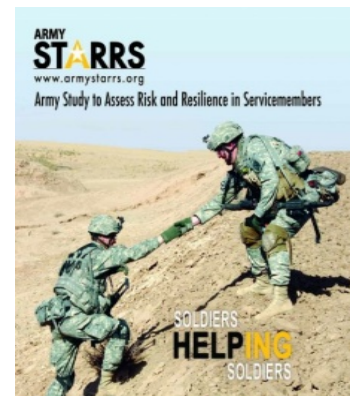
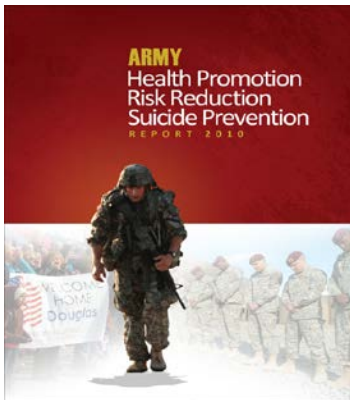




Translating Research Findings Into Operational Use

Development and Testing of a Review and Translation Process for Results from the Army Study to Assess Risk and Resilience in Servicemembers (Army STARRS)



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Executive Summary

This report represents a summary of actions taken by the Army to translate research findings from a large epidemiological and neurobiological study on suicides, and to integrate those findings into health promotion and risk reduction efforts. Initiated in 2009 by then Vice Chief of Staff, Army, General Peter W. Chiarelli, the Army's initial conversation about these issues, achievements, and future implications to military readiness and human performance were detailed in a 2010 publication, *Army Health Promotion and Risk Reduction Suicide Prevention Report 2010* (the "Red Book"), followed by a second publication, *Army 2020: Generating Health and Discipline of the Force Ahead of the Strategic Reset, Report 2012* (the "Gold Book"). While the Army has implemented many changes to mitigate the negative psychological impact of war-time military service, it has also invested heavily in a large research project to help explain the complex natures of suicide, well-being, and health.

The Health Promotion, Risk Reduction and Suicide Prevention (HPRRSP) enterprise governance model, a multi-disciplinary forum of key stakeholders (Secretariat, and Army staff Principal Officials, functional proponents and Army commands), underscored the United States Army's commitment to integrating and synchronizing recommended solutions for approval and implementation. The model also embraced research as a critical factor for future military success by mandating standard research processes across various research agencies and improving the visibility of research efforts to know when results are available, how to analyze results or who may benefit from such results. This report addresses how the Army advances suicide-related research and analysis and incorporates research results into relevant and actionable policies and practices that help commanders support Soldiers and their Families. Additionally, it continues the conversation at each echelon of the Army about policies, research and programs necessary to provide informed and objective efforts to promote health and discipline and address the challenges facing the Army.

A common challenge is the complexity, breadth of research and long duration of many research efforts often making research findings difficult to disseminate or act upon in a timely manner. Equally challenging is the ability to translate research into operational relevance for the Army and specific actions that commanders in the field may use to mitigate individual or group challenges. The Army recently faced this situation after having invested well over \$50 million in the Army Study to Assess Risk and Resilience in Servicemembers (Army STARRS). This was the case as the scientists presented early findings to Army senior leaders during quarterly in-progress reviews, and later in peer-reviewed scientific journal articles. The Army needed to establish an efficient and effective way to handle a rapidly growing set of findings.

Needing a process to identify information important to organizations' efforts to improve the quality of prevention, health care, and research, the Army established the Army STARRS Research Advisory Team. To demonstrate commitment, the Assistant Secretary of the Army (Manpower and Reserve Affairs) assigned a senior executive to lead the Research Advisory Team. The Team was charged to develop a systematic procedure to review and assess the relevance of each new finding, determine whether specific actions should be taken, and develop implementation plans, including measures of effectiveness, as appropriate. To date, the team

has assessed 158 findings, many of which represent sets of related findings that could be handled more efficiently as a group.

There were three categories of findings. One category consisted of those findings the Research Advisory Team determined as actionable and relevant. This category included diverse findings such as family violence as a risk factor for suicidal behavior, reported barriers to accessing behavioral health care, and the most common socio-demographic factors associated with Soldiers who attempted suicide. These findings resulted in three detailed implementation plans highlighting changes to existing policies or programs, and metrics to assess the effectiveness of the actions taken. The second category consisted of findings requiring additional analysis. The third category included findings that supported an existing policy or program, and required no current action. This category also included several commonly held assumptions or myths about the causes of the rise in suicide that were dispelled.

