



Recommendations to Enhance Army Suicide Prevention

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Abstract

CNA and the Army Resilience Directorate (ARD) conducted a pilot program to explore applying a systems thinking approach to the problem of suicide prevention, and to consider its applicability to preventing multiple harmful behaviors. External systems thinking experts worked with Army stakeholders over several days to define the problem and potential solutions. Outputs were refined by prevention experts from industry and academia. The resulting recommendations are for the Army to develop metrics to support a public health approach to prevention that includes systematic evaluation and refinement of strategies, strengthen the development of first-line leaders to support primary prevention within their units, increase leader accountability for prevention, reconceptualize prevention education as embedded along the career continuum, and transform the culture to encompass personnel support in garrison as well as during deployment. These recommendations address prevention from individual to community levels and incorporate a broad range of activities for effective prevention.

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Cover image: Wounded warriors encourage paratroopers to help stop Soldier suicides

Retired Sgt. 1st Class Michael Schlitz, a veteran who was burned over 85 percent of his body by an IED, tells a joke to paratroopers stationed at Al Asad Air Base in Iraq. Part of Operation Proper Exit, Schlitz often uses humor to broach difficult subjects such as suicide prevention.

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Approved by:

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Executive Summary

This report provides recommendations for Army Senior Leaders that aim to improve the effectiveness of efforts to prevent harmful behaviors. The recommendations align with the Department of Defense's Prevention Plan of Action, which includes understanding the problem, developing a comprehensive approach, ensuring quality implementation, and providing continuous evaluation [1].

CNA and the Army Resilience Directorate conducted a systems thinking pilot on suicide prevention to holistically examine suicide prevention and identify large-scale changes for the Army to take to reduce suicide risk. Systems thinking facilitates identification of how different organizational components interact, and how those components change in response to those interactions. It can help pinpoint ways that initiatives can backfire and identify ways to prevent those unintended consequences from occurring. The systems thinking pilot was facilitated by consultants from Bridgeway Partners who are experts in applying systems thinking tools to complex social problems. Army stakeholders participated in all aspects of the pilot. External experts in prevention participated in defining and elaborating on recommendations developed through the pilot. The resulting recommendations are the following:

1. Develop metrics to support a public health approach to prevention that includes systematic program evaluation and refinement
2. Strengthen the development of first-line leaders to support primary prevention in their units
3. Increase leader accountability for prevention
4. Reconceptualize prevention education as embedded along the career continuum
5. Transform the culture to encompass personnel support in garrison as well as during deployment

Taken together, these recommendations are comprehensive in that they address prevention from individual to community levels and incorporate a broad range of activities for effective prevention.

Although we advise the Army to implement all recommendations, the first two are of primary importance. Developing metrics to support a public health approach to prevention will allow the Army to better understand the impact of ongoing initiatives and direct resources appropriately. Further, developing the metrics now will allow the Army to evaluate the impact

of implementing the recommendations and other new initiatives. Strengthening the development of first-line leaders will enhance the prevention activities of those leaders closest to the Soldiers. With additional time to build connections and the skills to do so, these leaders are in a strong position to support Soldiers and prevent harmful behaviors. The other three recommendations are no less important but will likely take longer to implement and show impacts. Further, these three recommendations are mutually beneficial and should be implemented within an overarching strategy for prevention.

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Project Overview

Background

In recent years, there has been increased attention across the Services to the rise in harmful behaviors—including suicide, substance abuse, sexual assault and sexual harassment, among others—and to identifying effective mitigation strategies. In 2019, the Office of the Secretary of Defense (OSD) directed the Services to adopt a public health approach to prevention [1].

Consistent with the Centers for Disease Control and Prevention’s public health approach to prevention, the Army Resilience Directorate (ARD) seeks to 1) understand cross-cutting (shared) risk and protective factors that may reduce multiple harmful behaviors, and 2) develop integrated prevention strategies that mitigate these risk factors and enhance these protective factors throughout Soldiers’ careers.

As part of this effort, ARD wanted to explore a systems thinking approach for the integrated prevention of multiple harmful behaviors in Soldiers. CNA was tasked with overseeing the execution of a systems-based pilot focused on the prevention of one harmful behavior: suicide. In 2021, the Army’s suicide rate was at its highest since before WWII, and the total number of suicides was at a 20-year high [2]. The systems thinking approach employed in this pilot is designed to illuminate harmful dynamics that influence suicides and identify interventions to shift the trajectory of suicides. The purpose of the pilot was to use systems thinking methods to address the focal question: *Why has the Army not been able to reduce Soldier suicides despite efforts from multiple organizations?*

To address this question, ARD, CNA, and systems thinking experts from Bridgeway Partners¹ implemented a multi-stage pilot in which the research team:

1. Reviewed military, government, and civilian literature on suicide and suicide prevention
2. Discussed the Army’s current suicide prevention system with Army program officials

¹ Bridgeway Partners is a consulting firm with 40 years of experience applying systems thinking principles and tools to address social problems. David Peter Stroh and Michael Goodman conducted all Bridgeway Partners activities for this research.

3. Drafted systems-thinking diagrams that depict key systems relationships
4. Held a systems-thinking retreat with Army suicide prevention stakeholders to further apply systems-thinking tools to the focal question
5. Convened meetings of a prevention collaboration team (PCT),² composed of industry and academic experts, to discuss insights gleaned from the systems-thinking retreat and develop actionable ideas for Army Senior Leaders (ASLs)
6. Derived actionable ideas for ASLs to reduce suicides in the Army.

Primarily, this report describes our recommendations to enhance suicide prevention within the frameworks of the public health approach to prevention [1] and across the spectrum of prevention [4]. Prior to describing our recommendations, we provide a high-level summary of our approach and findings. The appendices to this report provide detailed descriptions of our recommendations (Appendix A), additional details about the systems thinking approach (Appendix B), and a full summary of our results (Appendix C).

Approach

In this section, we first provide an overview of the systems thinking methodology and the tools used to explore the Army suicide prevention system. We then describe CNA's analytic approach to synthesizing the findings and identifying key recommendations.

Systems thinking is a holistic approach to analysis that identifies how the individual components of a larger system work together and affect one another. Specifically, it determines patterns of behavior and the underlying structures that drive those patterns. Bridgeway Partners conducted a literature review and discussions with stakeholders in the Army suicide prevention system to generate an initial understanding of key relationships within the system. From there, Bridgeway Partners created causal loop diagrams that depict key relationships within the system (example in Appendix B). These diagrams were used during a three-day retreat with key stakeholders in the Army suicide prevention system to illuminate complex relationships that contribute to current outcomes (for more details about the systems thinking pilot, refer to CNA's information memorandum [3]).

CNA observed the systems thinking retreat and collected information on the following four topics, which are described in the results overview:

² Members of the PCT and additional details about their contribution to this effort are detailed in an information memorandum created by CNA [3].

1. Key aspects of the suicide prevention system that make it difficult to improve prevention
2. High-leverage points where intervention is likely to make a large impact³
3. Actions the Army can take to reduce the incidence of suicide and, potentially, other harmful behaviors
4. Insights into integrated prevention of harmful behaviors

CNA team members summarized observations from the systems thinking retreat as they relate to these four topics. CNA then convened a PCT of academic and industry experts in risk and protective factors for multiple harmful behaviors, community-based initiatives and interventions, public health approaches to prevention, and suicide prevention. We discussed our findings with these experts and further developed ideas from the retreat on potential actions the Army could take to address the findings. Through the engagement with experts, we identified five potential interventions that we developed into initial concepts. We then asked the PCT to refine and add detailed next steps to our recommendations based on their experience (e.g., describe *how to* conduct a norms assessment and *steps to* develop community-based prevention activities). Based on the PCT guidance, CNA and ARD developed five recommendations included in this report. We describe these recommendations within the frame of the public health approach to prevention outlined in the Department of Defense (DOD) Prevention Plan of Action (PPOA) [1].

Results overview

Discussions among Army stakeholders illuminated numerous key aspects of the current suicide prevention system that make it difficult to craft long-term solutions. The full list is included in Appendix C. Examples include the following:

- The Army lacks systematic program evaluations with supporting metrics to determine which prevention efforts are working.
- Junior leaders are overwhelmed and underprepared to connect with and support Soldiers under their commands.

³ High-leverage points are places within a complex system where a small change (or focused action) has the potential to lead to a lasting, significant improvement [5]. Put another way, high leverage points are “the few things that change everything else” [6].

- The system is geared toward quick fixes because of annual funding cycles and two-year leader rotations.
- Required training to address harmful behaviors is one-size-fits-all and often poorly implemented, repetitive, and unengaging.
- Leader behaviors and skills have not adapted to a primarily garrison (vs. deployed) environment.

