandria, VA: Institute for Defense Analyses, November 2016).

[96] David R. Graham et al., *Strengthening DOD Laboratories: A Proposal for a Virtual Central Laboratory to Support Enterprise-Level Innovation*, IDA Paper P-4976 (Alexandria, VA: Institute for Defense Analyses, March 2013).

Figure 5. Suicide Prevention Innovation Process Diagram

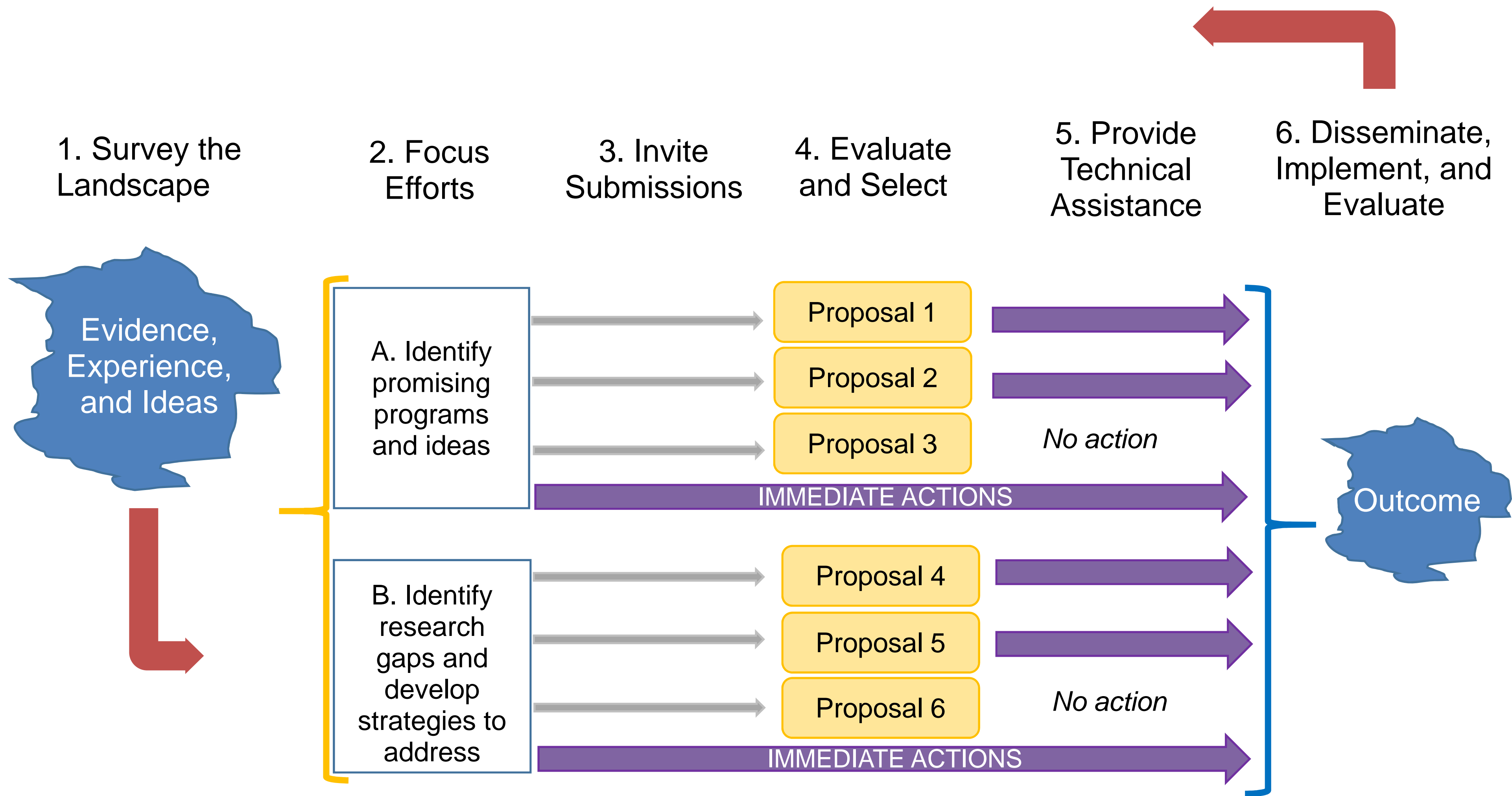

Figure 6. Suicide Prevention Innovation Process Overview

1. SURVEY THE LANDSCAPE

- Collect information about current programs, best practices, and new ideas in a database (i.e., surveillance tool):
  - Request information from NG states and territories on a regular basis
  - Gather information during site visits
  - Incorporate ideas and suggestions from experts

2A. FOCUS EFFORTS – PROMISING PROGRAMS

- Review responses on the surveillance tool to identify promising programs and ideas that meet the following qualifying criteria:
  - Effective
  - Acceptable to participants
  - Relevant and culturally appropriate
  - Novel
  - Impactful
  - Feasible
  - Fulfills an existing requirement

2B. FOCUS EFFORTS – RESEARCH GAPS

- Compare current programs to the Compendium of SP Strategies and identify research and program gaps
- Identify strategies to address gaps:
  - Develop request for proposals (RFPs) to address gaps
  - Fill gap through contract mechanism or collaborations with research organizations
  - Identify existing programs within DOD to extend to NG

3. INVITE SUBMISSIONS

- Invite proposals for promising programs (2A) and research gaps (2B)
- Proposal requirements include
  - Plan to evaluate effectiveness
  - Progress reports twice a year
  - Final report

4. EVALUATE AND SELECT

- Convene a panel of experts to evaluate proposals on: Significance/impact; Methodology, Capabilities of team; and Value in relation to investment

5. PROVIDE TECHNICAL ASSISTANCE

- Provide project teams with technical assistance to
  - Develop or improve selected programs
  - Develop and execute evaluation plans; provide a common set of evaluation measures
  - Secure contract support, external funding and/or research partnerships
  - Foster connections with other states to implement the program more broadly

6. DISSEMINATE, IMPLEMENT AND EVALUATE

- Disseminate innovations through: top-level policy and program-deployment decisions, updates to the Compendium of SP Strategies, Joint Community of Practice
- Implement new innovations more broadly and provide technical assistance to do so
- Develop a quality assurance process to monitor implementation fidelity and determine when to discontinue programs

Appendices G–I provide specific tools to deploy the process. Importantly, the innovation process is designed to be flexible and modular. That is, if personnel to administer the process and/or funding to support research are unavailable, the process can be implemented partially or in an incremental manner. In the subsections that follow, IDA discusses the full process but concludes with a discussion of smaller scale approaches.

The newly established WR&F program is the natural fit for the role of executing the innovation process. CNGBI 0300.01 assigns the WR&F program the "primary responsibility for standardizing plans, policy, and programs" and to "leverage efforts from existing ARNG Community Health Promotion Councils [CHPCs] and ANG Community Action Boards [CABs] to identify best practices, joint trends, isolated issues, and corrected actions taken or planned."[97] The SP Innovation Process could serve as a key mechanism to accomplish these mandates. Further, IDA recommends that in addition to the WR&F General Officer Advisory Council (GOAC) specified in CNGB 0300.01, the WR&F program also develop a joint action-officer committee to serve as a key partner in implementing the innovation process.