After two years, it is clear that translating research findings into everyday command, medical, and community practice is immensely helpful. We will continue to use this process to assess new STARRS findings. This is critical as researchers over the next five years continue to identify and analyze uncommon events such as suicides, suicide attempts and other behavioral health outcomes among the Soldiers participating in the STARRS-Longitudinal Study (STARRS-LS).

While STARRS findings do not provide a distinct explanation for the spike in Army suicides, they are helping the Army to shape ongoing research into the best ways to intervene and prevent adverse outcomes such as suicidal and risky behavior. In other cases, the STARRS findings serve as a baseline for comparison over time to show whether various innovations in the delivery of behavioral health care are making a positive difference. Important information about risk and protective factors has been incorporated into a variety of training programs and other information sources to better inform commanders and service providers. For those areas where more information is needed before making a final decision regarding possible actions, requests for additional analyses have been submitted to the STARRS-LS Government Steering Committee for possible inclusion into the STARRS-LS analysis plan.

I hope you will agree with me that the Army has successfully established a framework to show the return on our investment in research that informs action and transfers knowledge about a hugely complex and rare event. We believe this review process may also be applied to other research efforts. We will remain vigilant in our effort to focus both on translating specific research findings and informing the organizations responsible for implementing those actions of promising tools or interventions. This will not only hasten the transfer of knowledge and improve tools for leaders that save Soldiers' lives but, also improve the information about overall health, and maximize readiness.



RAYMOND T. HOROHO
Acting, Assistant Secretary of the Army
(Manpower and Reserve Affairs)

Background

The Army STARRS effort applied an enterprise approach to the governance and procurement of Army research related to health promotion, risk reduction and suicide prevention that was both holistic and interdisciplinary. Conceptually, this governance model scoped its research against the Care Continuum and military life cycle to ensure an end-to-end framework of support.

Historically, the suicide rate among Army personnel was below that of the civilian population. Since 2002, however, the suicide rate among Soldiers had risen significantly, reaching record levels and prompting the Army to form a partnership with the National Institute of Mental Health (NIMH) to seek independent academic scientists to design and implement a large research study to address this complex and rare event. In 2008, Vice Chief of Staff, Army, General Peter W. Chiarelli responded to the increasing behavioral health issues, suicides and the stress of repeated deployments by establishing a Campaign Plan to take a multidisciplinary approach to suicide prevention by identifying and mitigating factors most likely to lead to suicidal behavior.

The Army Campaign Plan HPRRSP was signed in 2009 and executed through the Army Suicide Prevention Task Force with oversight from the Army Suicide Prevention Council. These forums sparked a dialogue among senior leaders and front line commanders about holistic and effective support to Soldiers and Families. By the end of the HPRRSP effort, more than 160 specific enhancements to Army HPRRSP programs, policies and resources were implemented. These included a re-write of Army Regulation 600-63 (Health Promotion) to provide Army leaders with improved guidance for implementing HPRRSP programs at the command, installation and garrison levels; the creation of an Army Knowledge Online (AKO) suicide prevention 'lessons learned' application, similar to that currently found in combat readiness reports, for Army leaders to gain insight into current trends and suicide prevention information; and Army-wide distribution of a pocket-sized Army Suicide Awareness Guide for Leaders. In addition, key Army leaders, care providers and gatekeepers could now attend ASIST (Applied Suicide Prevention Intervention Skills Training) courses aimed at empowering front-line leaders, individual Soldiers, battle buddies, Army family members and Army civilians to better recognize the signs of suicidal behavior and implement the 'Ask, Care, Escort' (ACE) model of suicide intervention (ACE-SI). The scope of the HPRRSP efforts and the Army's response was well documented in two publications, *Army Health Promotion and Risk Reduction Suicide Prevention Report 2010* (referred to as the "Red Book") and two years later, *Army 2020: Generating Health and Discipline of the Force Ahead of the Strategic Reset, Report 2012* (referred to as the "Gold Book").