We also identified four high-leverage points where the Army could intervene to bring about substantial changes to the suicide prevention system. They are the following:

- **Unit-level leaders/first-line supervisors:** Providing needed training and resources to first-line supervisors could significantly improve suicide prevention. These are the leaders who are closest to the Soldiers and, therefore, best positioned to provide the needed connectedness and supports and to recognize and respond to warning signs.
- **Prevention training for Soldiers, leaders, and instructors:** Improving the quality and content of prevention training (e.g., increasing comprehensiveness and effectiveness) for all Soldiers also has potential for greatly reducing the incidence of suicide-related behaviors.
- **Organizational climate and culture surrounding readiness:** Rethinking and reshaping the organizational climate, including (1) redefining *readiness* to include people factors such as cohesion and resilience, (2) leveraging inculcated Army Values to create a climate that helps prevent harmful behaviors, (3) lengthening leader tours, and (4) reshaping the relationship between HQ and installations.
- **Evaluation and research:** Establishing a robust, systematic evaluation structure could provide the Army with ongoing, data-based information about its programs, helping it identify which approaches are achieving the desired results, which could be tweaked to improve performance, or which should be eliminated due to poor results.

From results to recommendations

The systems thinking pilot on suicide prevention illuminated a complex and dynamic set of relationships that interact to support or hinder prevention of suicide and other harmful behaviors. Addressing aspects of this system requires a coordinated, strategic, and long-term suite of solutions. Indeed, program evaluation and implementation of this magnitude requires consistent investment over time to see a long-term reduction of suicide risk. Throughout the recommendations, CNA and ARD acknowledge short-term outcomes (e.g., skill development) that build toward longer-term outcomes (e.g., culture change within units and the Army). Taken together, the recommendations begin to address assumptions and barriers that underlie

the current suicide prevention system and facilitate movement toward upstream suicide prevention and risk reduction. The recommendations are described in the next section. More detailed concept papers for each recommendation are included in Appendix A.

Recommendations

Historically, the Army's approach to addressing harmful behaviors has focused on response rather than prevention. In addition, the Army's prevention efforts tend to be under resourced, programmatically siloed, and dependent on commander discretion to determine the impact of harmful behaviors in their area of operation as well as the degree to which prevention will be a focal point within the unit/installation.

In 2019, OSD directed the Services to adopt a public health approach to prevention, which included a system of organizational factors to support prevention efforts: human resources (e.g., a prevention workforce), infrastructure (e.g., data systems), and collaborative relationships within and across organizations. According to the DOD's PPOA 2.0, this prevention system supports a data-driven prevention process that can help the Army establish a comprehensive approach to prevention, evaluate ongoing initiatives, and design new interventions based upon data [1].

Primary prevention process

The PPOA identifies the following four main steps in the primary prevention process:

1. Understanding the problem
2. Developing a comprehensive approach
3. Quality implementation
4. Continuous evaluation

The first step involves gathering information to better understand the scope and nature of the problem. In the current research effort, time spent reviewing literature, collecting information from retreat participants, and gathering insights from stakeholders and subject matter experts (SMEs) helped researchers understand the extent of the problem and identify the factors known to contribute to, or protect Soldiers from, *Risk of Suicide*.

The second step, developing a comprehensive approach, involves identifying multiple, reinforcing prevention activities that *simultaneously* address individual, interpersonal, and organizational factors that contribute to *multiple* harmful behaviors.⁴ Prevention activities

⁴A comprehensive approach includes activities that address *cross-cutting* factors that mitigate or protect against multiple harmful behaviors.

included in the comprehensive approach must be selected for their evidence base and likelihood to mitigate risk factors and enhance protective factors. Thus, the last two steps of the prevention process involve implementing activities with fidelity and evaluating outcomes through a continuous assessment process.

Although the current effort does not extensively discuss quality implementation (the third step), we highlight places where the Integrated Prevention Advisory Group (I-PAG) will be leveraged to support and reinforce the implementation. The Army is designing the I-PAG as its prevention workforce, engaging in nonclinical, primary prevention activities that seek to prevent two or more harmful behaviors before they occur. The I-PAG's responsibilities include designing prevention policies and strategies, advising commanders on prevention processes, collaborating with partners to maximize prevention capabilities, and evaluating prevention activities.⁵

Recognizing the importance of the fourth step, continuous evaluation, we make specific recommendations for developing metrics based on the public health approach to prevention. In using this process to develop and evaluate prevention activities, the Army will move away from assessment activities that focus on output (i.e., "checking the box") toward a focus on impact and the Army's strategic goal of reducing harmful behaviors.

Overview of recommendations

Below, we summarize our recommendations to support a public health approach to prevention of harmful behaviors. Each recommendation is described in greater detail in Appendix A.

Develop metrics to support a public health approach to prevention

We recommend that the Army develop comprehensive evaluation plans that assess the effectiveness of the programs and interventions designed to prevent harmful behaviors. Although the Army has introduced various initiatives to address harmful behaviors, in general, it has not conducted systematic data collection and analyses to determine which programs are achieving their desired outcomes. To develop and execute this concept, we recommend using the expertise of the I-PAG to identify the appropriate metrics for assessment, implement data collection plans, and create a system of record to ensure consistency in data collection and storage. This recommendation will provide the Army visibility on which programs are

⁵ ARD shared a draft copy of the prevention workforce guide and talked with CNA about its plans for I-PAG development and roll out. The description of the I-PAG here reflects the draft conceptualization of the workforce.

effective, struggling, or ineffective. This will allow the Army to surge resources where needed and eliminate programs that are not producing the desired impact.

Strengthen the development of first-line leaders

We recommend that the Army focus on deepening the personal connections between first-line leaders and their Soldiers. Small-unit, first-line leaders interact directly and frequently with some of the highest-risk populations in the Army (junior enlisted Soldiers). Because connectedness is a protective factor for multiple harmful behaviors [7], strengthening the ability of first-line leaders to connect with and support Soldiers can help reduce the risk of suicide and other harmful behaviors. Therefore, these leaders will need 1) the skills to build meaningful connections, 2) the knowledge of prevention resources to guide a Soldier to necessary programs, including Master Resilience Trainers (MRTs) and Holistic Health and Fitness (H2F) personnel embedded in units and available on installations, and, importantly 3) the ability to spend sufficient time with their Soldiers to build those relationships and observe changes in behavior or demeanor that might signal a Soldier is struggling. We recommend additional skills training in the Basic Leader Course (BLC) and the Basic Officer Leader Course (BOLC) focused on how to communicate effectively with subordinates and how to build genuine connections at the small unit level. These skills can be evaluated using 360 evaluations for sergeant and staff sergeant development in the units.

Increase leader accountability for prevention

We recommend that the Army consider two policy changes to increase leader accountability. First, expand command tour lengths from 2 to 3 years to 4 to 5 years. The current two-year rotation can result in enacting “quick fixes” rather than long-term solutions. Recognizing that the impact of prevention efforts takes time to materialize, expanding command tour lengths will allow commanders to take more ownership of the prevention programs under their purview. Commanders will have time to implement changes to existing programs or new programs and see their effects on harmful behavior prevention. Recognizing the extensive implications to this type of policy change (e.g., grade structure limitations, impact to other assignments, and time to promotion), we recommend conducting a manpower study to assess additional changes that this recommendation might necessitate. Second, to reinforce the importance of commander accountability for prevention, we recommend updating the evaluation criteria for officers and noncommissioned officers (NCOs) to fairly evaluate commanders on harmful behavior prevention (e.g., implementation of command climate action plans). Taken together, these recommendations are designed to give commanders *more* ownership over harmful behavior prevention by giving them more time to assess and

implement interventions and by rewarding those who excel in harmful behavior prevention, as evidenced through their performance evaluations.

Reconceptualize prevention education

We recommend increasing the development of life skills (e.g., self-regulation, decision-making) and healthy social norms (e.g., group expectations for healthy coping; support for using mental health resources) that protect against harmful behaviors early in Soldiers' careers. We also recommend reinforcing these skills through unit-based activities, potentially through the H2F, MRT, or other individual or group-based, job-embedded educational activity. Developing these skills and reinforcing them at the unit level will contribute to individual resilience and a unit climate that embodies connectedness, trust, cohesion, and purposefulness. Inculcating life skills and strong group norms early in Soldiers' careers and reinforcing them often can help protect individuals from risk factors associated with suicide and other harmful behaviors throughout their careers.