1. Survey the Landscape

NG states and territories have implemented a range of programs aimed at reducing suicide. Although some of these programs and practices are shared through within-service collaboration mechanisms, the NG lacks a mechanism to collect this information in a standardized way at the joint level. Knowledge of SP programs within the Guard is largely a result of informal mechanisms and does not cover the full gamut of activities.

The first step of the SP Innovation Process is to collect information about current programs, best practices, and promising ideas through a standardized surveillance tool. This surveillance tool serves two key purposes: to identify promising programs and ideas for potential development and/or funding and to assess the current state of SP within the NG to identify gaps.

Appendix G provides the full surveillance tool. An online survey tool would be the most straightforward way to disseminate the surveillance tool and store the information in a centralized location. Table 1 describes the key data elements to be included in the surveillance tool.

The NG should collect information using this surveillance tool in several ways. First, the WR&F program could request that all NG states and territories provide their inputs on

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[97] Department of Defense, "National Guard Warrior Resilience and Fitness Program," CNGBI 0300.01, A-2.

Table 1. Surveillance Tool Data Elements

Point of Contact	Name, contact information, service, position within organization
Description	Name and brief description of program, practice, or idea
Primary aims	Select the applicable categories from the Compendium of SP Strategies
Target group	Description of the group to which the program or practice is applied
When applied	Description of when and where the program or practice is applied
Cost	Cost per NG member and/or direct costs involved
Funding mechanism	Description of how the program is funded
Program evaluation	Description of program evaluation efforts (e.g., outcome effectiveness, utilization data, satisfaction/experience data, utility data, process data)
Support needed	Support needed from NGB (i.e., technical assistance to improve, funding to enhance/expand, assistance with program evaluation, assistance in disseminating and implementing broadly)

a regular basis. Key sources of input would include ARNG CHPCs, ANG CABs, DPHs, BHOs, SPPMs, R3SPs, chaplains, the Alcohol and Drug Control Office (ADCO), and related stakeholders (e.g., Sexual Assault Prevention and Response (SAPR), Diversity and Inclusion, financial management, employment support). The WR&F program could also collect the information during site visits. Finally, the surveillance tool could be used to collect inputs from external researchers who approach the NG with proposed programs and ideas.

2. Focus Efforts

Once sufficient information has been gathered through the surveillance tool, the Guard can review the inputs to identify promising programs and ideas to incubate (step 2A) and research and program gaps that remain (step 2B). Three potential outcomes for proposed programs and research gaps identified through this initial review process are as follows:

- Invite proposals to be considered for expert review (proceed to steps 3 and 4),
- Immediate action to develop and/or fund the selected projects (bypass steps 3 and 4), and
- No action.

Immediate action can be taken for smaller projects and/or when a pressing need for a particular program or research effort exists. Larger program or research efforts can proceed to steps 3 and 4 (proposal submission and expert review), particularly when funding is required and/or more information is needed to assess the project fully. Members of a WR&F action-officer committee could serve in this initial review capacity and the WR&F GOAC could approve final decisions.

a. Identify promising programs and ideas

Information gathered through the surveillance tool should be evaluated by reviewers who have relevant expertise to select promising programs and ideas for development. Reviewers can use a common evaluation instrument that specifies minimum standards to qualify for selection. IDA loosely adapted the evaluation instrument (see Appendix H) from a validated measure designed to assess the feasibility of mental health service interventions.[98] Qualifying criteria are specified below:

- **Effective or research-informed.** Program has evidence of effectiveness or is well-informed by research.
- **Acceptable to participants.** Program has evidence of acceptability to participants (e.g., participant satisfaction, high program utilization).
- **Relevant to target population.** Program is culturally appropriate for the Guard and relevant to the intended population (e.g., was developed for military members, veterans, or civilians of a similar demographic group).
  - Includes consideration of demographic and geographic differences between states and whether programs developed for a specific state's population could successfully generalize across the Guard.
- **Novel.** The program is unique or novel (i.e., not unduly redundant with existing DOD programs and/or resources available to the NG).
- **Feasible.** The program's requirements for additional staff, contractors, funding, and/or participation time are feasible to acquire on a long-term basis.
- **Impactful.** The program has the potential to make a moderate to large impact on the problem it is trying to address in a timely manner.
- **Based on a requirement.** The program fulfills the intent of a requirement specified in DOD or subordinate service-level regulation, policy, or guidance documents (e.g., Fiscal Year 2018 National Defense Authorization Act (NDAA), CNGBI 0300.01, VA/DOD Clinical Practice Guidelines).

Priority should be given to programs that fully meet these criteria; however, programs that partially meet the criteria can also be considered. At the end of the evaluation instrument, reviewers are asked to give their overall recommendation for the program: (1) immediate action to develop and/or fund the selected projects; (2) invite submission of

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[98] The format and some of the categories on this tool were adapted from Victoria J. Bird et al., "Evaluating the Feasibility of Complex Interventions in Mental Health Services: Standardised Measure and Reporting Guidelines," *The British Journal of Psychiatry* 204, no. 4 (2014): 316–321, https://doi.org/10.1192/bjp.bp.113.128314.

project proposal to be considered for review; (3) no action. After reviewers independently assess programs, they should convene to make final determinations as a group.

b. Identify program/research gaps and strategies to address

Responses to the surveillance tool can also help identify areas in which significant program or research gaps remain. Using the surveillance tool, the WR&F program should conduct a gap analysis that compares the current state of SP activities within the Guard to the Compendium of SP Strategies. This gap analysis will help identify areas in which the NG lacks essential programs and areas in which more research is needed.

Once research/program gaps have been identified, strategies should be developed to address these gaps, including

- Development of request for proposals (RFPs) to fill the identified gaps. RFPs should be developed in concert with experts to avoid redundancy with ongoing research and program development efforts.
- Immediate action to address the gap through new procurement, contract extensions, and/or collaborations with research organizations. To the extent possible, the NG should leverage existing DOD programs and/or contract mechanisms to maximize efficiency and reduce redundancy.

3. Invite Submissions

A subset of identified programs and research gaps will require an expert review process to select for funding and/or further development. For selected promising programs or ideas (step 2A) that did not proceed for immediate development, project teams should be invited to submit a proposal for consideration. In addition, RFPs developed to address research gaps (step 2B) can be disseminated to all relevant stakeholders. Depending on WR&F program priorities, RFPs can be sent within the Guard only or extended more broadly to external research organizations.

Submissions can be relatively brief (five to seven pages) and organized around four key sections: (1) impact of the project on SP or related risk/protective factors, (2) methodology and analysis plan, (3) description of project team and available resources, and (4) proposed budget. Proposals should be required to include plans to evaluate effectiveness, provide progress reports twice a year, and produce a final report on outcomes (including education, guidance, or training that can be used for dissemination).

4. Expert Review to Select and Fund

Much like the review process in step 2A, the WR&F program can organize a review process to assess submitted proposals. Experts for this review process can extend beyond the WR&F action-officer committee to researchers and practitioners throughout the NG.

Over time, the WR&F program can assemble a board of researchers and practitioners upon which it can call whenever their area of expertise is relevant.

