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# FY23 Integrated Prevention Research Agenda

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## Executive Summary

The Fiscal Year (FY) 2023 Integrated Prevention Research Agenda defines key research priorities to synchronize the Department's research on integrated primary prevention and accelerate the Department's key prevention initiatives, such as implementation of the approved recommendations of the Independent Review Commission on Sexual Assault in the Military. This agenda reflects research priorities set forth in the National Defense Authorization Act for Fiscal Year 2022, Section 549A, focused on the primary prevention of harmful behaviors, such as sexual assault, harassment, domestic abuse, child abuse, and suicide.

The Department has identified the following three research priorities, subject to availability of funds, for FY23:

- Understand risk and protective factors for harmful behaviors in the cyber environment.
- Identify and develop multi-pronged and/or multi-level integrated prevention approaches for the military community.
- Develop and evaluate how online platform(s) can contribute to increase integrated prevention effectiveness.

### Cyber Environment

The cyber environment is an under-researched domain in which abuse and harm may be occurring in the military community. The Department will explore Service members' activities in the cyber environment to assess prevention needs and how to leverage the cyber environment to enhance prevention activities. Civilian research on radicalization and extremist beliefs clearly establishes links between activity in the cyber environment (e.g., information cocoons) and subsequent abuse and harm. The Department will assess how activities in the cyber environment can increase or decrease risk and protective factors associated with various harmful behaviors.

### Multi-pronged, Multi-level Integrated Prevention

An effective prevention approach should be multi-pronged (e.g., social marketing and skill development) and multi-level (prevention activities delivered across social ecology) to maximize impact and address multiple risk and protective factors for various harmful behaviors. Public health theory and limited empirical studies suggest multi-pronged, multi-level prevention is more effective in reducing the incidents of harm than a single prevention program or activity delivered in isolation. Increased understanding of the essential elements of multi-pronged, multi-level approaches in military settings will be important to scale up and disseminate effective prevention strategies. Results of this research will inform the Department's posture and approach for preventing harmful behaviors.

### Online Platforms

Online platforms can aid in the development and delivery of prevention activities and can be part of an innovative, effective integrated approach. Online platforms can be leveraged to develop new or refine existing interventions, such as bystander training, to prevent harmful behaviors in the cyber environment, such as harassment on social media, stalking via phones or smart devices, and/or coercive communications online. Such efforts may enhance the effectiveness of a multi-pronged prevention approach and contribute to the Department's integrated prevention strategy.

## Introduction

The Department of Defense (DoD) is dedicated to cultivating safe and healthy climates both at work and at home for all Service members. Multiple investments support this dedication, including ongoing prevention research across DoD that provides actionable information to commanders, policy offices, and other prevention stakeholders. Research priorities will contribute to the development and implementation of actionable primary prevention strategies for DoD and aim to achieve maximum benefit from future research.

To fulfill these requirements, this document:

- 1) Presents a Research Agenda Framework that outlines broad focus areas of interest for DoD prevention research; and,
- 2) Identifies specific research priorities for FY23.

The DoD developed both the Research Agenda Framework and the FY23 research priorities in collaboration with prevention experts from the Centers for Disease Control and Prevention's (CDC) Division of Violence Prevention (DVP), the University of Iowa Injury Prevention Research Center (IPRC)<sup>1</sup>, DoD Psychological Health Center of Excellence (PHCoE), and industry researchers. Accordingly, the priorities outlined in this document emerged from diverse and interdisciplinary reviews of a wide array of existing civilian and military research.

## Integrated Prevention and the Prevention Plan of Action

To achieve a unity of effort across the Department, this document reflects DoD's deliberate transition from multiple, independent prevention efforts (i.e., independent prevention programs for different harmful behaviors) to integrated prevention as defined in Figure 1.

**Integrated prevention** involves taking action to decrease harmful behaviors and lessen the chances of these behaviors negatively impacting readiness and retention in a way that:

1. Incorporates values of inclusivity, connectedness, dignity, and respect (access, equity, rights, and participation)—including the elevation of Service member and family member voice—to inform plans, processes, and trainings;
2. Recognizes and adjusts plans, processes, and trainings to consider and be responsive to climate issues and populations that have been disproportionately impacted by harmful acts;
3. Intentionally seeks to align and find common operating principles across prevention efforts and offices (e.g., Equal Opportunity Program, Sexual Assault Prevention and Response); and
4. Incorporates multiple lines of effort across individual, interpersonal, and organizational ecological levels.

**Figure 1. DoD Approach to Integrated Prevention**

<sup>1</sup> The Centers for Disease Control and Prevention completed this work through an Interagency Agreement. University of Iowa completed this work through an Intergovernmental Personnel Agreement.

The Department began its integrated prevention effort with the establishment of the DoD PCF, which developed DoD Instruction (DoDI) 6400.09, “DoD Policy on Integrated Primary Prevention of Self-Directed Harm and Prohibited Abuse or Harm,” issued in September 2020. Since this initial shift towards integrated prevention, the Department launched a phased, strategic approach to integrated prevention across all levels of the Department. The work of the 2021 Independent Review Commission (IRC) on Sexual Assault in the Military, which recommended multiple advancements in prevention and climate, accelerated this transition to integrated prevention. In response to the IRC’s report, Secretary Austin directed DoD to swiftly and deliberately take action to implement all recommendations wherever possible.<sup>2</sup> DoD is in the process of implementing many of the approved IRC recommendations within the context of an integrated prevention approach.

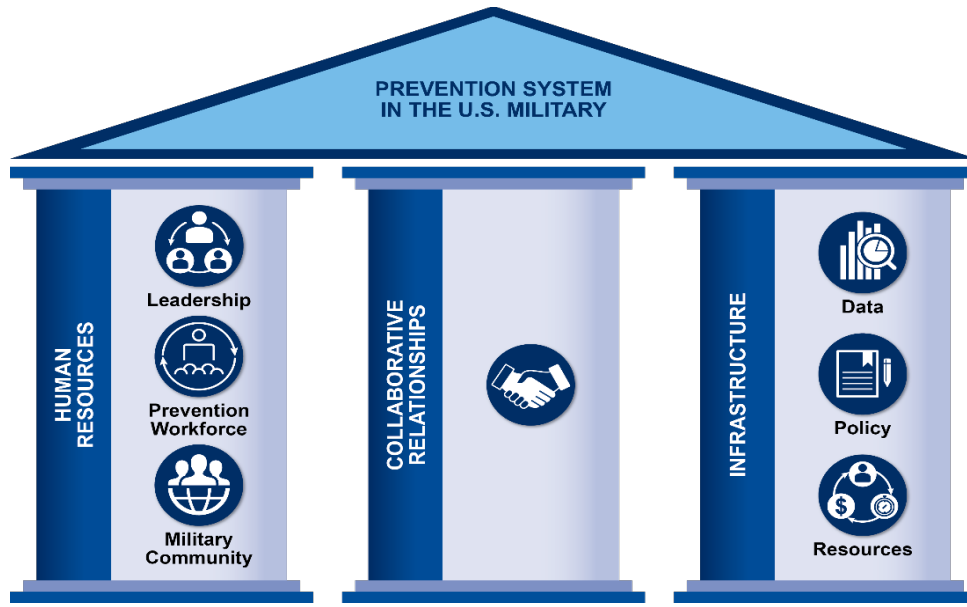
Importantly, the Department released a new integrated prevention strategy in May 2022. This strategy, the Prevention Plan of Action (PPoA 2.0), establishes a framework to guide the development, implementation, and evaluation of integrated primary prevention across the military. PPoA 2.0 distinguishes between the prevention *system* and the prevention *process*. The prevention system ensures a community has the capacity (i.e., manpower, resources, capabilities) to successfully launch prevention activities. The prevention process contains four key stages in a public health approach to integrated prevention. The DoD, in collaboration with the violence prevention subject matter experts, used this framework to segment existing prevention research literature and scope this research agenda.