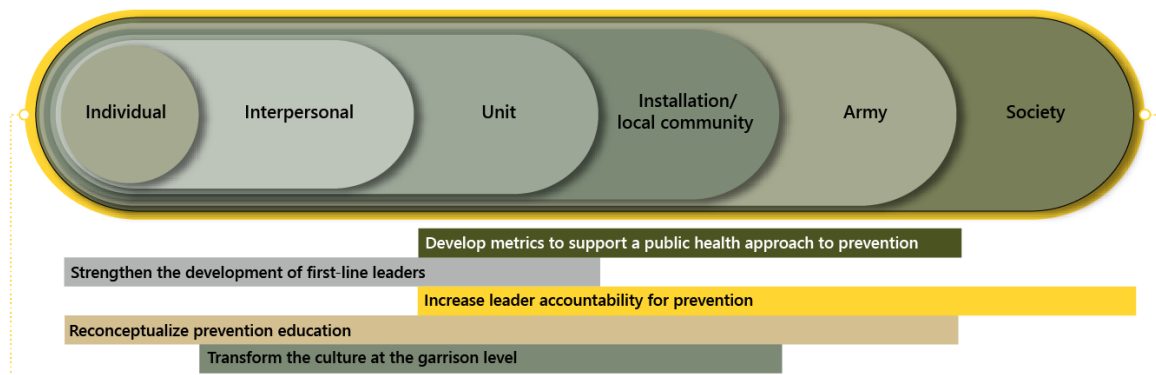
Transform the culture at the garrison level

Although the Army has strong, well-established, and institutionalized Core Values [8], stakeholders in the systems thinking pilot indicated that some Army entities (e.g., units, installations) have social norms that conflict with these Army Values (e.g., stigma surrounding mental health or emphasis on drinking as a bonding activity). We recommend that the Army support garrisons to assess current norms systematically and develop garrison-level initiatives to promote positive social norms. The norms assessment would help determine the extent to which the key protective factors and healthy social norms (or key risk factors and harmful norms) are present at each garrison. Then, garrison-level leaders, with support from the I-PAG, would design and pilot initiatives tailored to the identified needs of the installation. Data informed, community-driven initiatives can target issues experienced in units/garrisons while reinforcing connectedness and healthy social norms.

Alignment of Recommendations with the SEM and Spectrum of Prevention

The current effort identified multiple, reinforcing prevention activities to reduce suicide risk. This section describes the comprehensive nature of these recommendations by depicting the alignment between the recommendations and two established frameworks for prevention programs. An earlier stage of this research identified an Army-specific socio-ecological model (SEM) that identified risk and protective factors shared across several harmful behaviors at multiple levels of the system [7]. Figure 1 below depicts how each recommendation is linked to one or more SEM levels.

Figure 1. Alignment of recommendations to the Army-specific SEM



Source: CNA.

To further ensure that the proposed concepts were comprehensive in nature, we leveraged the Prevention Institute's Spectrum of Prevention, a tool that helps organizations define the strategic range of activities for effective prevention [4]. The Spectrum describes multiple levels of intervention, including strengthening individual knowledge and skills, promoting community education, educating providers (in the Army, this would include leaders), fostering coalitions and networks, changing organizational practices, and influencing policy and legislation. Table 1 below shows how the recommendations generated from the systems

thinking pilot span the Spectrum of Prevention to achieve a comprehensive approach. It also shows how synergy might be achieved by concurrently deploying concepts that touch on multiple levels of the Spectrum (whether individually or in combination).

Table 1. Alignment of recommendations to the spectrum of prevention

Level of Spectrum	Develop Metrics	Strengthen first-line leaders	Increase leader accountability	Reconceptualize Prevention Education	Transform culture at garrison level
1. Strengthening Individual Knowledge & Skills: Enhancing an individual's capacity of preventing injury or illness and promoting safety		✓		✓	
2. Promoting Community Education: Reaching groups of people with information and resources to promote health and safety				✓	✓
3. Educating Providers & Leaders ^a : Informing providers/leaders who will transmit/ model skills and knowledge to others		✓		✓	
4. Fostering Coalitions & Networks: Convening groups and individuals for broader goals and greater impact					✓
5. Changing Organizational Practices: Adopting regulations and shaping norms to improve health and safety	✓		✓	✓	✓
6. Influencing Policy & Legislation: Developing strategies to change laws and policies to influence outcomes			✓		

Source: CNA, Prevention Institute [4].

^a Items in bold are modifications to the Spectrum to meet requirements of the military context.

Implementing the Recommendations

Each of the five recommendations addresses high-leverage points identified through the pilot. As a whole, the recommendations align with the spectrum of prevention and the tenets of the public health approach to prevention of harmful behaviors. However, implementing all of the recommendations will take several years, will require the coordination of multiple Army entities, and assumes that the currently developing I-PAG workforce becomes as robust as intended. This section provides guidance on prioritizing recommendations and integrating recommendations that reinforce one another in the event that it is not feasible to implement all of them.

Prioritization of recommendations

Although adopting all stated recommendations is necessary to ensure a comprehensive approach to prevention, the recommendations vary in the time they take to implement and the sequence in which they reinforce one another. *Strengthening the development of first-line leaders* and *developing metrics to support a public health approach* are critical first steps that can be implemented relatively quickly.

First-line leaders are those nearest to some of the most at-risk Soldiers. Focusing near-term efforts on strengthening their development and ensuring that they have sufficient time to build connections with their Soldiers is our most direct recommendation to reduce Soldier suicides.

Similarly, developing and applying better metrics to measure the impact of prevention activities and formally evaluate programs will allow the Army to identify the approaches that are most (and least) effective and where adaptations are needed. Rigorous evaluation, perhaps by outside experts, can allow the Army to dedicate its finite resources to those programs that yield the most value.

These are critical first steps because they provide near-term development and support to leaders closest to individual Soldiers and build the necessary framework to evaluate harmful behavior prevention across the Army. They are also critical first steps because these two efforts can support the other three recommendations, which will take longer to materialize: *increasing leader accountability*, *reconceptualizing prevention education*, and *transforming the garrison culture*.

Integration of recommendations

Unlike our recommendations to strengthen first-line leader development and develop metrics that support a public health approach to prevention, our three additional recommendations are best viewed in combination. These longer-term recommendations can reinforce one another and likely require progress on other recommendations to be fully successful. Below we describe three ways these recommendations can be integrated.

Increasing leader accountability for primary prevention is necessary to prioritize leader focus on prevention activities relative to the other activities (e.g., mission readiness) for which they are held more directly responsible. However, increasing leader accountability should be done in conjunction with developing better metrics and strengthening first-line leader development. These should be implemented together so that leader evaluations remain fair. Increasing accountability without better metrics will be ineffective and potentially lead to biased results. Similarly, increasing accountability without better training/instruction in developing connections and support prevention activities will likely punish leaders who are less successful at these efforts without offering support or remediation.

Reconceptualizing prevention education will reinforce culture changes at the garrison level because personnel will become better prepared to identify harmful norms and develop innovative solutions to improve unit connection and culture more broadly.

Transforming the culture at the garrison level can provide localized improvement in prevention. However, it should be done in conjunction with more systematic and continuous program evaluation to ensure that the local efforts are yielding desired results and potentially to facilitate scaling up to a more enterprise-wide initiative, if appropriate. Both recommendations involve evaluation tools that can reinforce each other (i.e., social norms assessments and prevention program evaluations). Social norms assessments and community-based interventions could be strengthened by increasing both length of command tours and ownership of prevention program within the commander's unit.

Conclusion

This report provides recommendations generated from the Army's systems thinking pilot on suicide prevention. Facilitated by experts in systems thinking, this pilot provided an opportunity for stakeholders to discuss suicide prevention holistically and explore relationships between diverse aspects of the system (e.g., headquarters' policies, local implementation, first-line leaders, behavioral health services, drinking culture, and the commander's role in prevention of harmful behaviors).

Based on the high-leverage points identified through the pilot, we make five broad recommendations that the Army should implement: develop metrics to support a public health approach to prevention, strengthen the development of first-line leaders, increase leader accountability for prevention, reconceptualize prevention education, and transform the culture at the garrison level. Each of these broad recommendations includes discrete steps for the Army to take in implementing them.

It is critical to recognize the reality of time delays when implementing these recommendations. Taking immediate action on any of these next steps is unlikely to have a systemic, large-scale impact. However, it is important to develop the long-term objective and action steps (that can be evaluated) and persist toward the long-term objective over time whether conditions are improving or not. There is a natural tendency, when conditions begin to improve, to pull back or divert resources to other, more immediately pressing problems. Short-term gains or "quick fixes" might improve conditions temporarily but can lead to reduced emphasis on long-term strategic solutions. Each of the recommendations here is a long-term solution that will require consistent effort over time to yield full value. Yet, actions can be taken in the near-term to build toward and reinforce the long-term solutions.

Finally, although these recommendations flow from a systems thinking pilot on *suicide prevention*, they are consistent with the integrated prevention approach described in the PPOA and have the potential to improve prevention of multiple harmful behaviors. Additional analysis, as these recommendations are implemented, is needed to confirm this assertion.

Appendix A: Detailed Recommendations

This appendix details the five broad recommendations we identified through the systems thinking pilot on suicide prevention in the Army. Each recommendation includes a description of the concept, a rationale for the recommendation, and next steps to implement the recommendation.

Develop metrics to support a public health approach to prevention

Concept

This concept involves using the public health approach to develop comprehensive evaluation plans that assess the effectiveness of programs and interventions designed to prevent harmful behaviors. A public health approach to intervention requires that program implementation allow for continuous assessment and refinement. It uses implementation science to pilot new efforts prior to broad-scale implementation. In doing so, the Army can make decisions using a data-informed approach. This process should be overseen and executed by the I-PAG, whose primary responsibility will be to serve as the Army's prevention workforce, tasked with evaluating these activities and developing recommendations for policy based upon evaluation findings. I-PAG staff should be viewed as neutral "honest brokers" for commanders and command teams. Their evaluations will focus on the efficacy of the *program*, not the *individuals* executing the programs. Program evaluations should not be influenced by concerns that any identified need for program change will be viewed as failure.