At this stage of review, experts can focus on the overall quality of research proposals since submitted programs will have already passed through the initial filtering process at step 2A (found to meet the minimum standards). The evaluation rubric (see Appendix I) is based on review criteria used by the National Institutes of Health (NIH), the National Science Foundation (NSF),[99] the Military Operational Research Program (MOMRP), and IDA tools developed previously for DSPO and DOD laboratories. Experts can review proposals on the following dimensions:[100]

- **Significance/impact (35 points).** Project has the potential to make significant progress toward reducing suicide and/or addressing associated risk or protective factors.
- **Methodological approach (35 points).** The methodology and analytical approach has scientific merit (i.e., uses best practices and up-to-date, well-reasoned methods and includes an evaluation plan).
- **Capabilities of the team and available resources (15 points).** The project team has the expertise and resources to successfully complete the project.
- **Value in relation to investment (15 points).** The cost of the project is worthwhile given its likely impact.

After reviewing proposals independently, experts can convene (virtually or in person) with the WR&F action officer committee to make prioritization decisions. Final approval for programs and research to fund and/or develop can go through the WR&F GOAC.

5. Technical Assistance

Once programs and research projects have been selected for development, a program manager within the WR&F should work with project teams to ensure that key deliverables are met, including initial project plan submitted and approved, biannual progress reports, and a final report. Further, the program manager should connect project teams with technical assistance as needed. Technical assistance can come from within the WR&F program if staff members or contractors are available to fulfill this function. The WR&F program could also connect project teams with experts throughout the NG, perhaps leveraging those

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[99] Holly J. Falk-Krzesinski and Stacey C. Tobin, "How Do I Review Thee? Let Me Count the Ways: A Comparison of Research Grant Proposal Review Criteria Across US Federal Funding Agencies," *Journal of Research Administration* 46, no. 2 (2015): 79–94, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4892374/.

[100] The WR&F action-officer committee could modify the proposed point values for each dimension before applying this review process. The indicated point values are included for illustrative purposes.

involved in reviewing proposals. In addition, external technical assistance mechanisms could be pursued. SAMHSA's Service Members, Veterans, and their Families Technical Assistance (SMVF TA) Center helps states and territories improve their behavioral health systems. Similarly, the CMFR at Penn State University provides technical assistance on a range of behavioral health and prevention programs for the military.

The nature of technical assistance will depend on the program and the stage of development. Potential support services may include, but are not limited to, the following:

- Assistance in developing or improving the program;
- Assistance in developing and executing a plan to evaluate the program;
- Assistance in securing a contract vehicle to execute the project, external funding, and/or partnerships with research organizations; and
- Assistance in developing partnerships with other states to implement the program more broadly.

The WR&F program should ensure that project teams employ suitable strategies for program evaluation. RAND's Suicide Prevention Evaluation Toolkit[101] can be used as standard guide for this process. To ensure quality and consistency across projects, the WR&F program should provide a common set of evaluation measures or metrics from which project teams can select. The PhenX Toolkit provides an expert-curated online repository of psychological and biological measures.[102] The National Institute for Mental Health (NIMH) requires all their funded grants to select measures from this repository.

The WR&F program should regularly evaluate project progress (i.e., through biannual progress reports) to determine whether projects should be expanded, redirected in a more promising direction, or discontinued.

6. Dissemination, Implementation, and Evaluation

Dissemination, implementation, and evaluation activities will be critical to ensure that the NG's investment in innovation is leveraged appropriately. Public health researchers have long noted the gap between science and practice. That is, although a host of evidence-based strategies have been developed, the translation of these approaches to the field often lags behind scientific progress.[103] A robust infrastructure to support dissemination, implementation, and evaluation is necessary to ensure that innovations are translated to the field.

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[101] Acosta et al., *RAND Suicide Prevention Program Evaluation Toolkit*.

[102] "Suicide Specialty Collection," PhenX Toolkit," accessed November 20, 2018.

[103] Abraham Wandersman et al., "Bridging the Gap Between Prevention Research and Practice: The Interactive Systems Framework for Dissemination and Implementation," *American Journal of Community Psychology* 41, no. 3–4 (June 2008): 171–181, https://doi.org/10.1007/s10464-008-9174-z.

a. Dissemination

After program development and research concludes, the WR&F program should work with project teams to ensure broad dissemination. As previously noted, all projects should be required to produce a final report that includes education, training, or guidance documentation. The WR&F program must ensure that this information is shared across states and territories.

At the conclusion of projects, teams should have the opportunity to formally present their results to the WR&F action-officer committee and the GOAC. Based on this information, leadership can make decisions about which programs to support for broad dissemination (e.g., require practice in joint standards, update policy, provide direct funding for states to implement the program). In addition, the WR&F committees can decide on programs to include in the Compendium of SP Strategies. The compendium should be updated and distributed on a regular basis to incorporate new innovations and research evidence.

The WR&F program should also develop a joint community of practice to promote information sharing across the NG. Ideally, this forum would not require common access card (CAC) log-in to facilitate access for Guard members outside of drill weekend (e.g., DOD's All Partners Access Network (APAN)). Through this community of practice, NG can publish a yearly digest of final project reports. The digest should include all projects—even the ones that did not show evidence of effectiveness—to provide full transparency and to document lessons learned and next steps. A community of practice would also provide a forum to host regular seminars on completed projects to educate the community about new innovations and provide practical implementation guidance.

b. Implementation

Once the new innovations have been disseminated, NG states and territories will require capacity-building resources to help implement programs with fidelity. A number of useful frameworks are available on community-based implementation. As previously stated, GTO is a toolkit for planning, implementing, evaluating, and sustaining prevention programs.[104] The Air Force is already using this model for its violence prevention programs.[105] SPRC's Strategic Planning Approach is similar to GTO but is specifically geared toward SP and includes an online course.[106] Regardless of the specific guide selected, it would be beneficial to have a common approach for implementation across the NG.

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[104] Chinman, Imm, and Wandersman, *Getting To Outcomes™ 2004*.

[105] Scott Maucione, "Air Force Takes a Local Approach to Preventing Violence," *Federal News Network*, September 17, 2018, https://federalnewsnetwork.com/dod-personnel-notebook/2018/09/air-force-takes-local-approach-to-preventing-violence/.

[106] Strategic Planning," Suicide Prevention Resource Center, accessed November 13, 2018.

As described in step 5 (Provide Technical Assistance), technical assistance will also be important to provide broader implementation efforts. As NG states and territories implement new innovations, they should have resources available to support implementation. Whenever possible, the WR&F program should facilitate collaboration between new adopters and the project teams that originally developed programs.

c. Evaluation

As noted previously, evaluation should take place at several steps of the innovation process: at the program-development stage and once NG states and territories begin implementing new innovations more broadly. However, the WR&F program also has a key role in evaluation at the enterprise level. As NG states and territories implement new approaches, the WR&F program will require a quality assurance and improvement process. Through this process, the NG could verify that states and territories are meeting appropriate standards for their SP initiatives, that programs are being implemented as intended, and that states and territories have the resources to sustain programs. This evaluation process would also provide an important mechanism to identify programs that are no longer viable and should be discontinued.

B. Roles and Responsibilities

1. WR&F Program Staff

As noted previously, IDA suggests that the WR&F program take primary responsibility for administrating the innovation process. Since the WR&F program has only recently been established, specific staff cannot be identified to fulfill this function. However, we recommend a few roles and skills that are necessary to support the process.