### Prevention System

PPoA 2.0 describes an optimized prevention *system* for implementing the prevention process across a population (Figure 2). The prevention system includes human resources (e.g., leadership, the prevention workforce, and the military community), collaborative relationships (e.g., sharing knowledge across different prevention stakeholders), and infrastructure (e.g., prevention-specific policy, resources, and data systems). The prevention system provides the backdrop against which prevention planning, implementation, and evaluation can occur.

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<sup>2</sup> Secretary of Defense Memorandum, September 22, 2021.



**Figure 2. Prevention System in the U.S. Military**

Every element of the prevention system is a prerequisite to successfully engage in the prevention process. The Department is focused on building and sustaining the human resources elements needed for effective prevention implementation (i.e., leadership, a prevention workforce, and the military community). In a military environment, prevention must have buy-in from leadership to be successful. Equally important, a skilled and empowered prevention workforce is needed to interpret data to understand community problems, select and adapt prevention activities for implementation and evaluation, and ensure prevention activities are delivered effectively. Lastly, everyone in the military community plays a role in preventing harmful behaviors. Understanding and meeting the needs of the military community through effective prevention activities constitutes the primary focus of the Department’s integrated prevention strategy.

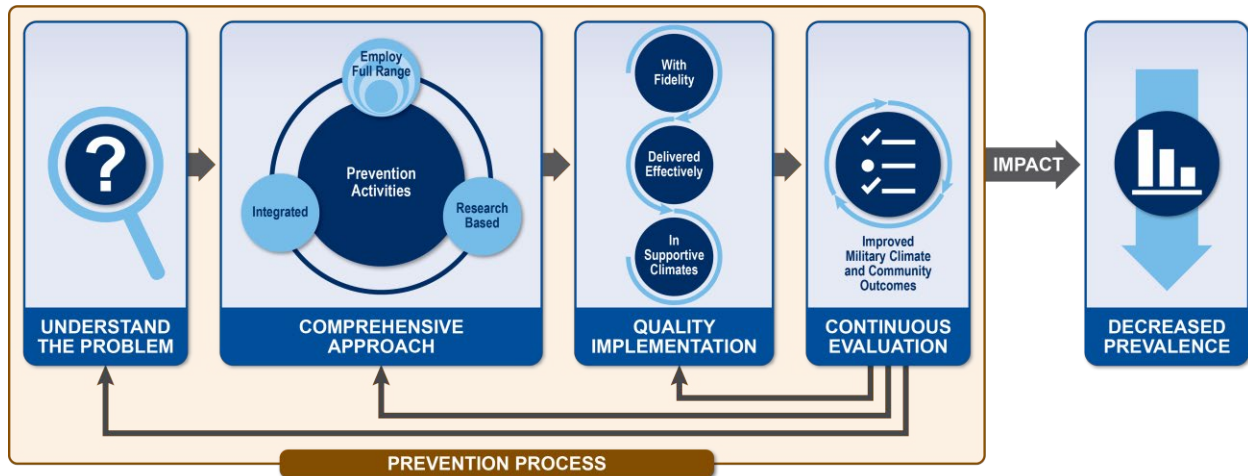
### Prevention Process

The prevention process consists of four steps: 1) Understanding the Problem; 2) Developing a Comprehensive Approach; 3) Quality Implementation; and 4) Continuous Evaluation. These steps underscore the importance of using research and data to drive a public health approach to prevention and measure progress over time (Figure 3).

As depicted in Figure 3, the public health approach to prevention involves four key steps to decrease the prevalence of harmful behaviors over time.

1. **Understand the Problem:** Begin by developing a holistic, unified approach, including understanding the current environment, determining the scope of the local problem, and assessing factors that enable prevention.
2. **Comprehensive Approach:** Design or identify integrated, research-based prevention activities to implement in a supportive climate.
3. **Quality Implementation:** Adapt and deliver prevention activities as intended so they have the desired outcome.

4. Continuous Evaluation: Use data-driven tactics to measure desired outcomes of prevention activities. Preventing harmful behaviors entails evaluating change indicators over time, assessing organizational factors to inform adjustments to the prevention approach, and measuring the effectiveness of specific activities.



**Figure 3. Prevention Process**

The Research Agenda Framework relies on concepts from the prevention system and the prevention process to map existing gaps in knowledge and identify fruitful areas for future Departmental research.

## The Research Agenda Framework

Many diverse disciplines and fields contribute to the wide literatures on self-harm and interpersonal violence. Due to the breadth of available literature, DoD developed an overarching framework that maps out key areas of interest for the Department. The framework:

- Creates a unity of effort while building the DoD prevention research portfolio over time;
- Ensures short- and long-term investments meet immediate and enduring prevention needs;
- Incorporates current DoD guidance for prevention (PPoA 2.0) and,
- Achieves maximum benefit from research by focusing on efforts that have the potential to address multiple harmful behaviors at once.

The framework structure represents a crosswalk of the human resource elements in PPoA 2.0 and each step of the prevention process. Specifically, the columns of the framework reflect immediate and enduring prevention needs for: 1) leadership, 2) prevention workforce, and 3) military community. The rows of the framework reflect different stages of the prevention process. This crosswalk drove the research agenda scope and subsequent literature review. For example, in Table 1, the column “military community” and the row “comprehensive approach” led to a summary literature review on existing civilian and military prevention research on comprehensive approaches.

Initially, DoD conducted a summary literature review for the entirety of the framework (i.e., all cells of Table 1). Subject matter experts conducted summary reviews of integrated prevention research both internal and external to DoD spanning civilian, military, and veteran populations (Table 1). Focus areas shown in Table 1 reflect findings and gap analyses categorized into immediate needs versus enduring needs for DoD. From the many focus areas outlined in Table 1, DoD selected three focus areas for FY23 development (shown in bold). Appendix A summarizes literature review findings that shaped the Research Agenda Framework.



**Table 1. Research Agenda Framework: Prevention Focus Areas**

	Leadership Focus Areas		Prevention Workforce Focus Areas		Military Community Focus Areas	
	Immediate	Enduring	Immediate	Enduring	Immediate	Enduring
<b>Understand the Problem</b>	<ul style="list-style-type: none"> <li>• <i>Define leadership competencies, style, and/or type to support prevention (IRC Rec 2.1a)</i></li> <li>• Identify optimal type and phase of leadership development to maximize effectiveness of prevention activities</li> </ul>	<ul style="list-style-type: none"> <li>• Understand how leadership actions impact Service members' perceived opportunities at work</li> <li>• Understand how minimum service obligations influence leadership development, climate, and harmful behaviors</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Define prevention workforce competencies (IRC Rec 2.2a)</i></li> <li>• Understand and develop pathway for effective integration of civilians into prevention roles, military culture, and nature of interaction with other functional communities</li> </ul>	<ul style="list-style-type: none"> <li>• Assess impact of background (veteran status, spouse, educational background) on employee fit and personnel work satisfaction</li> <li>• Assess impact of background (veteran status, spouse, educational background) on prevention process and job performance</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Assess prevalence of harmful behaviors at local level (IRC Rec 3.7c)</i></li> <li>• Define risk and protective factors at interpersonal and organizational levels</li> <li>• Assess prevalence of pre-military risk or protective factors</li> <li>• <b>Understand risk and protective factors for harmful behaviors in the cyber environment</b></li> </ul>	<ul style="list-style-type: none"> <li>• Assess co-occurrence and interaction or of harmful behaviors or shared risk and protective factors, developmental trajectories (e.g., adverse childhood experiences influence on subsequent behaviors)</li> <li>• Determine long term effects of family violence on the military family</li> </ul>
<b>Comprehensive Approach</b>	<ul style="list-style-type: none"> <li>• Develop practical and applicable organizational change tools for leaders to support implementation of comprehensive prevention</li> <li>• Identify which leader relationships and networks produce buy-in and enthusiasm for integrated prevention</li> </ul>	<ul style="list-style-type: none"> <li>• Incorporate applicable change management theories into development and implementation of integrated prevention approaches</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Define training necessary for each role within the prevention workforce (IRC Rec 2.2b)</i></li> </ul>	<ul style="list-style-type: none"> <li>• Identify evidence-based prevention activities that reduce multiple forms of harm or abuse</li> <li>• Assess the intersection of harmful behaviors, inequalities, and other factors to equip workforce with research-based tools that can be tailored for each military community</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Identify and develop multi-pronged and multi-level integrated prevention approaches for the military community</b></li> <li>• Develop standardized methods for evaluating multi-pronged and multi-level integrated approaches</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Develop military-specific community and organizational level prevention approaches (IRC Rec 2.3b)</i></li> <li>• <b>Develop and evaluate how online platform(s) can contribute to an integrated approach and increase prevention effectiveness</b></li> </ul>