Rationale

Although the Army has introduced various initiatives to address harmful behaviors, in general, it has not conducted systematic data collection and analyses to determine which programs are achieving their desired outcomes. As a result, decisions regarding which programs remain in place and which are discontinued are often not informed by an objective data-driven approach. We heard in the pilot that the Army (and other services) has a long history of failing to test programs effectively, particularly those adopted from academia or the private sector and applied to the military setting. Participants expressed that no systematic evaluation process is

in place to identify what is working and, conversely, what trainings and initiatives can be “taken off commanders’ plates.” In addition, for those integrated prevention approaches that *are* found to be successful, a requirement to report metrics up the chain of command would provide a level of accountability that is currently lacking but fundamental to harmful behavior prevention. Finally, adopting an Army-wide public health approach to program evaluation will help the Army move away from its current compliance-based assessments—in which organizations are deemed successful if they follow Army regulations—and toward outcome-based evaluations that provide a more holistic picture of program impacts. It also will provide consistency across installations’ and communities’ program evaluations. It would ensure that all installations have sufficient knowledge and expertise to implement the public health approach and that they are collecting the same kind of data so that evaluation results will be comparable.

Next steps

- Codify the public health approach in writing and disseminate it to establish an Army-wide framework for implementing, assessing, and refining programs and interventions
- Communicate expectations of honest and objective program evaluation,⁶ which may include findings of program ineffectiveness, to those implementing programs and conducting program evaluations
- Task the I-PAG with implementing a public health approach to establish evaluation plans, including the following:
 - Identify metrics
 - Implement data collection plans
 - Determine system of record (e.g., Strategic Management System) to ensure consistency in data collection from tactical level to strategic level
 - Request that the Under Secretary of the Army review the process to pilot the interventions before widespread adoption, and communicate the importance of the implementation plan to the wider force; this guidance should then also be included in the Army Prevention Strategy

⁶ This could be done through creation of a logic model that details activities and outcomes of the prevention program. The Army currently uses logic models to visually describe many of its prevention programs (e.g., Army Suicide Prevention Program, Army Substance Abuse Program, and Family Advocacy Program).

Strengthen the development of first-line leaders

Concept

This concept involves two primary mechanisms to address prevention of harmful behaviors through first-line supervisors: time and skills. Although first-line leaders of junior Soldiers engage with higher-risk populations, they do not always have the *time* to connect with each Soldier nor the *skills* to make the most of those opportunities, identify potential at-risk Soldiers, and connect them with available resources. We recommend that Army leadership critically examine the time first-line leaders spend on tasking that takes them away from their Soldiers. Once understood, we recommend policy and practice changes to remove those ancillary requirements so junior leaders have the time they need to connect with subordinates.

Further, we recommend enhancing small-unit leader training specifically to develop skills to build connections with individuals and within the broader unit, and increase knowledge of garrison-level resources (e.g., when and how to refer Soldiers to behavioral health specialists). Specifically, we recommend incorporating into the BLC and BOLC training that equips junior leaders to better communicate and build connections at the small-unit level. This might be done by integrating components of the MRT curriculum (or other evidence-based curricula) into those courses. Concurrently, the evaluation system could be revised to identify the skills and behaviors junior leaders should exhibit so these skills could be included in performance reviews once the leaders are trained (this idea is also discussed in recommendations to increase leader accountability). The desired skills might also form the basis for 360 evaluations for SGT-SSGT development in the units. Leader 180s (peer- and self-evaluations) are currently conducted in BOLC, BLC, and the Advanced Leader Course (ALC), while Leader 360s (subordinate-, peer-, supervisors-, and self-evaluations) assessments are conducted in the Captains Career Course, Senior Leader Course (SLC), Master Leader Course (MLC), and Sergeants Major Course (SMC). We recommend these Leader 180s and 360s be examined for appropriateness for developmental use in units.

Rationale

First-line leadership is a high-leverage point for intervention regarding suicide prevention in the Army. Unit cohesion and connectedness and positive leader engagement are protective factors for multiple harmful behaviors and small-unit, first-line leaders interact directly and frequently with some of the highest-risk populations in the Army (junior enlisted Soldiers)[9]. Because of their direct contact with Soldiers, NCOs can support suicide prevention initiatives

and identify vulnerabilities and provide support to Soldiers [10]. However, many policies and practices affect the development of connections between Soldiers and their first-line supervisors. Examples include movement of sergeants from the barracks, movement of Soldiers off post or to single-family housing on post, and pervasive concerns over fraternization rules making leaders hesitant to connect with Soldiers. During the pilot, participants mentioned that concerns over “fraternization rules” affected first-line leaders’ comfort with connecting with the Soldiers. Participants in the pilot also indicated that first-line leaders are inundated with tasks that take them away from their Soldiers, whether out of the barracks or away from them during the duty day. Pilot participants also indicated that first-line leaders cannot build the kind of close connections with their Soldiers that could help prevent suicide if they cannot devote a significant amount of time to them.

Further, not all leaders inherently have the same skills and abilities to build connections and observe changes in behavior among their Soldiers. The systems thinking pilot on suicide prevention highlighted a need to examine leadership in a primarily garrison environment and identify skills and practices related to battlefield leadership that could be used to strengthen connections in a garrison environment. Giving first-line leaders time explicitly to connect with Soldiers could have positive implications for culture and norm setting, unit development activities, and modeling healthy behaviors to junior Soldiers. Recent research suggests that NCOs who receive training on suicide prevention topics and soft skills needed to approach sensitive topics reported taking more actions⁷ to help Soldiers [11]. Additional steps to develop existing skills could further boost the quality of relationships and the connections needed to deter and prevent harm.

Next steps

- Develop and implement policy that ensures that first-line leaders have time to connect with and develop their Soldiers.
 - As an example, policy-makers can mandate that first-line leaders (especially E5-E6; O1-O2) be given back 15 percent of their time as “white space”
 - This can be done through a time-to-task analysis that determines the daily and recurring requirements on their time and then making determinations of which tasks to reassign (likely up the chain of command, not down).
- Conduct focus groups with first-line leaders to better understand concerns over fraternization. Clarify guidance based on the results of the focus groups.

⁷ Example actions included asking the Soldier about an issue and escorting them to a counselor.

- Identify evidence-based curricula that build leader skills to communicate and connect with subordinates, including a review of the MRT curriculum.
- Pilot the inclusion of identified skills into BLC and BOLC courses.
- In collaboration with OSD, add components of the SPARX Training as elective topics at captain's courses, Intermediate Level Education (Majors), Army War College (COLs), and potentially ALC and SLC.
- Evaluate leaders by developing specific requirements for leader skills and, once trained, include them in performance reviews. The Air Force is beginning a new comprehensive assessment for all Airmen that could serve as a model.
- Pilot 360 evaluations for sergeant and staff sergeant development by using the Army's current multi-source feedback tool to the extent it is applicable. Leader 180s (peer- and self- evaluations) are currently conducted in BLC and ALC, and Leader 360s (subordinate, peer, supervisors, and self) assessments are conducted in SLC, MLC, and SMC.

Increase leader accountability for prevention

Concept

Leaders are a key high-leverage point to strengthen the prevention of suicide and other harmful behaviors. To ensure full leader investment in prevention, we recommend two changes that will increase leader accountability.

First, because the impact of prevention efforts across the SEM can take at least 5 to 10 years to demonstrate impact, the Army should consider increasing command tour lengths to 5 years. This will allow leaders time to implement and see the effects of prevention efforts within their areas of operation.

Second, because leaders prioritize goals and objectives linked to their annual performance evaluation and promotion, the Army should incorporate behavioral indicators and metrics to fairly evaluate commanders on prevention dimensions. Inputs into performance evaluation could include trends and scores on Defense Organizational Climate Survey (DEOCS) risk factors, unit risk assessments, and other tools to evaluate the unit prevention climate. These actions would also communicate to Soldiers and the broader military community the centrality of the commander's responsibility and accountability for these efforts.

Rationale

The leader sets the tone for how Soldiers perceive harmful behaviors, prevention, and their relationship to readiness. Currently, commanders' 2-year rotation leaves minimal time for a leader to document and demonstrate the impact of efforts to enhance prevention efforts. In addition, pressure to "do something" on one's command tour might encourage "quick fixes" or making changes to programs and initiatives that are just starting. Increasing tour lengths will allow commanders time to have a more methodological approach to establishing prevention goals and objectives grounded in public health practice. They can also leverage the expertise of the new I-PAG to develop the infrastructure and metrics for assessment of their prevention efforts.

Title 10 of the USC (S 3583) states that commanding officers are charged to "promote and safeguard the morale, the physical well-being, and the general welfare of officers and enlisted persons under their command or charge" [12]. Furthermore, Army harmful behavior programs (e.g., suicide prevention, substance abuse prevention) are viewed as commanders' programs where they have the authority to implement programs within the confines of higher headquarters policy and guidance. Participants in the systems thinking pilot indicated that commanders are responsible for prevention programs but often lack the expertise and support to implement them efficiently. In addition, throughout this pilot (and larger research effort) we have learned that enforcement of training requirements and utilization of help-seeking and prevention resources available to the command vary considerably across the Service. Commanders are also not held accountable for the outcomes of their prevention efforts.