- **Subject matter expert.** Set program priorities, guide the direction of the innovation process, and execute key tasks (e.g., technical assistance, gap analyses, literature reviews, dissemination activities, and quality assurance). Requires expertise in dissemination and implementation science and/or interventions to prevent suicide or address related risk/protective factors.
- **Data analyst or program evaluation specialist.** Analyze available program data to evaluate progress, work to improve NG data systems to allow for more robust analysis, and provide project teams with technical assistance to develop evaluation plans and analyze data. Requires expertise in quantitative and qualitative analysis techniques, with a background in program evaluation.
- **Partnerships and contracting liaison.** Develop partnerships with government organizations and NGOs to execute contracts and grants. Develop partnerships with research organizations and help secure contract support or other funding

mechanisms for projects. Requires a strong understanding of federal contracting processes, external funding sources, and research organizations.

- **Program managers/administrative support.** Manage projects, organize events and committees (e.g., review meetings, GOAC meetings), disseminate materials, manage community of practice website, and execute other administrative support tasks. Requires experience in a range of planning and administrative responsibilities.

2. WR&F Committees

The WR&F should leverage joint committees as key partners in the innovation process. WR&F action-officer committee members could serve as reviewers, provide technical assistance, and help to secure participation in the process from their respective offices and services. The WR&F GOAC could provide final approval for project selections and can assist in securing resources and support for the innovation process. The opportunity to present programs and ideas to the GOAC can serve as a key incentive to encourage broad participation in the innovation process.

3. Expert Review Board

Over time, the WR&F program should establish a board of volunteer experts, assembled from researchers and practitioners throughout the NG who have relevant knowledge. These experts could be asked to review proposals and to provide project teams with technical assistance support.

C. Smaller Scale Approaches

The full SP Innovation Process, outlined previously, will require substantial resources and funding. Although IDA recommends a full and robust process to ensure maximum benefit, resource limitations must be considered. Thus, the innovation process is meant to be flexible and can be implemented partially or in an incremental manner.

The SP Innovation Process, in its most robust form, would have staff within the WR&F program to execute the process and would have funding to allocate to selected projects. Although additional staff support would be particularly useful for the administrative management of the process, other functions could potentially be fulfilled without additional staffing. Subject matter expertise and technical assistance responsibilities could be dispersed among existing headquarters staff members (NGB PHP, NGB J1, ARNG R3SP, ANG SP), expert-review board members, and external partnerships. Contract support could be secured for specific initiatives as needed (e.g., research gap analysis, establishing a community of practice, quality assurance process).

In the absence of funding for selected projects, step 3 (Invite Submissions) and step 4 (Expert Review to Select and Fund) may not be necessary. The initial review process at step 2 may be sufficient to select programs and research efforts to support. From there, the selected projects would receive technical assistance to develop/evaluate their program, help in securing funding through contract mechanisms and/or external research partnerships, and the opportunity to disseminate information about their program across NG. In addition, selected projects would be presented to the WR&F GOAC, which may provide the opportunity to secure funding for particularly promising approaches.

By leveraging available partnerships, contract mechanisms, and resident expertise, the NG can fulfill many of innovation process' objectives without a direct source of funding for projects. That said, true innovation is not possible without a substantial investment of resources and time. If the NG wants to make significant progress in preventing suicide and improving resiliency, it needs a robust innovation process and a dedicated funding source.

D. Recommendations

IDA recommends that the NG implement the SP Innovation process as described in this chapter. To summarize, the NG should

- Identify and select promising ideas, practices, programs and research;
- Provide funding and/or technical assistance to develop selected projects;
- Disseminate, implement, and evaluate new innovations; and
- Assign responsibility for the innovation process to the NGB WR&F program
  - Provide the WR&F program with staff and/or contract support to execute the process on an ongoing basis and
  - Allocate funding for the Innovation Process to award selected projects and develop, disseminate, implement, and evaluate promising programs.

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Appendix A.
Identify People at Risk

Program	Description	Method	Cost Information
Programs with evidence of effectiveness			
Applied Suicide Intervention Skills Training (ASIST)	Gatekeeper training to identify suicidal individuals and connect to resources. Evidence of effectiveness (less depression, greater hopefulness) among those who spoke to ASIST-trained counselors. The Centers for Disease Control and Prevention (CDC) and the National Registry of Evidence-based Programs and Practices (NREPP) classified this program as evidence-based/promising, but the Clearinghouse for Military Family Readiness (CMFR) rated it as "unclear." *https://lion.militaryfamilies.psu.edu/programs/applied-suicide-intervention-skills-training-asist*	Gatekeeper training	$2,750 for five day trainer course.
Question, Persuade, and Refer (QPR) Gatekeeper Training for Suicide Prevention	One hour course teaches adults how to identify individuals at risk for suicide and take action to prevent destructive behavior. Evidence of effectiveness for knowledge of suicide issues and awareness of policies and referrals (one study demonstrating effectiveness included Department of Veterans Affairs (VA) employees). *https://lion.militaryfamilies.psu.edu/programs/question-persuade-and-refer-gatekeeper-training-suicide-prevention-qpr-gatekeeper-training*	Gatekeeper training	$495 for trainer course. The one hour online course is $29.95 per participant. Participant packets are $1.75 to $2.50 each.
Kognito Family of Heroes	One hour online role-playing training for families of service members who have returned from deployment. Training focused on recognizing warning signs and motivating family members to access resources. Evidence of effectiveness for preparedness to recognize signs of risk and provide VA referral information. NREPP classified as evidence-based/promising, and CMFR rated as "unclear +." *https://lion.militaryfamilies.psu.edu/programs/kognito-family-heroes*	Gatekeeper training	Program licenses and consultation provided to military units starting at $500. Cost varies by size of organization.
Columbia-Suicide Severity Rating Scale (C-SSRS)	Universal tool that can be administered by non-clinicians, with minimal training, and is effective at detecting a range of suicidal behavior. The C-SSRS is used by some Army National Guard (ARNG) states and territories and by all Air National Guard (ANG) Directors of Psychological Health (DPHs). *http://cssrs.columbia.edu/the-columbia-scale-c-ssrs/cssrs-for-communities-and-healthcare/#filter=.general-use.english*	Screening tool	Tool is free to use.
Suicide Assessment Five-step Evaluation and Triage (SAFE-T)	Five step process of evaluation and intervention, including identifying risk and protective factures, inquiring about suicidal thoughts, plans, and behavior, determining level of risk and intervention needed, and documenting findings. *https://store.samhsa.gov/product/SAFE-T-Pocket-Card-Suicide-Assessment-Five-Step-Evaluation-and-Triage-for-Clinicians/SMA09-4432*	Screening tool	Tool is free to use.
Programs informed by research			
Suicide Alertness for Everyone (safeTALK)	Interactive half-day workshop where participants learn how to recognize warning signs and connect those at risk with resources. Program developed as a complement to ASIST. *https://lion.militaryfamilies.psu.edu/programs/suicide-alertness-everyone-safetalk*	Gatekeeper training	$300 for half day training. Materials $6–$7.