<b>Quality Implementation</b>	<ul style="list-style-type: none"> <li>• Develop metrics to measure organizational resistance to prevention</li> <li>• Define implementation challenges unique to the military environment (e.g., deployments, frequent re-assignments, Service and occupation specific cultures)</li> </ul>	<ul style="list-style-type: none"> <li>• Assess impact of organizational characteristics (unit climate, bureaucracy, power dynamics) on leadership development and prevention effectiveness</li> </ul>	<ul style="list-style-type: none"> <li>• Assess utilization and define enhancements to maximize community of practice (SPARX Connection)</li> <li>• Identify interpersonal characteristics of prevention personnel that enhance performance</li> <li>• Identify implementation science principles that support local prevention practice</li> <li>• Identify capacity/needs assessments, evaluation/CQI tools and data that fit needs of the workforce</li> </ul>	<ul style="list-style-type: none"> <li>• Assess impact of organizational characteristics on prevention workforce performance</li> <li>• Assess long term effects and comparative effectiveness of specific prevention tools</li> </ul>	<ul style="list-style-type: none"> <li>• Adapt civilian approaches for military environment and demographic</li> <li>• Identify essential elements of effective prevention approaches for military community</li> <li>• Identify considerations for health equity and social determinants of health in implementation of prevention activities</li> <li>• Identify barriers and facilitators of prevention effectiveness in military community and develop countermeasures</li> </ul>	<ul style="list-style-type: none"> <li>• Identify effective methods for scale up and dissemination of prevention activities</li> <li>• Identify factors influencing effective implementation of comprehensive approaches</li> </ul>
<b>Continuous Evaluation</b>	<ul style="list-style-type: none"> <li>• <i>Develop tools and metrics to assess leader performance in prevention and impact on healthy command climate (IRC Rec 3.7)</i></li> <li>• Identify which metrics are appropriate for evaluating leadership action (i.e., which behaviors leaders can causally influence through organizational climate and leadership action)</li> </ul>	<ul style="list-style-type: none"> <li>• Assess effectiveness of leadership actions on command climate &amp; harmful behaviors; including organizational characteristics that enhance or constrain leaders' efforts to support prevention</li> </ul>	<ul style="list-style-type: none"> <li>• Assess effectiveness of training and continuing education on prevention workforce performance</li> <li>• Develop metrics to assess competence of workforce in advanced skillsets (e.g., evaluation)</li> </ul>	<ul style="list-style-type: none"> <li>• Develop and validate tools to assess performance; including measures of competence and proficiency.</li> </ul>	<ul style="list-style-type: none"> <li>• Develop standardized metrics and methods for assessing behavior, change, climate, and community change in transient community</li> <li>• Develop data collection and access plans to enable valid cost benefit analyses to be completed prospectively</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Assess effectiveness of community and organization level approaches (IRC Rec 2.3b)</i></li> <li>• Assess effectiveness of comprehensive approaches that address multiple harmful behaviors</li> <li>• Conduct cost benefit analyses of prevention activities</li> </ul>
<p><b>Note:</b> Gaps and themes in italics align with ongoing research being conducted as part of the implementation of the DoD-approved IRC recommendations.</p>						

## FY23 Research Agenda Focus Areas

From the comprehensive list of gaps and themes reflected in the Research Agenda Framework (Table 1), DoD identified three focus areas for deeper analysis to inform the FY23 Research Agenda. DoD prioritized focus areas that could generate actionable and translatable research findings, met a current need (e.g., supported implementation of the DoD approved prevention-related IRC recommendations), and were suitable for a rigorous gap analysis and literature review in the Research Agenda development period. In addition, DoD selected those areas that did not duplicate work already underway through implementation of the DoD-approved IRC recommendations. For FY23, the DoD identified the following focus areas (bolded in Table 1).

- Understand risk and protective factors for harmful behaviors in the cyber environment.
- Identify and develop multi-pronged and/or multi-level integrated prevention approaches for the military community.
- Develop and evaluate how online platform(s) can contribute to an integrated prevention approach and increase prevention effectiveness.

DoD completed gap analyses and literature reviews of these three focus areas and conducted a scan of externally-funded research to identify ongoing research that may align with FY23 priorities (Appendix B). Overall, these scans highlighted a dearth of research in these areas, particularly regarding prevention of two or more harmful behaviors within a military context. In addition, much of the available research lacked rigorous research design and/or methods. DoD used the current literature to inform priorities; however, given these shortcomings, DoD must use the research agenda to address these gaps in a systematic way.

## FY23 Research Priorities

Based on the analyses within each focus area, the DoD identified the priorities that had the greatest potential to impact prevention practice within the Department. DoD will design and implement research projects in FY23 to address these priorities and support implementation of the approved recommendations of the IRC.

### Focus Area: Understand risk and protective factors for harmful behaviors in the cyber environment.

**Research Priority: Understand Service members' activities and prevention needs within the cyber environment.** The cyber environment is defined as social media, internet sites including blogs and social networking sites, apps (e.g., dating apps), and video games. The Department will conduct research to understand Service members' online activities to assess Service members' prevention needs and how to best leverage the cyber environment to effectively deliver prevention activities. Certain features of the cyber environment, such as information cocoons, can alter Service members' propensity for harmful behaviors and receptivity to prevention activities.

An information cocoon—also known as an “echo chamber”—occurs when a person's cyber experience is shaped by a reflection of the person's own views (Abdalla et al., 2021; Xiong et al., 2021). A cyber environment increases access to like-minded individuals in a way that occurs less frequently when networking in-person. Information cocoons can therefore perpetuate and encourage a person's extreme beliefs by reducing exposure to contrary opinions. Many online platforms (e.g., Facebook, YouTube, Instagram, TikTok, Reddit) use

algorithms that intensify information cocooning by offering end users enticing tailored content (also referred to as “click-bait”) and marketing advertisements that align specifically with individuals’ pre-existing views. Information cocoons can result in rapid spread of misinformation or disinformation.<sup>3</sup>

The Department needs to assess the extent to which Service members’ online activities resemble information cocoons and whether and how those cocoons contribute to harmful behaviors. Research should begin by operationalizing and measuring information cocooning over time as well as gauging how information cocoons develop and evolve in different areas of the cyber environment.

**Research Priority: Understand how the cyber environment shapes Service member attitudes and behaviors in ways that increase or decrease harmful behaviors.** Civilian research on social influence and radicalization has found links between activity in the cyber environment (e.g., information cocoons) and subsequent abuse or harm. There are many pathways for activity in the cyber environment to lead to harmful behavior online and offline. These pathways include information inequality, paranoia/mistrust (e.g., disbelieving any contradiction to one’s beliefs), toxic disinhibition (e.g., eroding social norms against harming oneself or others), and other deviant group norms, such as deindividualization and dehumanization (Corcoran & Andover, 2020; Kaakinen et al., 2020). These pathways intersect and can lead to radicalization of individuals who normally would not engage in acts of abuse or harm.