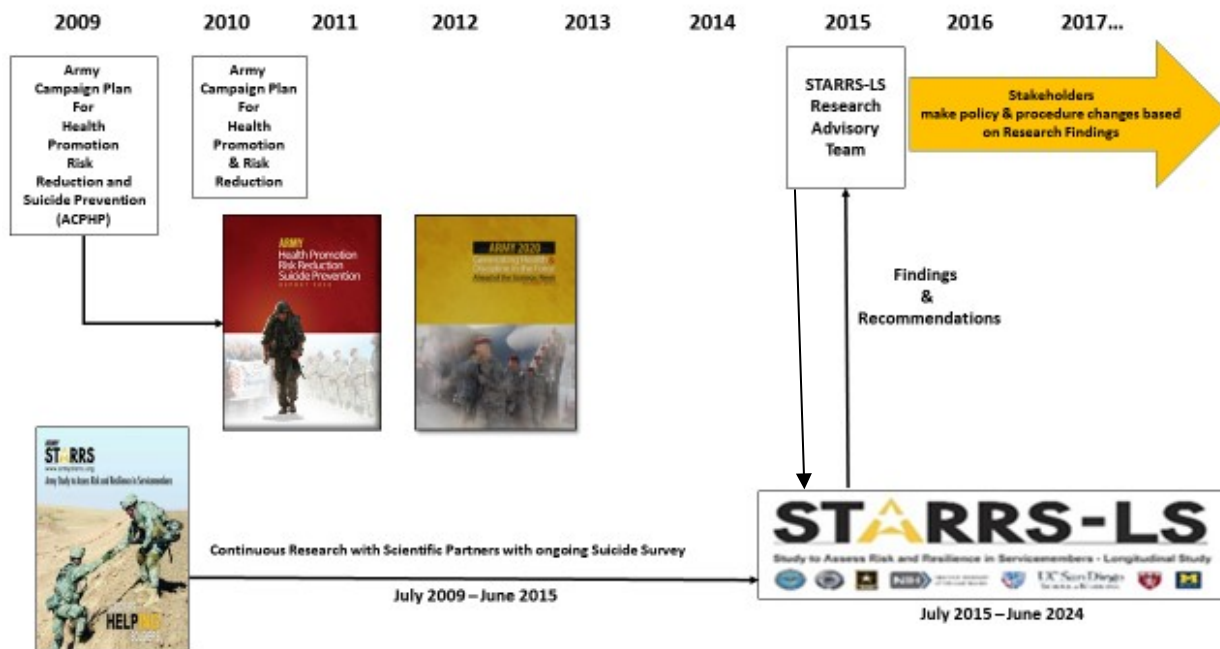


Figure 1: Suicide Research Efforts (2009 – Today)

In 2008, the Secretary of the Army entered a partnership with the NIMH to conduct a study that would “examine the mental and behavioral health of Soldiers, with particular focus on the multiple determinants of suicidal behavior, psychopathology, resilience, and role functioning, across all phases of Army service . . . with the intent of informing the development and testing of effective suicide prevention and treatment interventions.” A research grant was awarded to a consortium led by the Uniformed Services University of the Health Sciences (USUHS) along with the University of Michigan, Columbia University (later replaced by the University of California-San Diego) and Harvard Medical School. This research effort was expected to inform the on-going work of the Army’s HPRRSP. Over five years, the research team received \$50 million from the Army (not including in-kind costs to conduct the extensive actions necessary to support the researchers) and \$15 million from NIMH. The purpose of the Army STARRS, one of the largest epidemiological studies ever undertaken within the DoD, was to identify risks and protective factors and moderators of suicidal behavior and to inform the Army’s ongoing efforts to prevent suicide and improve Soldiers’ overall psychological health. While clinical practitioners had a general understanding of risk factors related to suicides, few efforts have ever focused so singularly on a military population. The research has accomplished what one expects research to do, confirm some hypotheses about suicides and suicide attempts, dispel myths believed to be true, and deliver new knowledge about the phenomenon.

The study examined detailed information on psychological and physical health and functioning, exposure to adverse events, attitudes, social support, leadership and unit climate, training and knowledge, employment and economic status, family history, deployment and military occupational specialties and other relevant data on more than 1.67 million Soldiers. This was a complex epidemiological study that included extensive, detailed analyses of historical

administrative data for Soldiers serving on active duty in the period of 2004-2009, including Army National Guard and Army Reserve Soldiers activated for more than 30 days under Title 10. The researchers also collected data directly from more than 107,000 Soldiers. These Soldiers participated in surveys, neurocognitive testing, and many who provided blood samples for genetic and other biomarker testing. Not surprisingly, many of the findings replicated what had been found in earlier research studies involving military populations. Examples include: the basic sociodemographic profile of a Soldier who dies by suicide (young, male, junior enlisted, with less education) or attempts suicide (young, female, junior enlisted, with less education). In other cases, the findings verified that some research involving civilians also applies to Soldiers and that existing accession screening processes are not fully successful at identifying candidates with risk factors for behavioral health problems. There were also new findings unique to the military, e.g., marriage was not generally as protective for Soldiers as it is for civilians. The researchers were also able to use the study data to quickly address a number of Army senior leaders' concerns and questions. Many of these involved seemingly logical hypotheses, such as thinking that the relaxation of accession waiver policy during Operation Enduring Freedom/Operation Iraqi Freedom (OEF/OIF) surely accounted for the increase in suicides. STARRS Researchers were able to use data to show clearly that several of these hypotheses were not true, i.e., debunking or myth busting. Learning what is not associated with suicide, is often as important as discovering what is associated, if for no other reason than to avoid unnecessary and often costly efforts to change policies or programs that are actually working well.