Next steps

The next steps below further operationalize efforts to implement the recommended leader accountability efforts:

- Consider increasing command tour lengths from 2 to 3 years to 4 to 5 years to ensure investment in long-term prevention efforts that impact the Soldier, community, and military Families.
 - Conduct a manpower study to determine requirements and career impacts of this change for command positions only (with other assignments rotating on the current schedule).
 - Develop and execute a plan to address identified impacts.
 - Disseminate an executive order explaining new requirements and timelines for implementation.

- Update the evaluation criteria for officers and NCOs to include prevention-related metrics and use the I-PAG and Army's prevention SMEs to support development.
 - Identify prevention-specific behaviors, actions, and outcomes required of leaders across each echelon.
 - Collaborate with OSD to leverage DEOCS survey data across risk factors to develop an evaluation metric that assess the health of the installation culture regarding:
 - Alcohol impairing memory
 - Binge drinking, moderate/high-stress, passive leadership [for NCO and commander]
 - Toxic leadership [NCO and immediate supervisor]
 - Racially harassing behaviors
 - Sexually harassing behavior
 - Sexist behaviors
 - Create a numeric composite "Cultural Health" score using the DEOCS risk factors [13] with Army-centric interpretation of the score at specific cut points. For example, installations with scores that are comparable to or above the Army average will be "green," installations that demonstrate positive changes (increases in their score) over time will be "amber," and installations that are below the Army average or have decreases in scores over time will be "red." Scoring may not be static as there are improvements or decrements in cultural health indicators over time. Therefore, categorizations and interpretation of cut points will have to be reassessed routinely. Ideally, as the culture improves or reaches a level of homeostasis, these kinds of updates will be less frequent.
 - Leverage data from command and unit climate surveys to guide action planning and develop leaders via feedback mechanisms. In addition, include a culture and climate score in the performance evaluations of leaders and NCOs.
- Reward leaders who develop and maintain healthy organizational cultures and climates, as evidenced by improvements in their culture/climate scores or maintaining a score that is deemed acceptable. To ensure fairness in evaluation across units, tie rewards to leader behaviors, including developing an action plan and implementing the plan effectively. Leaders would be held accountable for how they are addressing their climate and not just for scores on evaluations like the DEOCS.
- Provide support for the implementation of evidence-based prevention interventions or initiatives recommended by the I-PAG. This inhouse support will fill the gap in

expertise needed for commanders and leaders at each echelon to implement and evaluate prevention efforts.

- Champion the I-PAG development of a Social Determinants of Health (SDOH) score card⁸ that assesses the installation’s “Prevention Health” across the five SDOH domains:
 - Health Care Access and Quality
 - Education Access and Quality
 - Economic Stability
 - Neighborhood and Built Environment
 - Social and Community Context
- Update AR 623-105, Officer Evaluation Reporting Systems, or DA Pamphlet 623-3, Evaluation Reporting System, to outline new evaluation requirements.
 - Explore the viability of using the Commander’s 360 as a formal evaluation tool. If not appropriate for formal evaluation, use it to counsel leaders, identify behaviors to change and benchmarks to reach, and use benchmarks in evaluation.

Reconceptualize prevention education

Concept

This concept would develop life skills, strong bonds among unit members, and healthy shared norms that protect against harmful behaviors. Examples of key life skills include self-regulation, empathy, and positive thinking. Examples of healthy norms include shared group expectations for healthy coping (e.g., activities to relief stress vs. substance misuse) and support for using institutional resources (e.g., family resources, mental health) to address personal and family challenges. Key life skills would be taught early in Soldiers’ careers, beginning with BCT and BOLC, either as separate modules or incorporated into existing, relevant units. For instance, as Soldiers learn about the Army’s Core Values,⁹ they would participate in educational activities to learn and practice specific life skills that operationalize

⁸ Similar to the Unit Status Report that is used to assess readiness and training metrics, the SDOH score card would assess metrics specific to Soldier and Family readiness. The I-PAG could develop this score card leveraging existing data/metrics routinely collected (e.g., Commanders Risk Reduction Toolkit, Army’s QoL Task Force, publicly available data, MEDCOM patient appointment metrics such as wait times, missed appointments, availability of appointments) to create the tool.

⁹ Army Core Values are loyalty, duty, respect, selfless service, honor, integrity, and personal courage [8].

those values. Instruction should include interactive group sessions that demonstrate how each of the life skills can help prevent specific harmful behaviors (e.g., practicing empathy through bystander intervention in cases of sexual harassment). Once Soldiers are assigned to units—and throughout their careers—these skills would be reinforced in meaningful ways that are embedded into their daily lives and that help establish the desired norms and connections. For instance, unit leaders and H2F coaches might reinforce the skills of perseverance, positive thinking, effective communication, and teamwork as Soldiers engage in routine training activities. H2F cognitive enhancement specialists and MRTs might help Soldiers apply goal-setting and self-regulation skills prior to holiday leave to ensure wise spending and drinking behaviors. The skills and norms could also be reinforced by the culture/climate interventions developed by key stakeholders (consistent with the “Transforming Army Culture at the Garrison Level” recommendations).

Rationale

Participants in the systems thinking pilot identified prevention education, along with garrison culture and norms, as high-leverage points for reducing suicide. Specifically, they suggested that Soldiers should be taught “life skills” early in their Army careers, with refreshers provided at key touchpoints. PCT members developed this idea further, suggesting that developing supportive group social bonds and norms is key to ensuring that the life skills and strategies learned in educational programs become a part of group culture and are used during periods of challenge and crisis. Developing these skills and reinforcing them at the unit level will help transform the garrison culture to one that embodies connectedness, trust, cohesion, and purposefulness. These recommendations are consistent with research that has identified a number of life skills that promote psychological resilience and protect against harmful behaviors, such as positive coping, self-regulation, and social connectedness [7, 14-15]. In addition, social connectedness is a well-established protective factor that decreases vulnerability to suicidal and other harmful behaviors [7]. The prevention research also indicates the value of developing and reinforcing such life skills and protective factors early in a person’s development, ideally before harmful behaviors emerge [16]. For the Army, the earliest opportunity to develop these skills would be during BCT and BOLC. Developing those skills as Soldiers embark on their Army careers operationalizes Army Core Values in terms of specific skills and behaviors that Soldiers are expected to develop and internalize. Research further indicates that skill acquisition is not a one-time event, but requires many opportunities to practice the skills and receive feedback [17]. Job-embedded skills reinforcement at the unit level serves this purpose.

Next steps

Proposed steps toward putting this concept into practice are listed below:

1. Leverage ongoing research to identify the critical life skills and social connections that best operationalize and reinforce Army Core Values [7]. Skills should be based on evidence that they are associated with success in life, and that they protect against harmful behaviors, including suicidal behaviors. Similarly, it is important to identify key relationships that young Army personnel value and see as valid sources of support and guidance. Getting these skills and social connections right is critical because they will become embedded in Army cultural norms.
2. Use existing research to identify existing programs and curricula that effectively teach the critical life skills and build social bonds. For instance, BCT modules that emphasize Army Core Values may already address key skills. Other possibilities include skills and activities implemented by MRTs and H2F personnel.
3. Explore using or adapting evidence-based programs to fill gaps identified in step 2 and enhance interpersonal and unit skills and norms. For example, the *Wingman Connect* program developed for the Air Force helps develop skills within military units for growing and sustaining strong social bonds, purpose, and emotional well-being while also growing cohesion and shared norms. The research-informed active instructional approach emphasizes peer-to-peer teaching and progresses from individual goals and skills to group cohesion and mutual support [18-19].
4. Identify routine unit-level training and activities when the critical life skills and social connections should be practiced and reinforced. Develop or adapt programs to guide leaders and trainers in embedding critical skill reinforcement and social connections into the identified activities.
5. With participation of key stakeholders, including operational leaders, engage in a thorough process of piloting and adapting programs and approaches identified in steps 2 to 4. These pilots should include an evaluation plan to assess their effectiveness and identify any refinements needed before expanding to additional locations and contexts.

Transform Army culture at the garrison level

Concept

The Army has established strong institutional values of loyalty, duty, respect, selfless service, honor, integrity, and personal courage. These cultural values are intended to foster healthy

climates and promote positive behaviors throughout the Army. However, Army SMEs who participated in the pilot highlighted social norms that impede rather than inculcate these Army Core Values, such as stigmas surrounding mental health and emphasis on drinking as a bonding and team-building activity. Social norms are informal, widely accepted rules that dictate perceptions of acceptable behavior [20]. Group members act in a manner consistent with perceived norms to avoid social consequences associated with norm violations, even if they would personally prefer not to act in such a manner. The proposed approach seeks to replace identified harmful norms with positive social norms through two separate but related efforts: an assessment of current norms, and development of garrison-level initiatives to promote positive social norms. The first effort assesses garrison-level norms and identifies those that are counterproductive to Army Core Values and the prevention of harmful behaviors. The second effort develops positive social norms (e.g., social connectedness) that protect against multiple harmful behaviors. Specifically, the second effort allows public health experts on the tactical level (e.g., I-PAG members), mid-level leaders (such as officers and NCOs involved in Commanders Ready and Resilient Council working groups), and community leaders (e.g., chaplains, embedded behavioral health, MRTs, or H2F personnel) to collaborate on new initiatives that promote a healthy climate and social connectedness. These initiatives would target issues identified by the norms assessment and other surveys, leveraging information specific to that community. This concept reinforces the life skills, connectedness, and norm-building education proposed in the “Reconceptualizing prevention education” concept.