Factors such as socioeconomic status and education can create vast differences in the volume and quality of information someone receives online, in part due to algorithms that feed specific content to individuals. The cyber environment intensifies inequalities in information. This inequality can lead to paranoia and mistrust of other sources of information. Without social sanctioning in the physical world, deviant group norms—ideas that would receive disapproval in the physical world—have room to grow in the cyber environment. For example, recent research found that young adults who received support and social approval for binge drinking and substance misuse through social media were likely to increase the intensity and frequency of their addictive-related behaviors (Wombacher et al., 2017; Steers et al., 2016). Social influence within the cyber environment can ultimately lead to increases in various harmful behaviors as users come to believe that the views of their group or network are legitimate and acceptable.

Civilian researchers have also investigated the relationship between expressing intent to harm and carrying out harmful acts, specifically in the cyber environment (Flannery et al., 2013). Expressing intent to cause harm online has been associated with experiencing harm offline, including self-harm (Memon, 2018). In one study, researchers used actual past suicide fatalities in conjunction with real-time data sources, economic data, and online data sources, and found a strong correlation between online activity (on Google, YouTube, Twitter, and Reddit) and suicide deaths (Choi et al., 2020). The online activity included searches for suicide related keywords, phrases, and hashtags, along with activity in suicide and mental health-related online

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<sup>3</sup> *Disinformation*, often characterized as propaganda, is any form of adversary communication, especially of a biased or misleading nature, designed to influence the opinions, emotions, attitudes, or behavior of any group in order to benefit the sponsor, either directly or indirectly. *Misinformation* is a subset of information defined simply as incorrect information. Incorrect information from any source that is disseminated through ignorance or with the belief that the incorrect information is correct, can be a result of an adversarial disinformation campaign.

communities. This type of multiple-stream data source forecasting has previously been used to study trends in infectious disease and could provide greater context the Department's current understanding of harmful behaviors.

It is important to recognize that harm also occurs directly in the cyber environment. A recent study found that 75 percent of individuals claimed that they had perpetrated psychological abuse against a romantic partner via text or phone, such as stalking and emotional abuse (Mahoney et al., 2022; Hinduja & Patchin, 2021). Further, risk of harmful online behaviors increases where there is a strong sense of communal identity (e.g., campus Greek life, team sports) (Maas et al., 2021). Research in these areas will determine if trends in the cyber environment identified in the civilian population are occurring among Service members.

### Focus Area: Identify and develop multi-pronged and/or multi-level integrated prevention approaches for the military community

**Research Priority: Define elements and the essential conditions necessary for the implementation and evaluation of multi-pronged, multi-level, integrated approaches in military communities.** Comprehensive prevention approaches are multi-pronged (e.g., social marketing and skill development) and multi-level (prevention activities delivered across social ecology) to maximize impact and address multiple risk and protective factors for various harmful behaviors. Public health theory and limited empirical studies suggest multi-pronged, multi-level prevention is more effective in reducing incidents of harm than a single prevention program or activity delivered in isolation, since these programs may have longer lasting effects on community norms and practices. This approach leverages best available evidence of what works across multiple harmful behaviors. Multi-pronged, multi-level models that include community level focus on protective factors show promise; however, the large scale of a multi-pronged, multi-level model makes real world implementation costly and challenging. This exemplifies the importance of selecting and implementing *integrated* approaches that address multiple forms of harmful behaviors simultaneously to ensure resources are being used effectively.

CDC describes essential elements as the active ingredients (who, what, how) of a prevention approach responsible for achieving intended outcomes. These essential elements must be maintained when adapting programming and policies to various settings (Perkinson et al., 2017). Though literature outside of suicide and youth violence prevention remains sparse, current evidence suggests that leadership buy-in, stakeholder involvement, and community ownership of implementation and evaluation comprise essential elements, particularly when focusing on community or system level change. Identification of essential elements in multi-pronged, multi-level approaches delivered in military settings remains pivotal to the successful scaling and dissemination of promising prevention interventions.

### Focus Area: Develop and evaluate how online platform(s) can contribute to an integrated prevention approach and increase prevention effectiveness

**Research Priority: Develop and evaluate online bystander intervention tools to mitigate risk for harmful behaviors in the cyber environment.** Bystander intervention has been among the most prolific tools for behavioral change in public health interventions (Edwards et al., 2019; Armstrong & Mahone 2021; Harlow et al., 2021). Much of the research for bystander interventions focuses on leveraging online delivery of training to prevent in-person risk only. For example, many bystander intervention programs teach Service members how to help someone

in a dating scenario (e.g., someone in a club or bar) escape harassment or situations that pose a risk for sexual assault or self-harm. DoD could use these same approaches to develop bystander interventions for the cyber environment, such as tools for the military community to identify and intervene to prevent online harassment, cyber stalking, and coercive digital communications (e.g., forced sexting). Similarly, additional research could use online platforms to enhance gatekeeper trainings<sup>4</sup> used to prevent self-harm. Research shows that the cyber environment is often a space where individuals ultimately voice thoughts or intent of self-harm. Leadership and gatekeeper education would benefit from a better understanding of how to assess the cyber environment for potential risk and how to intervene online to assist those in crisis. FY23 research will focus on adapting these traditional prevention tools for the cyber environment.

## Conclusion

For FY23, DoD selected three priorities within the focus areas of understanding the problem and developing a comprehensive approach for the military community. First, the cyber environment is an under-researched domain in which abuse and harm may be occurring in the military community. Research in this area will identify the risk and protective factors associated with these new or extended forms of abuse and harm in order to intervene appropriately. Second, given the lack of age-appropriate integrated prevention approaches in the civilian literature, DoD can develop multi-pronged, multi-level integrated prevention approaches tailored for the needs of the military community. Lastly, online platforms may aid in the development and delivery of prevention activities and can be part of an innovative, effective integrated approach. Research can aid the development of bystander approaches and gatekeeper education for the cyber environment to be part of a state-of-the-art prevention approach.

The Department will provide oversight of these projects and ensure equities across each of the harmful behaviors are incorporated. Moreover, DoD is taking additional steps to institutionalize the dissemination of research results, ensure cohesion, and increase the visibility of research across the Department to eliminate redundant research and promote unity of effort.

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<sup>4</sup> A gatekeeper can include anyone who is strategically positioned to recognize and refer someone at risk of suicide to care. Gatekeeper trainings are designed to empower Service members and others in the military community, including chaplains, to recognize the warning signs of suicide, ask individuals in trouble if they are suicidal, and refer the individual to a trained helping professional.

# Glossary

## G.1. Acronyms.

Acronym	Meaning
DoD	Department of Defense
NDAA	National Defense Authorization Act
FY	Fiscal Year
VPC	Violence Prevention Cell
CDC	Center for Disease Control and Prevention
DVP	Division of Violence Prevention
USD(P&R)	Under Secretary of Defense for Personnel and Readiness
PCF	Prevention Collaboration Forum
IRC	Independent Review Commission
PPoA 2.0	Prevention Plan of Action 2.0
DoD SAPRO	Department of Defense Sexual Assault Prevention and Response Office
OPR	Office of Primary Responsibility
DTIC	Defense Technical Information Center
NGB	National Guard Bureau