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Appendix B.
Assist People at Risk and in Crisis

Program	Description	Method	Cost Information
Programs with evidence of effectiveness			
Caring Contacts Suicide Prevention Intervention	Following discharge from treatment, patients receive caring messages that express concern and provide resources. Specific modality can vary (e-mail, postcard, text messages). Program has been shown to effectively prevent suicide deaths. *http://psycnet.apa.org/record/2017-25334-001*	Active follow-up	
Safety Planning Intervention	Collaborative approach to develop a safety plan with patients, including warning sign identification, means restriction, and coping strategies. Developed and tested for use in emergency departments but has been expanded to other settings (including to military and veteran populations). Evidence of effectiveness for suicide attempts and outpatient health care utilization. *http://www.suicidesafetyplan.com/About_Safety_Planning.html*	Crisis intervention	
Depression Prevention (Managing Your Mood)	Computer-based intervention for mild depression. Includes three sessions, reports with feedback from sessions, and an online personal activity dashboard with exercises and information. Evidence of effectiveness for depression. *https://lion.militaryfamilies.psu.edu/programs/depression-prevention*	Access to care	$20 to $35 per user; optional training for coaches or trainers.
Education of primary care physicians on depression	A meta-analysis of suicide prevention (SP) strategies identified education for primary care physicians on depression recognition and treatment as one of the most effective strategies to decrease suicide rates. *https://jamanetwork.com/journals/jama/fullarticle/201761*	Organizational linkages	
Family to Family Education Program (FTF)	Group education for caregivers of people with mental illness to increase knowledge and coping and to empower caregivers to advocate for family members. Evidence of effectiveness for family problem-solving, expanded knowledge, worry, anxiety, and depression. *https://lion.militaryfamilies.psu.edu/programs/family-family-education-program-ftf*	Family education	$450 per participant for trainer course.
Programs informed by research			
Star Behavioral Health Providers (SBHP)	Partnerships with civilian providers to provide training on military culture and evidence-based treatment approaches. SBHP, which is offered in ten states, provides a registry of providers with this background. *https://starproviders.org/*	Organizational linkages	
NGB Partnership with Psych Armor Institute	Formal agreement between NGB and Psych Armor Institute to provide training for civilian providers to better understand military culture. *https://psycharmor.org/*	Organizational linkages	
Expand Access to Mobile Vet Centers (MVCs)	NGB Memorandum of Agreement with the Department of Veterans Affairs (VA) to ensure that MVCs are deployed at every drill weekend.	Access to care	

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Appendix C.
Restrict Access to Lethal Means

Program	Description	Method	Cost Information
Programs with evidence of effectiveness			
Emergency Department Means Restriction Education (ED-MRE)	Intervention for adult caregivers of youth (18–25) who are seen in an emergency department and at risk of suicide. Gives caregivers specific advice on how to create a safe environment (e.g., remove or secure firearms and other harmful substances). Evidence of effectiveness for safe storage of firearms and medication. The National Registry of Evidence-based Programs and Practices (NREPP) rated as evidence-based/promising, but the Clearinghouse for Military Family Readiness (CMFR) rated as "unclear +" *https://lion.militaryfamilies.psu.edu/programs/emergency-department-means-restriction-education-ed-mre*	Lethal means counseling	Program developer provides materials at no cost.
Physical barriers at jumping sites or train tracks	Evidence that suicide decreases when barriers are put in place at suicide hotspots (bridges, buildings, train tracks, cliffs) and increases when barriers are removed. Related methods, such as improving third-party surveillance or providing help-seeking information, demonstrated weaker evidence of effectiveness. *https://doi.org/10.1186/1471-2458-13-214*	Barriers at suicide hotspots	
Safe firearm storage devices	Systematic review of clinic- or community-based means restriction found that provision of free safe storage devices improved gun safety practices. Counseling alone or economic incentives were not as effective. *https://doi.org/10.1093/epirev/mxv006*	Safe storage devices	
Programs informed by research			
Community firearm safety events	Community events that provided gun owners an education about firearm safety and a choice of a free-locking device (trigger lock or lock box) associated with increased safe storage practices, compared to baseline. *https://www.research.va.gov/currents/0917-Community-event-can-spur-safe-gun-storage.cfm*	Safe storage devices; firearm safety education	
The Gun Shop Project	Partnerships with firearm retailers to educate about suicide prevention (SP) and provide educational materials for customers. An outcome evaluation has not been conducted, but participation in the program is high. *https://www.hsph.harvard.edu/means-matter/gun-shop-project/*	Partnerships with gun shops	
Means restriction counseling	Means restriction counseling tends to be underutilized, partially due to a lack of guidance for professionals. Practical guides for means restriction counseling may help overcome this gap. Motivational interviewing may be useful when working with those who are reluctant to secure lethal means. *http://psycnet.apa.org/doiLanding?doi=10.1037%2Fa0025051*; *https://doi.org/10.1016/j.cbpra.2014.09.004*	Lethal means counseling	
Counseling on Access to Lethal Means (CALM)	The Suicide Prevention Resource Center (SPRC) provides a free online course on lethal means counseling to assist clinicians working with people at risk for suicide. *https://www.sprc.org/resources-programs/calm-counseling-access-lethal-means*	Lethal means counseling	
Incorporating safe storage messaging in general safety training	The Nebraska Army National Guard (ARNG) provides training on firearm safe storage as part of its general Safety Council briefing.	Firearm safety education	

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Appendix D.
Change the Culture to Reduce Stigma and Promote Help-Seeking

Program	Description	Method	Cost Information
Programs with evidence of effectiveness			
Sources of Strength	Program involves peer leaders to improve norms and attitudes about suicide. Although designed for teenagers, the Georgia National Guard (NG) has adapted and used the program. Evidence of effectiveness for help-seeking behavior and coping behavior. The Centers for Disease Control and Prevention (CDC) classified as having evidence of effectiveness, but CMFR rated as "unclear +." *https://lion.militaryfamilies.psu.edu/programs/sources-strength*	Awareness; Peer support	Program package is $2,500 to $10,000 per year.
Air Force Suicide Prevention Program	Program involved eleven policy and education initiatives aimed at changing culture and using leaders as drivers of change. Evidence of effectiveness for suicide deaths, family violence, homicide, and accidental death. *https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2978162/*	Leadership support	
Programs informed by research			
Guidelines for Prevention Messaging	The American Association for Suicide Prevention (AASP) has developed a framework for successful and safe suicide prevention (SP) messaging. *http://suicidepreventionmessaging.org/*	Awareness	
Leadership Talking Points	The Air National Guard (ANG) disseminates quarterly leadership talking points to reinforce messaging on SP and behavioral health.	Leadership support	
Preventative Maintenance Checks and Services (PCMS) of Service Members	Program executed during drill downtime in Connecticut Army National Guard (ARNG). Goal is to proactively address problems and build camaraderie through conversation. Program depends on leadership support and ongoing unit-level implementation.	Leadership support	
Buddy-to-Buddy	Partnership between the Missouri ARNG and local universities. Trained peers within the unit, selected by leadership, check in with Soldiers returning from deployment and refer them for help, if needed. Veterans with enhanced training are available at armories during drill weekends to provide additional support. *https://doi.org/10.1111/j.1749-6632.2010.05719.x*	Peer support	
Peer-to-Peer	California NG members are trained to provide support to members of their unit (e.g., critical incident training, grief management, substance abuse, communication skills). *https://www.mentalhealthamerica.net/sites/default/files/Best_Practices_Identified_for_Peer_Support_Programs_Jan_2011.pdf*	Peer support	
Campaign to Change Direction (Give an Hour)	Aims to change culture around mental health. Includes awareness public service announcements (PSAs) and guides to learn the signs of emotional pain and healthy. *https://www.changedirection.org/*	Awareness	
Real Warriors	Multi-media public awareness campaign aimed at promoting help-seeking among military members. Includes education to address common career and privacy concerns, education about the efficacy of behavioral health care, and examples of service members, at all levels, who sought help and recovered. *https://www.realwarriors.net/*	Awareness	
Centralized location for self-help resources	Vast amount of information available online may provide redundant information and create confusion. Military OneSource combines an array of resources in one place. Likewise, some NG states and territories have developed their own applications (e.g., Indiana, Pennsylvania, New York, Mississippi, and Missouri).	Self-help tools	