Rationale

Research identifies four protective factors that are especially helpful in preventing multiple harmful behaviors: social connectedness and support, healthy peer relationships, unit cohesion and connectedness, and community connectedness and support. Developing these protective factors at the garrison level can foster healthy climates that promote positive social norms, such as speaking up for peers being bullied or ostracized. Although existing Army-wide programs leverage these protective factors (such as the “battle buddy” program for mutual support and detection of warning signs, and the sponsorship program to facilitate transition to a new installation), these programs are not always tailored to the specific needs of the Soldiers at the garrison level. In addition to promoting positive norms, discouraging harmful norms is important to fostering healthy climates. Key risk factors associated with climate at the garrison level include permissive environments where harmful behaviors are tolerated, stigma associated with help-seeking behavior, problematic interpersonal norms (particularly for interactions between group members of different cultural backgrounds and learning histories), and isolation or lack of social support. SMEs report that Soldiers, like Americans in general, tend to have less face-to-face interaction than they did in previous generations. At the

same time, the social interaction that does occur often involves alcohol, even though alcohol is an identified risk factor for suicide, sexual assault, and domestic violence.

The norms assessment would help determine the extent to which the key protective factors and healthy social norms or key risk factors and harmful norms are present at each garrison. Garrison-level leaders would then design and pilot initiatives to develop the desired norms. Assigning this responsibility to garrison-level leaders acknowledges that those closest to the Soldiers can best determine how to engage them in activities that create a shared language and inculcate healthy norms and protective factors. In addition, this approach allows the initiatives to remain flexible to rapidly changing conditions at the installation level. Headquarters, Department of the Army (HQDA) can support mid-level and community leaders in developing and piloting initiatives by granting them the autonomy and resources to address the needs identified in the community norms assessment, while also providing guidance to develop and assess initiatives using an evidenced-based, public health approach. Leveraging the Army's existing infrastructure to develop a culture that promotes healthy climates and addresses problematic social norms is an important opportunity for prevention of harmful behaviors

Next steps

Proposed steps toward putting this concept into practice, which are to be implemented by the I-PAG, mid-level leaders, and community leaders, are listed below:

Norms assessment

1. Conduct an assessment to identify norms at the garrison level or lower. Norms can be identified using existing data collection methods, such as the DEOCS, developing new surveys, or using direct observation methods.
 - a. The norms assessment should identify Soldiers':
 - i. Perceptions of existing norms relative to protective factors (connectedness and belonging, healthy relationships, and unit cohesion and support) and risk factors (alcohol misuse, stigma associated with help-seeking behavior, and unhealthy peer relationships)
 - ii. Personal conformity to norms
 - iii. Personal endorsement or belief in the norms (personal salience)
 - iv. Perception of other people's endorsement of the norms
 - b. Direct observation methods should [21]:
 - i. Use standardized observation methods to ensure data collection consistency, including frequency, location, subjects of observations, and

- data collection tools (i.e., using descriptive field notes or a structured or semi-structured data collection template)
 - ii. Define behaviors to be observed that may signify conformity to, or endorsement of norms (e.g., regularly recurring behaviors, language being used when speaking to peers)
- 2. Analyze results to evaluate congruence between Army Core Values and assessment of actual norms.
 - a. Identify norms that are misperceived among Soldiers and leaders (i.e., 86 percent of Soldiers said that most Soldiers think asking for help is a sign of weakness, but only 20 percent of Soldiers said they personally believe asking for help is weakness).
 - b. Identify problematic norms currently being endorsed among Soldiers and leaders (i.e., binge drinking is an important bonding experience).
 - c. Consider how norms may vary across groups within the organization.
 - d. Identify aspects of garrison culture that support or impede connectedness, supportive relationships, and cohesion for targeted intervention.

Climate/culture interventions to promote healthy group norms and social connectedness

1. Use norms assessment results to develop an action plan for needed cultural changes. The plan would be developed by garrison and community leaders in partnership with I-PAG members. This collaborative team may draw on existing programs or develop new initiatives that reinforce the norms developed in training and education activities proposed in the “Reconceptualizing prevention education” concept. The plan would:
 - a. Use the norms assessment and other community surveys to identify individual and environmental factors (e.g., including individual beliefs and attitudes, levels of social connectedness, established group norms) as targets for installation- level prevention efforts. As part of this step, consider who is most affected by the identified concern(s).
 - b. Develop awareness of WHAT has been done before (e.g., existing or past efforts) or WHAT should be done (e.g., ideas for new initiatives/strategies) to target the factors identified in (a). Where possible, leverage existing programs to reduce burden on the community or identify areas for synergy among existing and proposed prevention efforts. The goal here is not to flood the system with initiatives and programs, but to define a few key objectives and then consider multiple ways to involve the broader community in directed action to address these objectives.

- c. Identify WHO should be involved in the identified prevention efforts, including key community and system change agents (those in a position to work toward the solution) to engage in promoting and implementing the activities.
 - d. Using information from prior steps, identify HOW the various stakeholders identified in (c) might support key objectives through targeted action (as part of existing or proposed prevention efforts).
 - e. Document what actions will be taken, by whom, by when, resources needed, anticipated barriers, and communication required.
 - f. Document measures of success (how the group will know when outcomes/objectives have been achieved).
 - g. Provide leaders with the authority and resources to pilot the climate enhancement initiatives within their communities. Example initiatives include publicizing misperceptions of social norms, team-building activities that do not include alcohol (e.g., family barbeques).
2. Periodically conduct norms assessments or other community surveys and use results to evaluate the piloted initiatives and make needed modifications.
 3. Report results to HQDA and collaborate with HQDA to consider how to share successful initiatives beyond the pilot.

Appendix B: Systems Thinking Overview

In this section, we provide a brief overview of the systems thinking approach and introduce the common systems thinking vocabulary necessary for understanding how we arrived at the recommendations contained in this report.

Fundamentally, systems thinking is a holistic approach to analysis that acknowledges how the individual components of a larger system work together and impact one another. More traditional approaches focus on a narrowly defined (and often well-scoped) problem; they consider the individual component of a problem without taking into account potential interdependencies or the overarching system. This approach often results in leaders recommending myopic, quick fixes to one part of a system without recognizing the potential cascading effects that can generate new problems in other parts of the system. By evaluating problems through this more holistic—and accurate—lens, systems thinking allows sustainable long-term solutions to emerge [22]. Specifically, it identifies patterns of behavior and the underlying structures that drive those patterns. Systems thinking also reveals that there is no perfect solution, as every intervention affects another part of the system and will necessarily disrupt any preexisting equilibrium [23]. As such, systems thinking often will not identify one recommended solution but a set of potential solutions that include different points of possible intervention.

Systems thinking concepts and common vocabulary

Systems thinking uses a list of common narratives, referred to as archetypes, to categorize inefficiencies in the system. Three of those archetypes—and their resulting inefficiencies—were used to better understand the Army's suicide prevention system:

- **Fixes that backfire:** The fix for a problem works in the short term but has unintended consequences that perpetuate the problem in the long term (e.g., attempting to increase quality connections between leaders and Soldiers through structured programs leads to superficial engagement and surface-level connection).
- **Shifting the burden:** The short-term solution is chosen over the long-term solution because it is quicker, easier, and often cheaper. However, because the long-term

solution is never prioritized, the problem persists (e.g., reacting to incidents by sending Soldiers to behavioral health services rather than preventing incidents by making cultural changes to create a healthier climate).

- **Accidental adversaries:** Partners' individual corrective actions inadvertently undermine each other's success, leading them to view each other as enemies instead of partners (e.g., pressure on HQDA to roll out new programs/policies overwhelms leaders in the field and negatively affects implementation quality, which does not result in the expected changes and signals to HQDA that more programs/policies are needed).