## G.2. References

- Abavi, R., Branston, A., Mason, R., & Du Mont, J. (2020). An Exploration of Sexual Assault Survivors' Discourse Online on Help-Seeking. *Violence and Victims*, 35(1): 126-140. doi: 10.1891/0886-6708.VV-D-18-00148
- Abdalla, M., Ally, M., & Jabri-Markwell, R. (2021). Dehumanisation of 'Outgroups' on Facebook and Twitter: towards a framework for assessing online hate organisations and actors. *SN social sciences*, 1(9), 238. <https://doi.org/10.1007/s43545-021-00240-4>
- Allen, J., Wexler, L., & Rasmus, S. (2022). Protective Factors as a Unifying Framework for Strength-Based Intervention and Culturally Responsive American Indian and Alaska Native Suicide Prevention. *Prevention science: the official journal of the Society for Prevention Research*, 23(1), 59–72. <https://doi.org/10.1007/s11121-021-01265-0>
- Amit, S., Barua, L., & Kafy, A. A. (2021). Countering violent extremism using social media and preventing implementable strategies for Bangladesh. *Heliyon*, 7(5), e07121. <https://doi.org/10.1016/j.heliyon.2021.e07121>
- Armstrong, C. L. & Mahone, J. (2021). #Metoo in practice: revisiting social media's influence in individual willingness to mobilize against sexual assault. *Feminist Media Studies*, 1-14. Doi:10.1080/14680777.2021.1944258
- Baele, S. J., Brace, L., & Coan, T. G. (2021). From 'Incel' to 'Saint': Analyzing the Violent Worldview behind the 2018 Toronto Attack. *Terrorism and Political Violence* 33, 8: 1667–91. <https://doi.org/10.1080/09546553.2019.1638256>
- Choi, D., Sumner, S. A., Holland, K. M., Draper, J. Murphy, S. Bowen, D. A. Zwald, M. Wang, J. Law, R. Taylor, J. Konjeti, C. & De Choudhury, M. (2020). Development of a Machine Learning Model Using Multiple, Heterogeneous Data Sources to Estimate Weekly US Suicide Fatalities. *Jama Network Open* 3(12).
- Corcoran, V. P., & Andover, M. S. (2020). Online Disinhibition and Internet Communication of Non-Suicidal Self-Injury. *Suicide and Life-Threatening Behavior*, 50 (6): 1091–96. <https://doi.org/10.1111/sltb.12659>
- Cornelius, T. L., Bell, K. M., Kistler, T., & Drouin, M. (2020). Consensual Sexting among College Students: The Interplay of Coercion and Intimate Partner Aggression in Perceived Consequences of Sexting. *International Journal of Environmental Research and Public Health*, 17(19).
- Daly, S. E., & Laskovtsov, A. (2021). Goodbye, My Friendcels': An Analysis of Incel Suicide Posts. *Journal of Qualitative Criminal Justice & Criminology*. <https://doi.org/10.21428/88de04a1.b7b8b295>
- Department of Defense. (2020). DoD Instruction 6400.09, DoD Policy on Integrated Primary Prevention of Self-Directed Harm and Prohibited Abuse or Harm.



Edwards, K. M., Banyard, V. L., Sessarego, S. N., Waterman, E. A., Mitchell, K. J., & Chang H. (2019). Evaluation of a Bystander-Focused Interpersonal Violence Prevention Program with High School Students. *Prevention Science*, 20(4): 488-498.

Fan, M., Huang, Y., Qalati, S. A., Shah, S. M. M., Ostic D. & Pu, Z. (2021). Effects of Information Overload, Communication Overload, and Inequality on Digital Distrust: A Cyber-Violence Behavior Mechanism. *Frontier Psychology*, 12. Doi:10.3389/fpsyg.2021.643981

Farrell, A. D., Henry, D., Bradshaw, C., & Reischl, T. (2016). Designs for Evaluating the Community-Level Impact of Comprehensive Prevention Programs: Examples from the CDC Centers of Excellence in Youth Violence Prevention. *Journal of Primary Prevention*, 37(2), 165.

Flannery, D. J., Modzeleski, W., & Kretschmar, J. M. (2013). Violence and school shootings. *Current Psychiatry Reports*, 15(1): 331.

Gibbs A, Willan S, Jama-Shai, N., Washington, L., & Jewkes R. (2015). Eh! I felt I was sabotaged!': facilitators' understandings of success in a participatory HIV and IPV prevention intervention in urban South Africa. *Health Education Research*,30(6): 985-95. Doi:10.1093/her/cyv059

Harlow, A. F., Willis, S. K., Smith, M. L., & Rothman, E. F. (2021). Bystander Prevention for Sexual Violence: #HowIWillChange and Gaps in Twitter Discourse. *Journal Interpersonal Violence*, 36(11-12): Np5753-np5771. Doi: 10.1177/0886260518808854

Hinduja, S. & Patchin, J. W. (2021). Digital Dating Abuse Among a National Sample of U.S. Youth. *Journal Interpersonal Violence*, 36(23): 11088-11108.

Jed Foundation. (n.d.). Our Work. Retrieved September 21, 2022, from <https://jedfoundation.org/our-work/>

Livingstone, S., & Smith, P. K. (2014). Annual research review: Harms experienced by child users of online and mobile technologies: the nature, prevalence and management of sexual and aggressive risks in the digital age. *Journal of Child Psychology and Psychiatry*, 55(6): 635-654.

Luo, F., DeGue, S., & Le, V. D. (2022). Estimating From the Payer Perspective the Implementation Cost of Dating Matters®: A Comprehensive Teen Dating Violence Prevention Model. *Journal of Interpersonal Violence*, 37(11-12): NP9144-NP9167. Doi: 10.1177/0886260520980389

Kaakinen, M., Sirola, A., Savolainen, I., & Oksanen, A. (2020). Impulsivity, internalizing symptoms, and online group behavior as determinants of online hate. *Plos One*, 15(4).

Kutner, S. (2020). Swiping Right: The Allure of Hyper Masculinity and Cryptofascism for Men Who Join the Proud Boys. 10.19165/2020.1.03.

Maas, M. K., K. M. Cary, E. M. Clancy, B. Klettke, H. L. McCauley and J. R. Temple (2021). "Slutpage Use Among U.S. College Students: The Secret and Social Platforms of Image-Based Sexual Abuse." *Arch Sex Behav* 50(5): 2203-2214.

Mahoney, J. C., Farrell, D. M., & Murphy, C. M. (2022). Prevalence and Predictors of Cyber Psychological Abuse among Adults. *Journal of Family Violence*, 37(1): 151-163.

Memon, A. M., Sharma, S.G., Mohite, S.S. and Jain, S. (2018). The Role of Online Social Networking on Deliberate Self-Harm and Suicidality in Adolescents: A Systematized Review of Literature. *Indian Journal of Psychiatry*, 60(4): 384-92. Doi: 10.4103/psychiatry.IndianJPsychiatry\_414\_17

National Research Council U.S. Committee on Opportunities in Neuroscience for Future Army Applications (2009). Appendix D, Research on Managing Information Overload in Soldiers Under Stress. *Washington (DC), National Academies Press (US)*.

Perkinson, L., Freire, K.E., & Stocking, M. (2017). Using Essential Elements to Select, Adapt, and Evaluate Violence Prevention Approaches. *National Center for Injury Prevention and Control, Centers for Disease Control and Prevention*.

Public Law. (2021). Section 549A, The National Defense Authorization Act for Fiscal Year 2022. 117-81.

Secretary of Defense. (2021). Hard Truths and the Duty to Change, Recommendations from the Independent Review Commission on Sexual Assault in the Military. <https://media.defense.gov/2021/Jul/02/2002755437/-1/-1/0/IRC-FULL-REPORT-FINAL-1923-7-1-21.PDF/IRC-FULL-REPORT-FINAL-1923-7-1-21.PDF>

Secretary of Defense Memorandum, September 22, 2022.

Steers M.N., Moreno M.A., Neighbors C. (2016). The Influence of Social Media on Addictive Behaviors in College Students. *Current Addiction Reports*, 3(4):343-348. DOI: 10.1007/s40429-016-0123-x. PMID: 28458990; PMCID: PMC5404812.