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Appendix E.
Enhance Life Skills, Resiliency, and Connectedness

Program	Description	Method	Cost Information
	Programs with evidence of effectiveness		
Coping with Work and Family Stress	Workplace intervention to help employees cope with stressors. Involves sixteen sessions that focus on reducing stress and improving coping and social support. Evidence of effectiveness for depression and internalizing problems. Has been implemented with Marine Corp Family Advocacy staff. *https://lion.militaryfamilies.psu.edu/programs/coping-work-and-family-stress*	Social-emotional learning	
Mindfulness-Based Stress Reduction (MBSR)	Psychoeducational training designed for those experiencing psychological distress. Program helps participants develop a mindful cognitive state and incorporate it into everyday life to cope with stressors. Evidence of effectiveness for stress and anxiety, mood disturbance, depression symptoms, self-esteem, and mental health symptoms. Has been used by the military. *https://lion.militaryfamilies.psu.edu/programs/mindfulness-based-stress-reduction-mbsr*	Social-emotional learning	Teaching intensive course is $4,850 per person.
Program to Encourage Active, Rewarding Lives (PEARLS)	Program designed for individuals suffering from depression. Consists of sessions on problem-solving, healthy routines, and pleasant activity scheduling. Has been used with veterans. Found to have some evidence of effectiveness for reducing depressive symptoms. *https://lion.militaryfamilies.psu.edu/programs/program-encourage-active-rewarding-lives-pearls*	Social-emotional learning	Trainer course is $445 per person.
After Deployment, Adaptive Parenting Tools (ADAPT)	Four week family group program focused on strengthening emotional regulation after deployment through mindfulness and emotion coaching. Tested on Reserve and National Guard (NG) families and found to improve parental locus of control, which, in turn, improved emotion regulation and reduced distress and suicide ideation. *https://lion.militaryfamilies.psu.edu/programs/after-deployment-adaptive-parenting-tools-adapt*	Family and Relationship	
Creating Lasting Family Connections Marriage Enhancement Program (CLFCMEP)	Community program for couples in which one or both partners have been physically and/or emotionally distanced (e.g., relational difficulties, military service, substance use). Certified trainers lead program in a group format, with case management and resource referral a key component. Some evidence of effectiveness for social competence and social connectedness. The National Registry of Evidence-based Programs and Practices (NREPP) rated as evidence-based/promising, and the Clearinghouse for Military Family Readiness (CMFR) rated as “unclear +.” *https://lion.militaryfamilies.psu.edu/programs/creating-lasting-family-connections-marriage-enhancement-program-clfcmep*	Family and relationship	Participant notebooks cost $99.95, trainer manual costs $75, and the survey kit costs $99.

Program	Description	Method	Cost Information
	Programs with evidence of effectiveness (Continued)		
Prevention and Relationship Enhancement Program (PREP)	Marriage and relationship intervention that teaches couples to communicate, work together, and manage conflict. Series of thirty to ninety minute meetings, followed by a weekend retreat. Has been used in the Air Force. Evidence of effectiveness for divorce status, communication skills, confidence in marriage, willingness to sacrifice for the marriage, and positive bonding. NREPP classified as evidence-based/promising, but CMFR rated as "unclear." *https://lion.militaryfamilies.psu.edu/programs/prevention-relationship-enhancement-program-prep*	Family and relationship	Facilitator Training is $450 to $1,050 per person
Life Guard	Two hour interactive workshop implemented during drill to foster resilience, improve adjustment after deployment, and promote help-seeking. Tested in the Arkansas NG and revealed some evidence of effectiveness (lower depression, more relationship satisfaction). Unknown whether program is currently implemented. *https://bobcat.militaryfamilies.psu.edu/sites/default/files/placed-programs/blevins,%20roca,%20spencer%202011.pdf*	Social-emotional learning	
	Programs informed by research		
Team Readiness	Customizable, worksite substance use prevention/training program that aims to promote a healthy work culture. Delivered in two, highly interactive classroom-based sessions. Team Readiness is an adaptation of the Team Awareness program for the NG. Although Team Readiness has not been evaluated, Team Awareness was found to prevent substance abuse, improve feelings of social competence, and improve organizational climate. *https://lion.militaryfamilies.psu.edu/programs/team-readiness*	Increasing Connectedness	$795 per person for training course
Defender's Edge	Introduces psychological skills as job skills designed to enhance combat performance. Original version tailored for Security Forces culture. Five modules: fatigue countermeasures, adrenaline management, mission focus, killing, and mind tactics. High satisfaction reported by participants, but no outcome evaluation. *http://dx.doi.org/10.1037/a0022290*	Social-emotional learning	
Strong Bonds	Army chaplain-led retreat aimed at strengthening relationships for couples, family with children, and single Soldiers. Retreat features small group activities that support bonding and connect Soldiers with community resources.	Increasing Connectedness	

Appendix F.
Postvention

Program	Description	Method
	Programs with evidence of effectiveness	
Connect Suicide Postvention	Training designed to build capacity of organizations to respond to a suicide death. Based on postvention best practice protocols developed for community groups. The program is currently used in the New Hampshire Army National Guard (ARNG). Compared to pre-participation attitudes, program participants felt more prepared to help those in need and were less likely to endorse attitudes that stigmatized help-seeking. *https://www.sprc.org/resources-programs/connect-suicide-postvention-training*	Postvention
	Programs informed by research	
Department of Defense (DOD) Leader Guide and Postvention Checklist	Checklist of activities for leadership after a suicide death and attempt. Developed by the Defense Suicide Prevention Office (DSPO) and intended to supplement local policies. *http://www.dspo.mil/Portals/113/Documents/Final%20DoD%20Leaders_PostSuicide_Checklist.pdf*	Postvention
Recommendation for Reporting on Suicide	Guide for media to report on suicide in a non-harmful manner (e.g., avoid sensationalizing, refrain from detailed descriptions, avoid terms like “successful” suicide). *http://reportingonsuicide.org/*	Postvention
Tragedy Assistance Program for Survivors (TAPS)	Organization provides a range of services for those grieving the loss of a service member. These services include a call line, a peer mentor program, and survivor seminars. *https://www.taps.org/mission*	Postvention
Responding to Grief, Trauma, and Distress After a Suicide: U.S. National Guidelines	National Action Alliance for Suicide Prevention (NAASP) national guidelines on postvention practices developed by a task force of experts in the field. *https://www.sprc.org/sites/default/files/migrate/library/RespondingAfterSuicideNationalGuidelines.pdf*	Postvention

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Appendix G. Warrior Resilience and Fitness (WR&F) Surveillance Tool

The WR&F Surveillance Tool is an opportunity for you to brag to us about your suicide prevention, substance abuse prevention, psychological health, resilience, and related initiatives as well as a way to help us identify gaps and how we can better support your program. Please tell us about your actual *and* aspirational programs and practices. When you do, you will help us identify promising innovations for possible dissemination, gaps in services, and areas in need of further research. You will also help us understand how we can best support the important work you are doing in the field.