Accompanying the archetypes are fundamental concepts and terms used to describe the resulting inefficiencies. They include the following:

- **Quick fixes vs. quick wins.** Resources are used to react to a symptom of the problem (quick fix) rather than to execute the first step of a long-term solution (quick win) (e.g., requiring stovepipe trainings to prevent each harmful behavior diverts resources from programs that promote integrated prevention).
- **Virtuous cycles that turn to vicious cycles.** Behaviors are rewarded that harm the system in the long run (e.g., prioritizing mission readiness over personal readiness decreases Soldiers' resilience and negatively effects mission success).
- **Mental models.** Denote deeply held beliefs and assumptions that are sometimes treated as facts (e.g., personal readiness and mission readiness are unrelated concepts).
- **Balancing loops.** When an increase in one variable in the system decreases a second variable or vice versa (e.g., an increase in the speed of program rollout decreases the time available for effective implementation).
- **Reinforcing loops.** When an increase in one variable in the system increases a second variable or vice versa (e.g., increasing requirements for suicide prevention training as suicide rates increase).
- **Time delays.** Reflect a lack of appreciation for the time it takes for a change to influence the system (e.g., cutting funding for a prevention program because positive effects of the program are not immediately apparent).

Using these archetypes and fundamental concepts, the systems thinking approach can effectively portray aspects of a system that can illuminate a central problem or challenge. The primary systems thinking tool to describe aspects of a system is the causal loop diagram—which depicts reinforcing and balancing loops and can illuminate where quick fixes might be impeding long-term gains or where two entities have become accidental adversaries (each

unknowingly acting in a way that helps themselves and harms the other). By showing stakeholders these unintended relationships in the system, the systems thinking approach can provide a clearer perspective on *why* the identified problems persist and what actions can positively affect the situation.

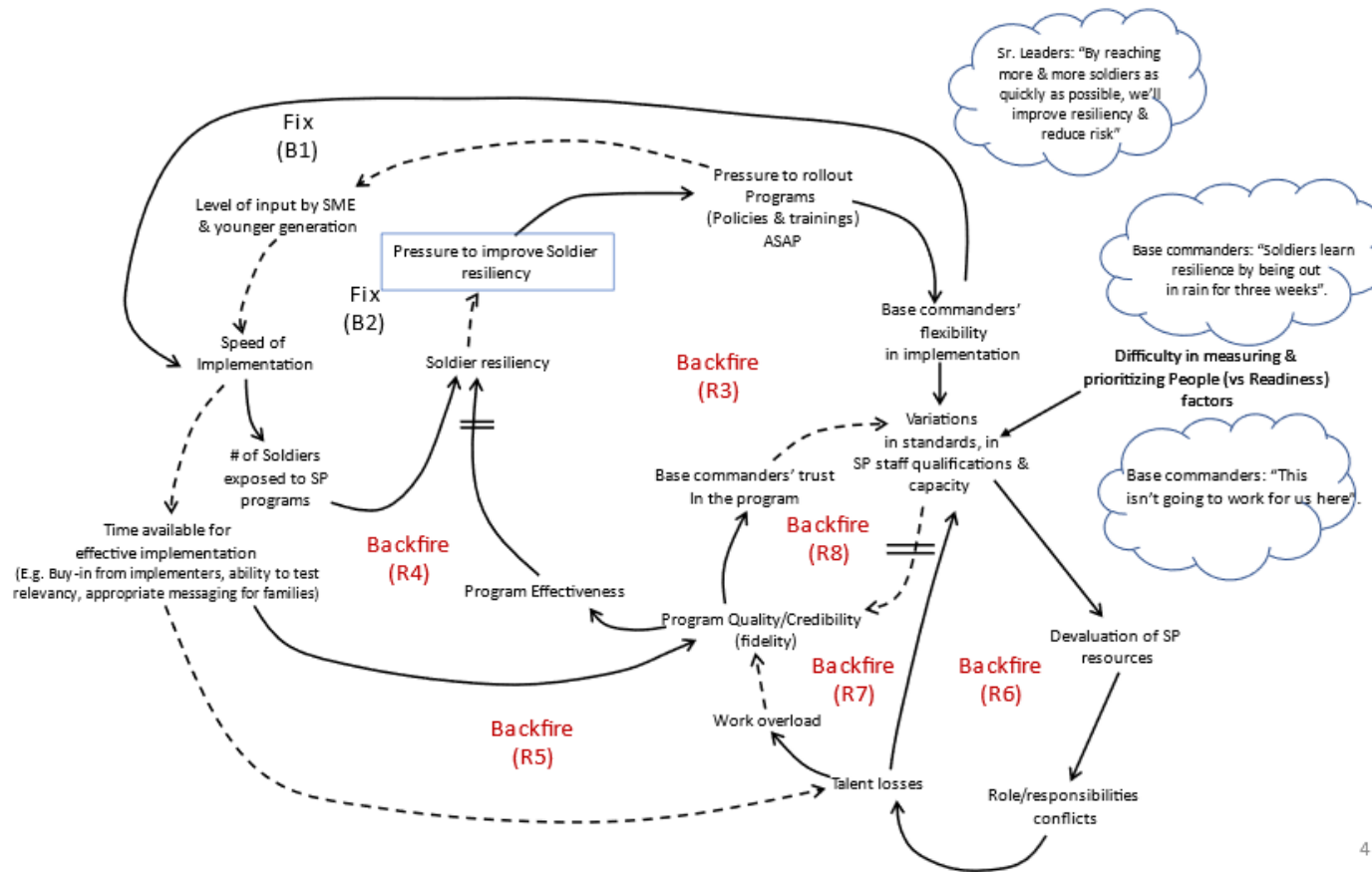
In Figure 2 we show an example of how a causal loop diagram can incorporate multiple elements of systems thinking and illuminate their interdependencies. Figure 2 (generated through this systems thinking pilot) depicts how the pressure to improve Soldier resiliency has resulted in increased pressure to rollout programs quickly. The diagram starts at the “Pressure to Improve Soldier Resiliency” in the blue box, which leads to pressure to roll out programs quickly. To facilitate speed of implementation, the Army provided more flexibility. This increases speed of implementation in the short term (a good thing), but also produces variations in program standards (e.g., staff quality).

Variations in program standards lead to several backfires (unintended consequences), including the following:

- It creates problems with program quality/credibility (R8). This reduces commanders’ trust in the program and can encourage more ad hoc fixes that circle back to more variations in programs.
- The ad hoc fixes eventually lead to devaluation of suicide prevention resources (R6) and role/responsibility conflicts, resulting in talent losses.
- The talent losses result in increased workload that further erodes program quality credibility, which also reduces the ability to measure Soldier resiliency/program effectiveness because the program keeps changing.
- Fix 1 (B1) is to increase the level of input by SMEs and younger generation, which can produce one of two effects: It can speed the implementation (right pathway), leading to more Soldiers exposed to the program (good), or it can also slow the speed of implementation (left pathway).
- The slowed speed of implementation can then lead to talent losses, work overload, or further variations in program quality, leading to a cycle of further distrust.

In all these pathways, insufficient time is allotted for good metrics to be developed and collected. Further, the dynamics are reinforced by mental models held by senior leaders and base commanders (depicted in the bubbles in Figure 2).

Figure 2. The unintended consequences of rollout pressure



Source: Bridgeway Partners cited in [3].

^a R = reinforcing loops

^b B = balancing loops

Once the system has been analyzed as described above, participants in the systems thinking process develop long-term solutions that address the harmful dynamics and take into consideration how to avoid or address some of the inefficiencies and unintended consequences that can emerge. To ensure some “quick wins” that will show early results while contributing to the long-term solution, systems thinking participants identify *high-leverage points* (areas where intervention could have a large effect) in the system.

Through this pilot, we applied the systems thinking approach to the problem of suicide in the Army and identified key aspects of the current suicide prevention system, high-leverage points for intervention, and potential long-term solutions.

Appendix C: Key Aspects of the Army Suicide Prevention System

Below, we summarize key aspects of the suicide prevention system that were illuminated through discussions with Army stakeholders at the systems thinking retreat. We describe how these key aspects can highlight problems within the Army suicide prevention system. These concepts were used to identify high-leverage points where intervention might create large changes needed to shift long-term trends and patterns.

- **The system is geared toward quick fixes.** Retreat participants described two system features that work against long-term solutions. First, DOD annual budget cycles result in annual initiatives and pressure for fast results. Second, leaders currently rotate through assignments every two years. These short cycles can result in a “wait it out” mentality (e.g., “If it doesn’t happen on my watch, I am doing okay”) or pressure to ignore established processes in the interest of quick results that enable commanders to “leave their mark.”
- **Shifting the burden overwhelms the system.** In an attempt to reduce the stigma associated with seeking help for mental health issues, one policy was to send any Soldier who was experiencing problems to a behavioral health specialist. The unintended consequence was that the system became overwhelmed, and Soldiers were unable to get the services they needed in a timely manner.
- **Barriers to help-seeking exist.** The stigma associated with seeking help for mental health issues, and associated fears about potential career impacts, keeps many Soldiers from seeking help early on that could prevent suicidal ideation and attempts. An additional barrier is the overwhelmed behavioral health system mentioned above.
- **Disconnect between leaders and Soldiers.** Retreat participants noted that first-line leaders are increasingly disconnected from their Soldiers and uncertain about how to make those connections (partially in fear of fraternization rules). Understanding the value of connectedness and support, commands were required to track leader interactions with subordinates. Pressure to create quality connections and communication increases mandated requirements for leaders to connect with Soldiers. Superficial engagements that decrease quality connections result. For the most part, these requirements resulted in a “checklist mentality” that did not lead to meaningful connections.
- **Junior leaders are overwhelmed and underprepared to support prevention efforts.** Junior leaders struggle to keep track of all available resources; they often do

not know whom to call, or when. In addition, leaders find it difficult to connect with young Soldiers who communicate differently (e.g., using mobile technologies) and worry that engaging in-person will lead to accusations of fraternization or an invasion of Soldiers' privacy.