Identifying risk and protective factors alone are not sufficient to provide complete solutions to complex and multi-layered problems such as suicides, the Army also had to invest in finding effective prevention and intervention strategies. Other research that helps expand the Army's knowledge of specific interventions that will impact resilience, suicide and other related behaviors comes from research projects funded and managed by the US Army Medical Research and Materiel Command Military Operational Medicine Research Program. Since 2007, the Army and DoD have supported approximately \$160 million of intramural and extramural research specifically aimed at preventing suicide. The portfolio of Army and DoD funded suicide research includes everything from epidemiological studies to population-based and clinical intervention studies testing effectiveness of suicide prevention approaches in the military. As the research findings become available, it is critical to translate the findings and get them into the hands of Soldiers, leaders, clinicians, policy and program stakeholders.

Implementing a holistic and universal research approach was expected to help reduce gaps, redundancies, and improve synchronization among all research areas. Integration of research findings often move organizations to more evidence-based decision-making. Army STARRS does exactly that. Army STARRS greatly expanded upon the DoD's previous efforts to integrate and analyze large amounts of data amassed from multiple disciplines, including the testing of new analytical methods to define associations and trends in very large datasets. It is perhaps our first foray into the use of Army Human Capital Big Data to inform policy and practice. The researchers took this complex database consisting of many different types of data (personnel, deployment, medical, law enforcement, drug testing, domestic violence, etc.), and using machine learning approaches were able to conduct proof of concept analyses of

predictive analytic models. Each model calculated individual risk scores for a specific outcome using historical data (2004-2009), e.g., suicide, perpetrating a major violent crime, sexual assault victimization. Each model identified a relatively small group (by comparison with the entire Army) of several thousand individuals at greatest risk for the outcome. This suggests the potential benefit of providing tailored, evidence-based preventive interventions to these individuals, if such exist, and if these interventions were feasible, ethical, and cost effective to apply across the Army.

The Army's commitment to promoting the health and wellbeing of its Soldiers and Families did not stop with the publication of the Red and Gold Books. The Ready and Resilient (R2) Campaign built on the success of the HPRRSP by continuing senior level collaborative forums to promote cross-functional coordination and making recommendations to improve personal and team readiness, resilience, promoting health and reducing risk. Comprehensive health promotion efforts integrate prevention, screening, treatment and intervention, and other public health practices along a continuum of support. Science helps improve our understanding of risk and protective factors needed to maintain and sustain personal and team readiness.

Similarly, many Army agencies were examining their own policies and processes to better address the challenges of the stigma associated with seeking services, integration and synchronization of support, streamlining access to care and support at all echelons of the Army. Notwithstanding, as research findings began to emerge from the STARRS study, these findings proved beneficial in confirming some things we knew from the myriad of civilian studies of suicide across the nation and allowed the Army to help shape the national discussion on mental health and suicides. Further, the value of looking at these challenges within the context of the military in a deliberate scientific way helped reinforce the direction in which the Army was moving with its internal business processes to improve services along a care continuum throughout the military life cycle. So while many things were happening within the Army at the same time, sorting out the very detailed causative and nuanced strategies will require on-going effort.

The work of the STARRS Research Advisory Team reinforces the cross-functional collaborative work that started with HPRRSP Campaign to apply a standard approach for reviewing, assessing, and implementing research findings, particularly when the potentially actionable findings are relevant to multiple stakeholders. The Army needed a process to identify strongly correlated information important to its organizations' efforts to improve the quality of prevention, health care, and research. To do so, the Assistant Secretary of the Army (Manpower and Reserve Affairs) (ASA (M&RA)) established an Army STARRS Research Advisory Team, and charged it to develop a review process that assesses the relevance of each new finding, determines whether specific actions should be taken, and develops implementation plans, including measures of effectiveness, as appropriate.