Stewart, C. (2021). H.R.2955 - 117th Congress (2021-2022): Suicide Prevention Act. [www.congress.gov. https://www.congress.gov/bill/117th-congress/house-bill/2955?q=%7B%22search%22%3A%5B%22suicide%22%2C%22suicide%22%5D%7D&s=1&r=5](https://www.congress.gov/bill/117th-congress/house-bill/2955?q=%7B%22search%22%3A%5B%22suicide%22%2C%22suicide%22%5D%7D&s=1&r=5)

Rice, E., Monro, W., Adhikari, A., & Young, S.D. (2010). Internet Use, Social Networking, and HIV risk for Homeless Adolescents. *Journal of Adolescent Health*, 47(6), 610-13. Doi: 10.1016/j.jadohealth.2010.04.016

Walter, D., Ophir, Y., Lokmanoglu, A. D., & Pruden, M. L. (2022). Vaccine discourse in white nationalist online communication: A mixed-methods computational approach. *Social Science Medicine*, 298. Doi: <https://doi.org/10.1016/j.socscimed.2022.114859>

Wombacher, K., Reno, J. E., & Veil, S. R. (2017). NekNominat: Social Norms, Social Media, and Binge Drinking. *Health communication*, 32(5), 596–602. Doi: <https://doi.org/10.1080/10410236.2016.1146567>

Xiong, M., Wany, Y., & Cheng, Z. (2021). Research on Modeling and Simulation of Information Cocoon Based on Opinion Dynamics. The 9th International Conference on Information Technology: IoT and Smart City. *Association for Computing Machinery*: 161–167.

## G.3. Definitions

**Child Abuse:** Defined in DoDI 6400.01.

**Collaboration:** Working together towards a common goal or purpose. Can refer to a wide range of practices and activities, including networking (i.e., exchanging information for mutual benefit), coordinating (i.e., altering activities to achieve a common purpose), cooperation (i.e., sharing responsibilities, resources, or expertise), and integrating activities over time (i.e., merging prevention operations, administrative structures, and budgets).

**Continuous Evaluation:** Routinely analyzing information and data to determine if prevention activities are changing the factors they were designed to address. This includes evaluation of activities and program outputs as well as evaluation of program outcomes.

**Domestic Abuse:** Defined in DoDI 6400.06.

**Evaluation:** The use of systematic methods to collect, analyze and use information to inform implementation of a policy, program, practice, or processes.

**Evidence-Based:** Effective policies, programs, practices, or processes that are evidence-based are found to be effective based on research evidence, reflecting significant expertise and investment.

**Fidelity:** Refers to delivering the approach competently and as it was originally designed.

**Harassment (Service member):** Defined in DoDI 1020.03.

**Harassment (Civilian):** Defined in DoDI 1020.04.

**Harmful Behaviors:** Self-directed harm and prohibited abuse and harm, including sexual assault, harassment, retaliation, suicide, domestic abuse, and child abuse.

**Integrated Primary Prevention:** Defined in DoDI 6400.09.

**Military Community:** Defined in DoDI 6400.09.

**Practice:** Discrete behavior or action contributing to prevention.

**Prevalence:** Defined in DoDI 6400.09.

**Prevention Activities:** Defined in DoDI 6400.09.

**Primary Prevention:** Defined in DoDI 6400.09.

**Prevention Process:** Empirically validated procedures that promote effective planning, implementation, and evaluation of prevention activities.

**Program:** Curriculum or manualized set of activities and information intended for cognitive learning and skill development.

**Program Effectiveness:** Systematic assessment of the impact of a program on targeted health outcomes by determining their effectiveness, safety, and cost.

**Protective Factors:** Defined in DoDI 6400.09.

**Research-based Prevention Activities:** Defined in DoDI 6400.09.

**Risk Factors:** Defined in DoDI 6400.09.

**Sexual Assault:** Defined in DoDI 6495.02, Volume 1.

**Self-directed harm:** Defined in DoDI 6400.09.

**Social Determinants of Health:** Conditions in the environments in which people are born, live, learn, work, play, and worship that affect a wide range of health, functioning, and quality-of-life outcomes and risks.

**Stalking:** Defined in DoDI 1020.03.

**Suicide:** Defined in DoDI 6490.16.

# Appendix A: Framework Summary Literature Review

## Introduction

In order to develop the Research Agenda Framework, DoD conducted a summary literature review of current research pertaining to the military community, the prevention workforce, and military leadership. This wide sweep of the literature highlighted ongoing military and civilian research pertinent to the Department's goals and identified gaps where additional research may be necessary in the future (Table 1). From July 1, 2022 to July 15, 2022, DoD synthesized literature from peer-reviewed journals and dissertations, as well as grey literature<sup>5</sup> (e.g., Defense Technical Information Center) to identify key themes and gaps. Findings from all three reviews were used to inform priority focus areas.

## Military Community

For prevention to succeed, the Department must tailor prevention activities to meet the distinct needs of different military communities.<sup>6</sup> The DoD focused their initial literature review and gap analysis on the military community and integrated prevention. They included recent (i.e., since 2012), peer-reviewed prevention articles that spanned more than one harmful behavior, initially narrowing their focus to the active-duty military population. After this initial scan, they complemented the military literature with civilian research, including technical packages, funded research agendas, and recent meta-analyses on integrated prevention.<sup>7</sup>

A large number of the articles focused solely on suicide, solely on veteran populations, or did not address shared risk or protective factors. Of the articles that did mention shared risk or protective factors, few examined how factors impacted more than one form of harmful behavior. This focus on a single harmful behavior was reflected not only in the peer reviewed literature, but also in formal military reports. Generally, few articles intentionally looked at multiple forms of harmful behaviors as a purposeful outcome of prevention. Instead, there is rich literature on suicide prevention in the military, with little to no discussion of how risk and protective factors for suicide intersect with risk and protective factors for other harmful behaviors. Key gaps and themes to be addressed by future research agendas are depicted in Table 1.

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<sup>5</sup> Grey literature is information that is not published formally or commercially or remains unpublished. Examples of grey literature include academic theses and dissertations, research reports, government reports, and ongoing research.

<sup>6</sup> The military community includes all Service members, DoD civilian employees, and their families.

<sup>7</sup> The military community literature review contained recent literature, examining the past five years from 2017 to 2022. The inclusion criteria for the initial search in ProQuest was for any articles in this time frame mentioning both "United States" and "Military" and then additionally either "violence prevention" or "suicide prevention." This initial search produced 276 articles. These articles were reviewed to for the following inclusion criteria: peer reviewed literature, focused on Active Military and not solely on Veterans, focused on prevention of violence or suicide versus treatment or response, and focused on more than one type of harmful behavior (or shared risk and protective factors). After this initial review, 95 articles remained. The last exclusion step was reviewing the abstracts for relevance and ensuring they fit one or more of the following themes: "Understanding the Problem," "Comprehensive Approaches," "Quality Implementation," or "Continuous Evaluation." After excluding articles where the abstract did not fit at least one of these categories, there were 60 articles which were included in the literature review.

## Prevention Workforce

Implementation of effective integrated primary prevention requires a trained and resourced prevention workforce, including dedicated professional staff equipped with a public health skillset. The prevention workforce should have an adept knowledge of prevention and the ability to implement strategic guidance at the individual, interpersonal, organizational, and community levels. Research involving a prevention workforce focused on the characteristics and competencies of prevention professionals, training and development that advances prevention professionals' capabilities, the tools such professionals need to implement prevention activities with fidelity, and contextual or organizational factors that enhance the effectiveness of prevention (e.g., supportive climate). DoD focused their prevention workforce literature review on public health core competencies, workplace culture, and organization change and innovation. Much of the literature examined prevention professionals in a health care or medical setting. Book reviews, grey literature, articles in a language other than English, professional development documents, and continuing education materials were excluded in the review.<sup>8</sup>

Findings from the summary literature review suggest that a successful prevention workforce must be able to: describe violence as a significant social and health problem, analyze and interpret incident data, design prevention activities, evaluate these activities, disseminate findings to partners, understand mechanisms for change, and remain vigilant to the evolving evidence-based literature surrounding violence prevention. Most prevention personnel develop expertise in one or two forms of violence, however harmful behaviors are often interconnected, and a successful violence prevention workforce will need expertise in multiple forms of violence and demonstrate the competencies previously defined.