- **Leadership skills have not adapted to a garrison (vs. deployed) environment.** Leader development has emphasized skills and behaviors needed for success on the battlefield, but the Army now finds itself in a primarily garrison environment characterized by different tasks, pressures, and supports needed for Soldiers. In this environment, leaders often default to a managerial approach because they do not know how to support and lead Soldiers in this kind of environment.
- **Pressure to mitigate suicide risk creates pressure to roll out new policies quickly.** Retreat participants perceive a lack of unity of effort between Army headquarters and the field. Headquarters, feeling pressure to roll out policies quickly, notifies the field that policies are forthcoming. When these new policies do not materialize in a timely manner, stakeholders in the field implement changes to address problems, and there is no policy feedback loop to determine what is being implemented and what is working.
- **Emphasis on individual Soldier resilience fails to address environmental issues.** The Army's strong focus on developing individual Soldier resilience does not take into account interpersonal and environmental risk factors. For instance, many Soldiers feel isolated and lack connections with one another and their Army leaders. Additional stressors include quality of life issues such as family support needs and substandard housing, dining, cell phone services, and transportation.
- **One-size-fits-all prevention training is often poorly implemented, repetitive, and unengaging.** The Army has developed training to address numerous harmful behaviors, resulting in a plethora of required training that may be perceived as "death by PowerPoint" and lead to a check-the-box approach to fulfilling the requirements. These "one-size-fits-all" trainings do not allow for needed customization.
- **Leaders lack the education and skills to address prevention.** Commanders are given leeway and authority to drive prevention programs and make difficult decisions, but they often lack the knowledge, skills, and resources needed in the prevention areas they oversee. Further, in developing new leaders, the Army relies on the "chain teaching" approach in which leaders train new leaders. Yet commanders may lack the knowledge and expertise for the task.
- **The Army does not know what is working.** The Army lacks systematic program evaluation and supporting metrics to identify what is working and what can be "taken off the plate."

Abbreviations

ALC	Advanced Leader Course
ARD	Army Resilience Directorate
ASL	Army Senior Leaders
BLC	Basic Leader Course
BOLC	Basic Officer Leader Course
DEOCS	Defense Organizational Climate Survey
DOD	Department of Defense
H2F	Holistic Health and Fitness
I-PAG	Integrated Prevention Advisory Group
MLC	Master Leader Course
MRT	Master Resilience Trainer
NCO	noncommissioned officer
OSD	Office of the Secretary of Defense
PCT	prevention collaboration team
PPOA	DOD Prevention Plan of Action
SDOH	Social Determinants of Health
SEM	socio-ecological model
SLC	Senior Leader Course
SMC	Sergeants Major Course
SME	subject matter expert

References

- [1] Prevention Plan of Action 2.0 2022-2024. 2022.
- [2] Hauptman, Max. 2021. "The Army's suicide rate is the worst it's been in nearly a century." Task and Purpose. Apr. 4, 2022. <https://taskandpurpose.com/news/army-suicide-rate-2021/>.
- [3] Angers, Danielle, Heather Wolters, Christopher Gonzales, Lauren Malone, and Patricia Kannapel. 2022. *Description of the Army's systems thinking pilot on suicide prevention*. DRM-2022-U-034274-SR1.
- [4] The Prevention Institute. 2022. "The Spectrum of Prevention." The Prevention Institute. Accessed December 18, 2022. <https://www.preventioninstitute.org/tools/spectrum-prevention-0>.
- [5] Senge, Peter M. 1990. "The Leader's New Work: Building Learning Organizations." *The Sloan Management Review* 32 (1): 9-10.
- [6] Stroh, David Peter. 2000. "Leveraging Change: The Power of Systems Thinking in Action." *Reflections: The SoL Journal* 2 (2): 51-66. doi: DOI:10.1162/15241730051092019.
- [7] Wolters, Heather, Patricia Kannapel, Peggy Golfin, Adam Clemens, Shannon Desrosiers, Thomas Geraghty, Christopher Gonzales, and Kim Fletcher. 2022. *Identifying cross-cutting risk and protective factors and prevention principles for multiple harmful behaviors*. DRM-2022-U-031820-1Rev.
- [8] Headquarters Department of the Army. 2022. "Army Values." Accessed Dec. 18, 2022. <https://www.army.mil/values/>.
- [9] Wolters, Heather, Patricia Kannapel, Peggy Golfin, Adam Clemens, Shannon Desrosiers, Thomas Geraghty, Christopher Gonzales, and Kim Fletcher. 2022. *Identifying cross-cutting risk and protective factors and prevention principles for multiple harmful behaviors*. DRM-2022-U031820-1Rev.
- [10] Jaycox, Lisa H., Daniel Elinoff, Lisa Wagner, Lynsay Ayer, Stephanie Brooks Holliday, Emily Hoch, and Rajeev Ramchand. 2022. "Landscape of Training for Non-commissioned Officers in Difficult Conversations with Soldiers in Their Commands." *Manuscript submitted for publication*.
- [11] Holliday, Stephanie Brooks, Lynsay Ayer, Robin Beckman, Lisa H. Jaycox, Denis Agniel, Daniel Elinoff, Rajeev Ramchand, Emily Hoch, and Lisa Wagner. 2023. "Do Stigma and Efficacy Mediate the Association Between Training and Suicide Prevention Behavior Among Army Non-commissioned Officers?". *Manuscript submitted for publication*.
- [12] 10 U.S.C. 3583. 2015. *Requirement of exemplary conduct Public Law 105-85*.
- [13] Office of People Analytics. 2021. *Defense Organizational Climate Survey (DEOCS) Redesign: Phase 1 Overview Report*. . OPA Report No. 2021-158.
- [14] Meredith, Lisa S., Cathy D. Shelbourne, Sarrah Gaillot, Lydia Hansell, Hans V. Ritschard, Andrew M. Parker, and Glenda Wrenn. 2011. *Promoting Psychological Resilience in the US Military*. RAND. MG-996-OSD.
- [15] Golfin, Peggy, Patricia Kannapel, Thomas Geraghty, and Heather Wolters. 2021. *Life and Leadership Skills in Support of the Navy's Culture of Excellence*. CNA. DRM-2019-U-022321-1Rev.
- [16] Nation, Maury, Cindy Crusto, Abraham Wandersman, Karol L Kumpfer, Diana Seybolt, Erin Morrissey-Kane, and Katrina Davino. 2003. "What works in prevention: Principles of effective prevention programs." *American Psychologist* 58 (6/7): 449-456. doi: 10.1037/0003-066X.58.6-7.449.

- [17] National Research Council. 2012. *Education for Life and Work: Developing Transferable Knowledge and Skills in the 21st Century*. Edited by James W. Pellegrino, and Margaret L Hilton, Committee on Defining Deeper Learning and 21st Century Skills. Washington, DC: National Academies Press.
- [18] Wyman, Peter A., Anthony R. Pisani, C. Hendricks Brown, Bryan Yates, Lacy Morgan-DeVelder, Karen Schmeelk-Cone, Robert D. Gibbons, Eric D. Caine, Mariya Petrova, Tracy Neal-Walden, David J. Linkh, Alicia Matteson, Jordan Simonson, and Steven E. Pflanz. 2020. "Effect of the Wingman-Connect Upstream Suicide Prevention Program for Air Force Personnel in Training: A Cluster Randomized Clinical Trial." *JAMA Network Open* 3 (10). doi: 10.1001/jamanetworkopen.2020.22532.
- [19] Wyman, Peter A., Trevor A. Pickering, Anthony R. Pisani, Ian Cero, Bryan Yates, Karen Schmeelk-Cone, C. Hendricks Brown, Robert D. Gibbons, Jordan Simonson, and Steven E. Pflanz. 2022. "Wingman-Connect Program increases social integration for Air Force Personnel at Elevated Suicide Risk: Social Network Analysis of a cluster RCT." *Social Science and Medicine* 296. doi: <https://doi.org/10.1016/j.socscimed.2022.114737>
- [20] Cislighi, B., and L. Heise. 2018. "Theory and practice of social norms interventions: Eight common pitfalls." *Globalization and Health* 14 (1): 1-10.
- [21] Fix, Gemmae M., Bo Kim, Mollie A. Ruben, and Megan B. McCullough. 2022. "Direct observation methods: A practical guide for health researchers." *PEC Innovation* 1. doi: <https://doi.org/10.1016/j.pecinn.2022.100036>.
- [22] Goodman, Michael. 1997. "Systems Thinking: What, Why, When, Where, And How? ." *The Systems Thinker* 8 (2): 12-14.
- [23] Goodman, Michael. 1991. "Systems Thinking as a Language." *The Systems Thinker* 2 (1): 10-11.

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