Army STARRS Research Advisory Team Review and Assessment Process

Overview

The main objective of the ASA (M&RA)'s cross-functional STARRS Research Advisory Team is to translate key findings from research efforts into useful actions. The spectrum of potential actions is broad and includes, but is not limited to, revising existing or developing new programs, policies, interventions or treatments. In some instances, additional analyses or new research efforts may be required before taking any definitive action. In order to derive maximal value and avoid problems, it is critical to involve a wide range of stakeholder perspectives, including unit leaders (commanders, first sergeants), program managers, policy experts, as well as representatives from the medical, chaplaincy, human resource, law enforcement, and research communities.

This kind of assessment needs be done in a careful, deliberative, unbiased, and objective manner. The Army STARRS Research Advisory Team provided a process that balanced scientific, organizational, and operational perspectives.

Membership

Representatives from the below-listed organizations constitute the core membership, under the leadership of the ASA (M&RA). Other participants may join the group on an ad hoc basis to address specific topics.

- Army National Guard
- Army Public Health Center (APHC)
- Assistant Chief of Staff for Installation Management (ACSIM)
- Rotating command team (former Commander and Command Sergeant Major)
- Deputy Chief of Staff, G1, Army Resiliency Directorate (G1/ARD)
- Deputy Chief of Staff, G1, Strategic Initiatives Group (G1/SIG)
- Army Medical Research and Materiel Command (MRMC)
- Office of the Chief of Chaplains (OCCH)
- Office of the Provost Marshal General (OPMG)
- Office of the Surgeon General, Behavioral Health Division (OTSG/BHD)
- United States Army Reserve

Pre-screening by a Technical Review Group (TRG)

Identified findings were initially reviewed by the TRG. The TRG consists of Army STARRS Research Advisory Team members with scientific backgrounds (APHC, G1/ARD, MRMC, OTSG/BHD). In preparation for the full Army STARRS Research Advisory Team review, the TRG produces a pre-decisional summary report that describes each finding with a minimum of scientific jargon, summarizes related research, describes potential actions, assigns

preliminary values to each criterion regarding potential actionability and relevance (See Table 1), and includes recommendations. A sample pre-decisional summary report is found at Appendix A.

Criterion	Rating Scale	Comment
Strength of association between the research finding and the outcome of interest	<p>Weak: Low statistical strength, lack of “dose response,” only based on qualitative data.</p> <p>Strong: Strong statistical association, presence of “dose response,” strong quantitative data.</p>	<p>Outcome should be important. All “final” and peer-reviewed findings considered should be accepted as valid (i.e., appropriate controlled analyses were conducted).</p> <p>Quantitative measures (e.g., pop’n attributable risk) vs. semi-quantitative or qualitative. “Dose response” shows that increasing exposure to risk is associated with increased negative outcomes.</p>
Consistency, specificity, and coherence of finding’s association with the outcome of interest	<p>Low: Inconsistent or non-specific findings across different studies, other alternative explanations for association exists, findings lack coherence.</p> <p>Mixed: in between.</p> <p>High: consistent across multiple studies, specific association between risk factor and outcome, high coherence, no alternative explanations.</p>	<p>These are commonly accepted core and important criteria for considering whether a particular research finding is valid and important.</p> <p>Analyses should consider potential confounders and should be able to demonstrate that an association is not confounded (or better explained) by some other variable (measured or unmeasured).</p>
Relevant to a potential action or intervention. Potential that finding can lead to a tangible action or intervention that could have a meaningful or positive impact for one or more Army populations.	<p>High</p> <p>Medium</p> <p>Low</p>	<p>Moves from research finding toward a potentially relevant action in policy, programmatic, intervention/treatment, or research lanes.</p>
Ethicality	<p>Unethical</p> <p>Uncertain</p> <p>Ethical</p>	<p>If team is uncertain, consult with lawyer and/or ethicist (includes chaplain).</p>
Legality	<p>Illegal</p> <p>Uncertain</p> <p>Legal</p>	<p>Consider privacy, personal rights, legal protections, whether within Army’s purview, etc. In rare cases, it might be appropriate to consider proposing new legislation as an action. If team is uncertain, consult with legal counsel.</p>
Practicality and feasibility of potential action(s)	<p>Low: Impractical, not feasible</p> <p>Medium</p> <p>High: Very practical, feasible</p>	<p>For example, are potential interventions feasible to implement?</p>
Likelihood of unintended consequences or potential that harm could outweigh benefits.	<p>Low</p> <p>Medium</p> <p>High</p>	<p>Requires serious analysis of risks of any action in relation to potential benefits. Potential benefits should never be exaggerated, and evidence of potential risks be carefully considered.</p>

Table 1: Equal Weight Criteria for Actionability and Relevance of a Finding

Army STARRS Research Advisory Team Review

The Army STARRS Research Advisory Team reviews the TRG's recommendations and using a consensus approach makes a final determination regarding the actionability and relevance of individual or grouped findings. In doing so, each member considers the following questions:

- Do I understand the finding?
- Do I need more information in order to understand the finding?
- Am I aware of other research or information that supports or refutes the finding?
- What actions under the rubric of doctrine, organization, training, materiel, leadership and education, personnel, facilities and policy (DOTMLPF-P) are supported by the findings?
- What happens if no action is taken?