For prevention personnel to succeed, they need to work within a positive workplace culture that fosters the acceptance, integration, and implementation of prevention interventions. In civilian contexts, success of prevention personnel has been measured by behavior changes in individuals' receiving services or interventions or the increasing ability for individuals to disclose experiences of harm or abuse (Gibbs et al., 2015). Key gaps and themes are identified in Table 1.

## Military Leadership

Leadership support is crucial for the successful implementation of prevention efforts. Leader buy-in and support is particularly important in a hierarchical organization like the military. Research on leadership and prevention focused on the attributes and competencies that equip a leader to support prevention efforts, organizational factors that facilitate leaders' ability to

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<sup>8</sup> Researchers scanned Embase and PubMed for relevant publications using key terms such as "organizational culture," "organizational change," "organizational innovation," "violence," "dangerous behaviors," and "core competencies," among others. Publications in the last 12 years were considered in this analysis for studies related to organizational change/culture/innovation and violence literature. Publications in the last 22 years were considered in this review for studies related to injury and violence prevention workforce. Book reviews, grey literature, language other than English, peer-reviewed manuscripts not focused on public health/violence prevention workforce competencies, professional development, or continuing education from this review were excluded in this review. Manuscripts on how leadership effects change were excluded as well as manuscripts addressing healthcare response to a patient-initiated harm or case series.

prevent harmful behaviors in their units, tools that leaders can use to foster healthy climates, and leaders' influence on the members of their organization.<sup>9</sup>

DoD focused its leadership literature review on traditional theories of leadership in organizations, leadership development processes in both the military and civilian settings, and leaders' role in public health and prevention efforts. Additionally, it conducted an in-depth review of effective leadership styles in law enforcement, higher education, healthcare, and the military setting.

DoD predominately reviewed peer-reviewed journal publications and dissertations; however, some non-peer reviewed grey literature on military leadership such as the Defense Technical Information Center was also included due to relevance.<sup>10</sup> DoD researchers excluded book reviews, newspaper articles and commentaries, pop media (e.g., blogs, Reddit), and manuscripts in a language other than English. 23 articles on military leadership, 5 meta-analyses/reviews of leadership theory in organizational behavior and administration, 8 articles on higher education leadership, 7 articles on law enforcement leadership, and 11 articles on healthcare leadership that met inclusion criteria were reviewed. Sixteen of these studies investigated leadership style or practices in a particular industry and may not be generalizable to the military context. More generally, causal processes were difficult to discern in the traditional leadership literature, as much of the research employed cross-sectional methods and lacked longitudinal or pre/post-test measures.

Findings from various civilian and military research studies clearly highlighted that leaders must be at the forefront of any change initiative within an organization. Particularly when culture change is needed (e.g., promoting a more inclusive work culture), leaders must personally champion the cause and legitimate it to internal and external stakeholders. In communities with active violence prevention initiatives, community leaders must have an adept knowledge of public health, as well as the ability to understand local needs to create tailored prevention and communication strategies. An effective prevention leader must be willing and able to be a team builder, continually weaving together several, sometimes uncommon, partners to advance prevention goals. Ideal prevention leaders are charismatic, empathetic, and insightful—able to find creative solutions to their community's most pressing problems. Effective leaders empower others and find methods of sustaining prevention efforts over time. Key gaps and themes are identified in Table 1.

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<sup>9</sup> Military leader is defined as a Service member or DoD civilian personnel in a professional position of leadership. The rank and role of military leaders varies by Military Service and National Guard Bureau (NGB); but includes, at a minimum, supervisors, managers, and the command triad. See DoDI 6400.09 for additional information.

<sup>10</sup> The review used keywords such as "change management," "leadership and organizational readiness," "leadership development intervention," "leadership and higher education," "law enforcement leadership development," "police leadership," and "military leadership." Databases utilized were EBSCO, PubMed, ProQuest, Google Scholar, and Defense Technical Information Center (DTIC). Overall, DoD researchers scanned over 100 abstracts, but comprehensively evaluated: 5 meta-analyses/reviews of leadership theory in organizational behavior and administration, 8 articles on higher education leadership, 7 articles on law enforcement leadership, 11 articles on healthcare leadership, and 23 articles on military leadership.

## Appendix B: Summary of Gap Analyses and Literature Review for Focus Areas

### Introduction

DoD completed an in-depth literature review and gap analysis on the FY23 research agenda focus areas including, 1) risk and protective factors for harmful behaviors in the cyber environment, 2) online platforms and prevention effectiveness, and 3) multi-pronged and/or multi-level integrated prevention approaches for the military community. This literature review was conducted from July 21, 2022, to August 2, 2022. The goal of this in-depth review was to identify trends and gaps in current literature to increase existing prevention knowledge and accelerate progress towards the Department's prevention goals. DoD is leveraging this research for the military community to promote successful prevention strategies.

Additionally, DoD conducted a summary scan of internal (e.g., Military Departments, military research agencies) and external (e.g., National Institutes of Health, National Academy of Science) research organizations to identify recent or ongoing research in these focus areas that had applicability to the military community. This additional sweep helped to ensure that ongoing, currently-funded projects are included in the review even if results of such projects are not yet published. Findings from the gap analysis and literature review are summarized below.

### Risk and protective factors for harmful behaviors in the cyber environment

#### Gap Analysis Method

DoD analyzed the unique risk and protective factors for harmful behaviors within the cyber environment. Their review was limited to peer-review manuscripts (in English) published in the last 12 years. The cyber environment is defined as social media, internet sites including blogs and social networking sites, apps (e.g., dating apps), and video games. Key search terms used include trauma informed language such as "those who commit harm" for research related to individuals who engage in acts of abuse and harm and "those who are harmed" for those who are victim-survivors of abuse and harm. For the review process, one of three reviewers identified relevant articles and two of the three reviewers approved the articles for the analysis. A total of 35 studies met inclusion criteria.

#### Results

The cyber environment has produced new forms of abuse and harm, such as online stalking, online rape threats, invasion of privacy, new forms of extortion, and intimate partner abuse (e.g., increased partner surveillance, revenge porn), and can function as a platform to promote physical abuse and harm offline. Several features of the cyber environment heighten risk of abuse and harm: 1) anonymity, 2) abundance of information (including misinformation and disinformation), and 3) instantaneous connections to other individuals and groups (including individuals seeking to incite violence). However, the very same features that heighten risk have also served as protective factors buffering individuals from harm and abuse. For example, instantaneous connections to positive individuals or groups may help someone struggling with suicide ideation find a supportive community (Abavi et al., 2020). In short, the cyber environment has changed patterns of social interaction in several ways and has both increased and decreased the likelihood of abuse and harm depending on the context.

Anonymity can greatly exacerbate interpersonal harassment and verbal or emotional abuse. For example, individuals who would not verbally abuse or harass individuals in a face-to-face



encounter may choose to lash out in an online encounter because of the perceived safety of anonymity (Amit et al., 2021). Anonymity can also serve as a protective factor—allowing victims of harm and abuse to receive help without disclosing their identity. Platforms like social media may provide a medium through which individuals feel free of social constraint and act in deviant and/or aggressive ways (Livingstone & Smith, 2014). The perceived freedom of the cyber environment can lead to repeated acts of aggression and harassment, wherein individuals can build status for themselves and take satisfaction in cycles of abuse or harm. Over time, individuals who learn or enjoy perpetrating abuse and harm in the cyber environment may engage in abuse and harm offline as well (Baele et al., 2021).