1. Contact information.
    a. Name
    b. e-mail address
    c. Phone number
    d. State/Province

2. With which branch of service are you affiliated?
    a. ARNG
    b. ANG
    c. Other, please specify:

3. What is your position within the organization?

Existing NG Programs

Tell us about a specific program or practice that you believe is working well for your organization (e.g., a peer support program, suicide screening method, lethal means restriction policy). Provide the name of your program or practice. Please provide information for a specific program or practice (e.g., a peer support program; suicide screening method; means restriction policy)

4. What is the name of your program or practice?

5. Give us your extended "elevator" pitch (i.e., in 100 words or less, describe your program or practice).

6. What are the primary aims of your program or practice? *Select all that apply*.
   - Identify people who are at risk (e.g., depression or suicide screening, gatekeeper training, data analysis)
   - Connect people who are at risk with help and resources (e.g., referrals, post-hospitalization procedures, crisis intervention, family education)
   - Restrict access to lethal means (e.g., safe storage options, gun locks, lethal means counseling)
   - Culture change to promote help seeking and reduce stigma (e.g., awareness campaigns, self-help tools, peer support)
   - Enhance resiliency, life skills, and connectedness (e.g., stress management, family/relationship programs, community engagement)
   - Provide postvention support for suicide attempts and completions
   - Internal and external partnerships (e.g., local and state resources; partnerships with local providers; partnerships with chaplains, substance abuse, interpersonal violence prevention, and so forth)

7. Please describe the group to which the program or practice is targeted (e.g., all service members in your state, Army National Guard (ARNG) Soldiers with substance abuse problems, female Airmen, family members).

8. When and where is your program or practice applied (e.g., once a year during drill, during health assessment events, at armories during business hours)?

9. What is the cost per Soldier or Airman to provide the program or practice? If cost per Soldier or Airman unknown, please describe the type of direct costs involved in the program or practice (e.g., personnel, course material, travel).

10. How is the program or practice funded?

11. Have you evaluated the program or practice in any way (i.e., have you collected any data related to the program)?
    - Yes
    - No

12. What data have you collected to evaluate the program or practice? *Select all that apply*.
    - Outcome effectiveness (e.g., reduced depression among participants, improved attitudes about help-seeking, increased medical readiness)
    - Utilization data (i.e., number of program participants)
    - Satisfaction or experience data (i.e., participants' feelings about and experience with the program)
    - Utility data (i.e., time and money saved because of the program)

- ☐ Fidelity data (i.e., program implemented and conducted as intended)
- ☐ Other (please specify)

13. What did the data show about the program or practice?

14. What could the National Guard Bureau (NGB) do to support the program or practice? *Select all that apply*.
    - ☐ Provide technical assistance to improve the program
    - ☐ Provide assistance with program evaluation
    - ☐ Assist in disseminating and implementing the program in other states and territories
    - ☐ Provide funding to expand or improve the program. Please explain:

15. Do you have another existing program to tell us about?
    - ☐ Yes (Answer questions 4–15)
    - ☐ No (Proceed to question 16)

16. Do you have an idea for a new program you want to share?
    - ☐ Yes (continue – *questions 4–15 will be repeated, but altered to ask about a new program/practice*)
    - ☐ No (end survey)

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Appendix H.
Qualifying Criteria to Select Programs

Instructions: Assess each program based on the criteria below. Programs should have yes or partial answers for all the criteria to be considered for development (incubation). Priority should be given to programs with a higher number of yes, relative to partial, answers and to criteria that are deemed of particular importance for the program's priorities that year.

1. ***Effective*****:** Is there evidence of the proposed program's effectiveness (e.g., demonstrated positive change in relevant attitudes and/or behavior as measured before and after implementation)?

    - ☐ **Yes**
        - There is at least one study showing effectiveness and no studies showing that it is ineffective.
    - ☐ **Partial**
        - There is at least one study showing effectiveness but other studies showing that it is ineffective, OR
        - It has not been evaluated for effectiveness, but it is research-informed and promising.
    - ☐ **No**
        - It has not been evaluated for effectiveness *and* is not research-informed, OR
        - It has been evaluated but shown to be ineffective.

2. ***Acceptable to participants*****:** Is there evidence of the proposed program's acceptability to program participants (e.g., participant satisfaction, program utilization)?

    - ☐ **Yes**
        - There are convincing data to suggest that the program is acceptable to participants.
    - ☐ **Partial**
        - There are some data to suggest that the program is acceptable to participants, but the findings are mixed or not robust, OR
        - It has not been evaluated for acceptability but is very likely to be acceptable to participants.

- **No**
  - It has been evaluated and is not acceptable to participants.
  - It has not been evaluated but is NOT likely to be acceptable.

3. ***Relevant to target population*:** Is the proposed program relevant for the intended population and culturally appropriate?
   - **Yes**
     - It was developed or adapted for military members, veterans, or civilians of a similar demographic group and is in line with National Guard (NG) culture or subcultures that are at higher risk (e.g., young Guard members, rural locations).
   - **Partial**
     - It was developed for a general population and can be adapted to the intended population and NG culture.
   - **No**
     - The intervention cannot be adapted to the intended population and culture.

4. ***Novel*:** Is the program unique/novel (not redundant with existing Department of Defense (DOD) programs)?
   - **Yes**
     - There are no other known DOD programs with the same goals, functions, and intended outcomes.
   - **Partial**
     - There are similar DOD programs, but the current program is improved and/or better tailored to the Guard.
   - **No**
     - There are similar DOD programs that function as well as or better than the current program.

5. ***Feasible:*** Are the requirements for additional staff, contractors, funding, and participation time feasible to acquire on a long-term basis?
   - **Yes**
     - The requirements for additional staff, contractors, funding, and participation time are feasible to acquire on a long-term basis (*preference given here to programs with existing funding mechanisms or research partnerships*).

- ☐ **Partial**
  - – The requirements for additional staff, funding, and participation time are feasible in the short term but may not be sustainable given competing priorities over time.
- ☐ **No**
  - – The requirements for additional staff, funding, and participation time are insurmountably high.

6. ***Impactful***: Does the proposed program have the potential to make a moderate to large impact on the problem it is trying to address?
   - ☐ **Yes**
     - – The program is likely to have a moderate to large effect, OR
     - – The program is likely to have a small effect but is targeted at the entire population (i.e., all state Guard members – universal approach).
   - ☐ **Partial**
     - – The program is likely to have a small effect but is targeted at a large at-risk group (i.e., all incoming Guard members – selective approach).
   - ☐ **No**
     - – The program has a small effect and is targeted at a small subset of the population, OR
     - – The program has no effect.

7. ***Based on a requirement***: Does the program fulfill the intent of a requirement specified in DOD or subordinate service-level regulation, policy, or guidance documents (e.g., National Defense Authorization Act (NDAA), Chief National Guard Bureau Instruction (CNGBI), Department of Veterans Affairs (VA)/DOD Clinical Practice Guidelines)?
   - ☐ **Yes**
     - – The program directly fulfills the intent of a DOD requirement (e.g., requirement specifies programs of this exact type).
   - ☐ **Partial**
     - – The program indirectly meets the intent of a DOD requirement (i.e., fulfills requirement when interpreted broadly).
   - ☐ **No**
     - – The program does not relate to a specific requirements state in law or policy.