Next, the Army STARRS Research Advisory Team assigns each finding or grouped set of findings to one of the three categories:

- Actionable and relevant with feasible and necessary action(s) identified. In this case, lead and assists are designated to develop and execute an implementation plan.
- Further analysis or study is needed due to incomplete characterization of the situation, a finding that contradicts other analyses or research, or a new finding requiring validation/replication before acting. One example is the association between a specific occupational category and an outcome, which raises the question of whether the association is due to underlying demographic or health risk factors that characterize individuals who pursue that occupation or due to exposures incurred during military service for that career field. Other factors are also considered, such as the magnitude of associations relative to other more important or stronger associations, the interrelationship between variables, and the feasibility or ethics of targeted interventions. A request is submitted to an appropriate source, such as the STARRS-LS Government Steering Committee or to other Army organizations with the necessary analytic capabilities, e.g., Army Analytics Group, APHC, or the Walter Reed Army Institute of Research.
- No current action necessary and attributed to one of three categories:
 - 1) The findings replicate earlier research involving US civilian or military populations, and no new action is necessary. For example, socio-demographics risk factors for suicide or suicide attempt, such as gender, cannot be changed.
 - 2) The finding is germane to an existing policy/program, but no new action is necessary. This can be because the existing policy/program is felt to be sufficient, or further observation is required to determine the success/failure of the existing policy/program. As an example, since the Army STARRS initial study period (2004-2009), OTSG/MEDCOM implemented an Embedded Behavioral Health (BH) program that fundamentally changed the structure by which BH services were delivered across the Army. Consequently, Army STARRS findings derived from older data, e.g., post-psychiatric hospitalization suicide risk predictive model, may no longer be relevant.

- 3) The finding refutes a commonly held opinion or belief, also known as “myth busters,” that require no action. For example, it seemed logical to think that relaxed accession criteria might have accounted for the increase in the suicide rate during a period of very high operational tempo. However, the findings refuted this hypothesis and thus no new action was necessary.