The sheer amount of information available to individuals in the cyber environment poses several risk factors. For example, someone considering suicide may search for information online to increase the lethality of a suicide attempt (Daly & Laskovtsov, 2021). Other risks posed by online information include the spread of disinformation and misinformation by groups or foreign entities actively seeking to disrupt U.S. infrastructure or incite disorder and violence. Many individuals absorbing online content lack the media literacy to discern factual information from misinformation or disinformation. Moreover, factors such as access to the internet, socioeconomic status, and education create vast differences in the volume and quality of information someone receives online. This inequality, dubbed “information inequality” in this literature, can persist over time and contribute towards the radicalization or conversion of individuals towards extremist beliefs (Fan et al., 2021). Information inequality can become more severe when algorithms within the cyber environment filter the information seen by end users. These algorithms are designed to give individuals information that confirm their pre-existing beliefs, resulting in information cocoons wherein individuals only see and connect with like-minded individuals.

Lastly, instantaneous connections to other individuals and groups can increase risk and protect against both self-harm and interpersonal violence. For victims of abuse and harm, instant connection means that their abuser may be able to track them down and re-enter their life. Technology increases individuals’ surveillance and communication capabilities for both beneficial and malicious purposes. The cyber environment also connects individuals who would be unlikely to meet in the physical world. In some cases, this serves as a protective factor, giving at-risk individuals a caring support community. However, in other cases, individuals connect with others who encourage acts of violence (Kutner, 2020). Connections to pro-violent groups may be particularly dangerous if Service members begin a relationship with such entities. Service members have the knowledge, skills, and abilities to engage in acts of violence on behalf of the state. Their skills should not be exploited by radical or extremist groups of any kind, online or in-person.

### Online platforms and prevention effectiveness

The University of Iowa IPRC also examined how online platforms within the cyber environment can be leveraged as part of an integrated comprehensive prevention approach. The cyber environment has positive attributes that enhance every stage of the prevention process. When seeking to understand the needs of a particular population, prevention personnel can use data from platforms such as social media for surveillance and risk analysis. When building and implementing an integrated prevention approach, cost effectiveness, online delivery methods, and flexibility (e.g., ease of tailoring activities for different groups) give online platforms an advantage over traditional methods. Online platforms also make evaluation of prevention efforts

easier. For example, civilian researchers have combined social media data with other data streams (administrative and health services data) to track suicide deaths in real time and give accurate prevalence information (Choi et al., 2021).

The DoD did not find any studies internal to DoD on prevention and online platforms.

### External Findings on Online Platforms

The DoD conducted a scan of currently funded civilian and military comprehensive prevention research to understand how online platforms are being used for integrated primary prevention. These external findings highlight the need to better use online platforms as well as available data as a resource for crafting comprehensive prevention. DoD researchers reviewed agency websites with public access for recently (within the last 3 years) published reports, newsfeeds, program overviews, strategic plans, and additional deliverables from several institutions and organizations (e.g., the Centers for Disease Control and Prevention, National Institutes of Health, the National Suicide Prevention Center, and the National Academy of Sciences).

There are several external projects that leverage social media as a means to enhance prevention efforts. For example, the University of California's Institute of Technology is using social media to analyze people's internet searches to predict health risk behaviors (Rice et al., 2010). Similarly, the Jed Foundation and partners are mobilizing social media to share lived experience stories to promote resilience and connectedness among community members (Jed Foundation, n.d.). Nevertheless, much of the literature on social media and prevention is very recent. Although studies note the advantage of using technology-based interventions both from a risk prediction and program delivery standpoint, this research is still in the piloting and trial and error phase.

## Multi-pronged and/or multi-level integrated prevention

### Gap Analysis Method

The CDC DVP focused their review on comprehensive integrated prevention approaches. Their process included an initial scan of recent, peer-reviewed journals for general relevancy, followed by a full review of identified articles for key findings. Peer-reviewed prevention articles from the initial meta-review on military literature were considered if they were applicable and not already included. A total of 89 studies on comprehensive prevention met inclusion criteria.

### Results

Research shows that reinforcement of protective factors can reduce the probability of harmful behaviors **more** than attempting to reduce risk factors (Allen et al., 2022). For example, improving someone's physical environment, such as increasing neighborhood walkability or green space quality, can reduce risk for violence and harm and promote positive social interactions. To create lasting change in individual behavior and social norms, a comprehensive approach with a strong emphasis on promoting protective factors using the socio-ecological model is best practice. This approach has the potential to build social, cultural, institutional, and physical environments that support positive, healthy behaviors (Luo et al., 2022). Key elements for implementing a successful comprehensive approach include stakeholder buy-in and support, leadership support, and the removal of siloed prevention systems. Especially when using this approach to enact on community or system level change, leadership buy-in, stakeholder involvement, and community ownership are essential.

There is no one size fits all when defining “comprehensive” prevention. This area of research is relatively new with limited findings on prevention approaches that are both comprehensive and integrated. Studies highlight the complexity of researching and evaluating methodologies for comprehensive and integrated approaches. For example, it is challenging to have metrics for suicide, harassment, sexual assault, and child abuse that gauge progress at the individual, interpersonal, and community level all at once (Farrell et al., 2016). There is a corresponding lack of literature found on implementation approaches. This gap demonstrates the need for further research to identify effective approaches for implementing protective factors that change the underlying systems and structures that contribute to risk. Equally important, findings highlight community strategies as having greater impact among more people. However, the current evidence base for approaches at the outer social-ecological levels (i.e., community, societal) is lacking.

Further exploration is needed to expand on existing research for comprehensive or integrated initiatives and how to effectively apply these methodologies to the military population and environment.

#### [Internal Findings on Multi-Pronged and/or Multi-Level Integrated Prevention Approaches](#)

Overall, existing military research on a comprehensive approach focuses on preventing a single harmful behavior, primarily suicide. The Psychological Health Center of Excellence (PHCoE) provides oversight to a number of research entities that engage in prevention research and supports prevention projects occurring in the Department. The PHCoE Research Branch conducted several studies to understand current trends in suicide research, specifically examining substance use disorder treatment and suicidal ideation in military populations. Findings across studies identify key risk factors for suicide (e.g., social disconnection among Service members). Other prevention studies within the PHCoE research portfolio include gap analyses on suicide prevention research, suicide prediction modeling, and effective public health models for suicide prevention outside the clinical setting. None of the studies examined integrated primary prevention. Instead, studies focused solely on preventing suicide or substance use disorders. While the studies did highlight overlapping risk and protective factors, they did not aim to prevent more than one harmful behavior at a time.

#### [External Findings on Multi-Pronged and/or Multi-Level Integrated Prevention Approaches](#)

The DoD conducted a scan of currently funded civilian and military comprehensive prevention research to understand what efforts are already underway. These external findings highlight the need for applied comprehensive prevention as many organizations have not begun to use this public health approach in practice. However, several institutions and organizations acknowledge the widespread benefits of preventing multiple harmful behaviors simultaneously. DoD researchers reviewed agency websites with public access for recently (within the last 3 years) published reports, newsfeeds, program overviews, strategic plans and additional deliverables from several institutions and organizations, such as the Centers for Disease Control and Prevention, National Institutes of Health, U.S. Department of Health and Human Services, the National Suicide Prevention Center, and the National Academy of Sciences.

External findings on comprehensive prevention support the CDC DVP’s scan of civilian research, reiterating that integrated primary prevention is a relatively new field with limited applied research. Theories and conceptual models from violence prevention and public health research support the logic of a comprehensive, integrated approach to prevention, however, few organizations have executed or evaluated a comprehensive approach targeting multiple harmful

behaviors. Although sparse, some agencies are making headway implementing community level strategies. For example, the CDC is currently funding state health departments to implement and evaluate a comprehensive public health approach to suicide prevention (Stewart, 2021). Findings from the health departments' suicide programs may help the military develop its comprehensive approach in the future.