8. Select your recommendation for the program
    - ☐ Immediate action to develop and/or fund the program
    - ☐ Invite submission of project proposal to be considered by expert review
    - ☐ No action

Appendix I.
Research Proposal Evaluation Rubric

Proposal Evaluation Rubric

Significance/Impact (35 points)

1. Does this project have the potential to make significant progress towards reducing suicide and/or addressing a key suicide risk or protective factor?

    - **Excellent:** The project is posed to make a *great* amount of progress in reducing suicide and/or addressing a key suicide risk or protective factor.
    - **Good:** The project is posed to make a *moderate* amount of progress in reducing suicide and/or addressing a key suicide risk or protective factor.
    - **Fair:** The project is posed to make a *small* amount of progress in reducing suicide and/or addressing a key suicide risk or protective factor.
    - **Poor:** The project is *not* likely to make progress in reducing suicide and/or addressing a key suicide risk or protective factor.

Methodological Approach (35 points)

2. Does the project methodology and analytic approach have scientific merit (i.e., uses best practices and up-to-date, well-reasoned methods, includes evaluation plan)?

    - **Excellent:** The project methodology and analytic approach have a *great* amount of scientific merit.
    - **Good:** The project methodology and analytic approach have a *moderate* amount scientific merit.
    - **Fair:** The project methodology and analytic approach have a *little* scientific merit.
    - **Poor:** The project methodology and analytic approach have *no* scientific merit.

Capabilities of the Team and Availability of Resources (15 points)

3. Does the project team have the expertise and the resources to successfully complete the project?

   - **Excellent:** The project team has *a great* amount of expertise and access to resources.
   - **Good:** The project team has a *moderate* amount of expertise and access to resources.
   - **Fair:** The project team has a *small* amount of expertise and access to resources.
   - **Poor:** The project team has *no* relevant expertise and access to resources.

Value in Relation to Investment (15 points)

4. Is the cost of the project worthwhile given its likely impact?

   - **Excellent:** The cost of the project is *highly* justified given its likely impact.
   - **Good:** The cost of the project is *moderately* justified given its likely impact.
   - **Fair:** The cost of the project is justified to a *small* extent given its likely impact.
   - **Poor:** The cost of the project is *not* justified given its likely impact.

Global Assessment

5. What is your overall assessment of this project?

   - **Excellent:** Outstanding proposal that should have the highest priority for support.
   - **Good:** High-quality proposal that should be supported if possible.
   - **Fair:** Proposal has key weaknesses that should be addressed before further consideration.
   - **Poor:** Proposal has serious flaws. It should not be supported.

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Appendix L.
Abbreviations

AASP	American Association for Suicide Prevention
ACE	Ask Care Escort
ADAPT	After Deployment Adaptive Parenting Tools
ADCO	Alcohol and Drug Control Office
ANG	Air National Guard
APAN	All Partners Access Network
ARNG	Army National Guard
ASIST	Applied Suicide Intervention Skills Training
BHO	Behavioral Health Officer
BMC	BioMed Central
BPR	Best Practices Registry
CAB	Community Action Board
CAC	common access card
CALM	Counseling on Access to Lethal Means
CAMS	Collaborative Assessment and Management of Suicidality
CBT-SP	Cognitive Behavior Therapy for Suicide Prevention
CDC	Centers for Disease Control and Prevention
CDP	Center for Deployment Psychology
CHPC	Community Health Promotion Council
CLFCMEP	Creating Lasting Family Connections Marriage Enhancement Program
CMFR	Clearinghouse for Military Family Readiness
CNGBI	Chief National Guard Bureau Instruction
C-SSRS	Columbia-Suicide Severity Rating Scale
DBT	Dialectical Behavioral Therapy
DOD	Department of Defense
DoDSER	Deparment of Defense Suicide Event Report
DPH	Director of Psychological Health
DSPO	Defense Suicide Prevention Office
ED-MRE	Emergency Department Means Restriction Education
EHR	electronic health record
FM	Field Manual
FTF	Family to Family Education Program
GOAC	General Officer Advisory Council
GTO	Getting to Outcomes
IDA	Institute for Defense Analyses
J-1	Manpower and Personnel
JAMA	Journal of the American Medical Association
MBSR	Mindfulness-Based Stress Reduction
MFRI	Military Family Research Institute

MOMRP	Military Operational Research Program
MVC	Mobile Vet Center
NAASP	National Action Alliance for Suicide Prevention
NAMI	National Alliance on Mental Illness
NDAA	National Defense Authorization Act
NIH	National Institutes of Health
NG	National Guard
NGB	National Guard Bureau
NGSP	National Guard Studies Program
NGO	non-governmental organization
NIMH	National Institute for Mental Health
NREPP	National Registry of Evidence-based Programs and Practices
NSF	National Science Foundation
OEF	Operation Enduring Freedom
OIF	Operation Iraqi Freedom
OSD	Office of the Secretary of Defense
PCMS	Preventative Maintenance Checks and Services
PEARLS	Program to Encourage Active, Rewarding Lives
PHCoE	Psychological Health Center of Excellence
PHP	Psychological Health Program
PREP	Prevention and Relationship Enhancement Program
PTSD	post-traumatic stress disorder
QPR	Question, Persuade, and Refer
R3SP	Resilience, Risk Reduction, and Suicide Prevention
RFP	request for proposal
RR	Research Report
SAFE-T	Suicide Assessment Five-Step Evaluation and Triage for Clinicians
SAMHSA	Substance Abuse and Mental Health Services Administration
SAPR	Sexual Assault Prevention and Response
SBHP	Star Behavioral Health Providers
SMVF TA	Service Members, Veterans, and their Families Technical Assistance
SP	suicide prevention
SPPM	Suicide Prevention Program Manager
SPRC	Suicide Prevention Resource Center
STARRS	Army Study to Assess Risk and Resilience in Servicemembers
TAPS	Tragedy Assistance Program for Survivors
TEM	Traumatic Event Management
TFF	total force fitness
TR	Technical Report
UCMJ	Uniform Code of Military Justice
USUHS	Uniformed Services University of Health Sciences
VA	Department of Veterans Affairs
WiSER	Warrior Sustainment and Resilience Application
WR&F	Warrior Resilience and Fitness

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14. ABSTRACT

The National Guard Studies Program (NGSP) asked IDA to develop a systematic process to identify, select, and deploy evidence-based suicide prevention (SP) practices. To achieve this end, IDA accomplished two main objectives. First, IDA developed a Compendium of Suicide Prevention Strategies to organize and specify best practices leveraged in the broader SP community as well as within the National Guard (NG). The compendium provides a common tool for states and territories to reference and select from as they design SP, psychological health, and resiliency programs that meet their local needs. The compendium directly complements the second objective of this project: a SP Innovation Process to identify, develop, and implement best practices within the NG. The innovation process draws on the Compendium of SP Strategies to understand gaps in NG programs. Further, as new evidence-based practices are developed through the innovation process, the Compendium of SP Strategies can be expanded.

15. SUBJECT TERMS

Suicide prevention, National Guard, innovation process, evidence based practices

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