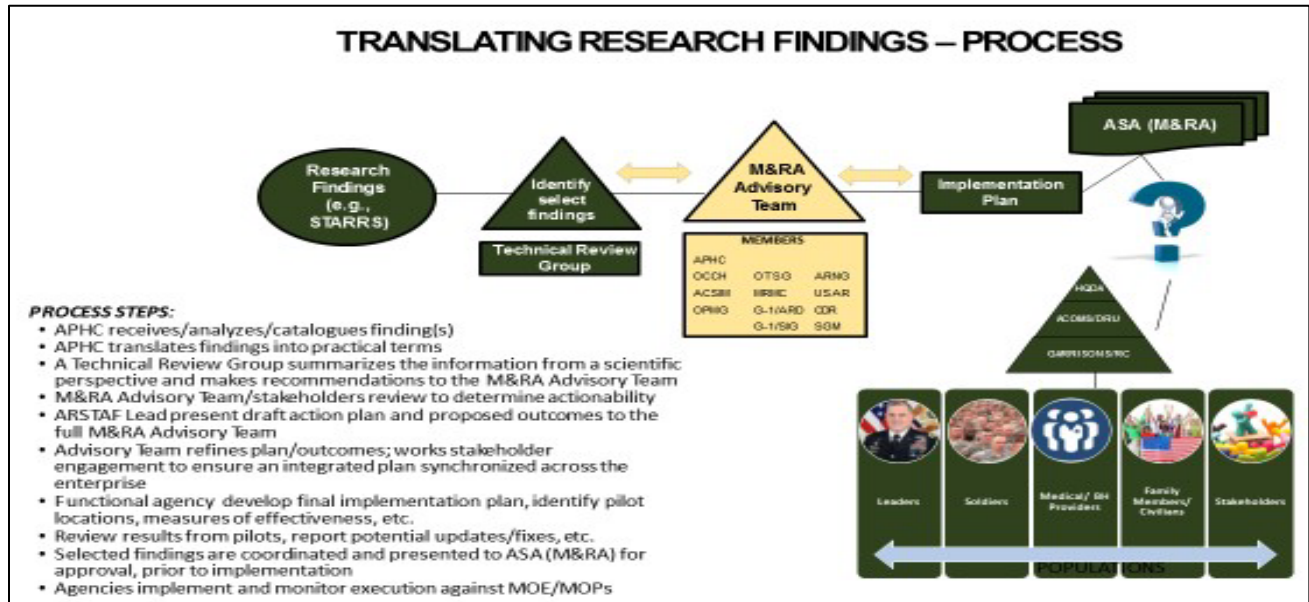


Figure 2: ASA (M&RA) Research Advisory Team Process

Achieving Consensus and Making Decisions

For those findings identified as having one or more feasible actions, the Army STARRS Research Advisory Team identifies a lead (normally from the organization that will be responsible for implementing the action(s)) to develop a draft implementation plan. Other organizations holding significant equities with regard to taking the indicated actions assist in developing the plan. Each plan must clearly define the actions to be taken, applicable populations to target (e.g., Soldiers, units, leaders, family members, civilians, etc.), map to specific phases of the military life cycle (recruit, train/develop, employ/equip, retain/sustain health, transition/reset), and include process and outcome metrics with which to monitor the success of the actions after implementation. ASA(M&RA) is the approving authority for executing the plan. Copies of the three approved implementation plans are at Appendix B.



Figure 3: Continuum of Care across the Military Life Cycle

The Army STARRS Research Advisory Team has also developed criteria to assess prioritization and rank order actionable findings, highest priority to lowest. These criteria are listed in Table 2 (equal weight, not listed in any priority order). Note: As there have been relatively few formal Implementation Plans to date, there has been no need to utilize these criteria. Changes may be necessary after initial testing.

Criterion	Rating	Comment
Likely timeframe for completion/implementation	Near-term (<2 yrs) Mid-term (>2yrs & < 4yrs) Long-term (>4yr)	
Estimated cost	Very Low (<500K) Low (500K-2M) Medium (2-5M) High (5-10M) Very High (>10M)	Important, but not a Go/No Go criterion. Must consider overall picture, tradeoffs, etc. Most expensive might provide most benefits, justifying the cost, but possibly take longer, too.
Target population for action (group most likely to benefit from action or intervention)	Specific groups of individuals (e.g., Soldiers recently hospitalized, specific MOS/demographic groups), versus more universal interventions	Should consider whether this reflects an indicated, targeted, or universal prevention strategy. Universal actions apply to larger populations, e.g., all Soldiers, Soldiers & Civilian employees, the extended Army community, etc.
Likelihood that action/intervention will result in meaningful benefit	Low Moderate High	Assessment of likelihood that proposed intervention will indeed yield meaningful benefit.
Evidence exists to support proposed action	Non-existent Some evidence Considerable evidence	For example, perform a literature search to see if similar actions have been undertaken with success in other populations. Absence of existing research does not preclude actions, but actions should also not necessarily be implemented for the sake of doing something due to a perceived need when evidence is lacking.
Ethicality and legality of proposed intervention.	Low: Impractical, not feasible, unethical, illegal. High: Both ethical and legal.	This criterion should be reconsidered at this step (in addition to in step 1, because of broader engagement by primary and assists in development of plan.
Practicality and feasibility of proposed intervention.	Low: Impractical, not feasible. High: Practical and feasible.	This criterion should be reconsidered at this step (in addition to in step 1, because of broader engagement by primary and assists in development of plan.
Likelihood of unintended consequences or potential that harm could outweigh benefits	Low Medium High	This criteria should be reconsidered at this step (in addition to in step 1), because of broader engagement by primary and assists in development of plan.
Ability to conduct program evaluation or research to validate proposed action	Low Moderate High	Who will conduct program evaluation? Necessary resources and capacity?

Table 2: Equal Weight Criteria for Prioritization of Identified Actions

Measures of Army STARRS Research Advisory Team Productivity and Effectiveness

Overall Productivity

The Army STARRS Research Advisory Team conceptually understood the difficulty in developing actionable strategies when strong cause and effect relationships are not documented. As is the work with all research, the findings inform along a continuum of strength of associations or correlations. Those that are most significant can be used to inform current practice and policy and represent what we know for sure from the STARRS findings. Other findings warrant further research to derive beneficial insights for practice and policy. This is the nature of research and the scientific approach. It is an on-going, evolving endeavor that allows for more precise application as we move along the scientific continuum with more or less rigor. The description of how the findings were categorized are described below. The findings that resulted in Implementation Plans represent the strongest correlations of information and the best available to monitor defined outcomes and metrics when applied to practices in the field.

Making a determination on which category to place research findings often involves carefully balancing pros and cons. Most research produces information about correlations and associations, not absolute cause and effect relationships. Leaders cannot wait for a 100 percent solution. Instead, the goal is to identify 60-80 percent solutions that are better than what is currently available, as long as the potential benefits of the proposed solutions outweigh potential harms. The figure below summarizes the Army STARRS Research Advisory Team's determinations of the 157 findings reviewed thus far.

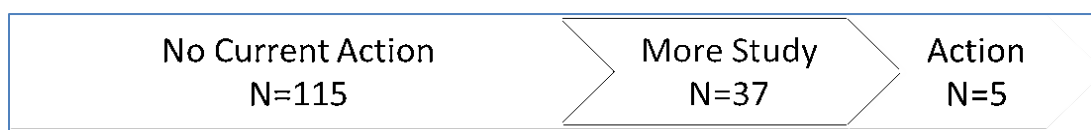


Figure 4: Summary of Army STARRS Research Advisory Team Determinations

Actionable & Relevant Category

The Army STARRS Research Advisory Team developed three formal Implementation Plans covering five findings deemed actionable and relevant. Appendix B contains the approved implementation plans. A summary for each plan follows:

1. **Family violence** was associated with an increased risk of suicide attempts, for men and women, and both victims and offenders. This was true whether the victim of the violence was an adult or a child. The greatest risk was found among Soldiers with less than 5 years of military service.
 - a. Action: Revise Family Advocacy Program (FAP) training/briefings to highlight domestic violence as a risk factor and identify resources to seek help before conditions become catastrophic or fatal.

- b. **Metric:** Utilize the Army accreditation process to validate if Army Community Service (ACS) centers and Medical Command (MEDCOM) have included family violence as one of the risk factors for suicidal behavior, and have proof that processes are in place for assessing, acting, intervening and referring Soldiers, Family Members, and Civilians in need of emergency services to appropriate resources.

- 2. The Army STARRS study identified a variety of **barriers to accessing behavioral health (BH) care** that were consistent with findings from previous Army researchers. Only about 20% of Soldiers with an active BH disorder reported being in treatment. The most common reasons for failing to seek help included a desire to handle the problem alone and the lack of available and affordable civilian treatment that the Army would not find out about (related to concerns about possible stigma and negative impacts on one's career). Other Soldiers perceived no need for treatment. A number of efforts were already underway at the time that the STARRS findings were released. Consequently, as a result of the additional STARRS data, the Army STARRS Research Advisory Team decided to formally track ongoing programs as they were being implemented.
 - a. **Action:** Complete implementation of ongoing program to embed behavioral health professionals in brigade work areas, called Embedded Behavioral Health (EBH), and Integrated Behavioral Healthcare Consultants (IBHC) in primary care clinics.
 - b. **Metric:** Monitor effectiveness of moving BH services closer to the point of need (in part, conducted under a separate ongoing collaboration with the Massachusetts Institute of Technology (MIT)).

- 3. The **most common sociodemographic risk factors associated with suicide attempts** included young age, female, non-Hispanic white, never married, junior enlisted, less than a high school education, or entered the Army either less than 21 years or greater than 25 years of age. Female Soldiers were twice as likely as males to attempt suicide, but males account for majority of suicide attempts by Soldiers as they constitute approximately 85% of the Army. These findings were entirely consistent with prior research, but were informative in reinforcing and measuring the strength of association for these variables.
 - a. **Actions:**
 - i. Analyze existing resilience and suicide prevention training for opportunities to include more information about "suicide protection" in the content.
 - ii. Revise training program to promote awareness.
 - iii. Modify internal Training Strategy and AR 600-63 accordingly.
 - b. **Metrics:** Monitor key performance indicators collected via the Global Assessment Tool.
 - i. Optimism, catastrophic thinking, support networks, loneliness, quality of relationships, spirit-enhancing practices, etc.
 - ii. The percent of Soldiers who believe their life has meaning and purpose.

More Study or Analysis Category

This category includes 37 findings that were inconsistent with results from other research or new findings requiring further validation and replication before taking action. There are multiple options for obtaining this additional information. Most frequently, the Army STARRS Research Advisory Team would forward a list of proposed analyses to the STARRS-Longitudinal Study Government Steering Committee (STARRS-LS GSC) via the Office of the Deputy Under Secretary of the Army (ODUSA), the operational and management support arm of the STARRS-LS. The STARRS-LS GSC would then determine whether the additional work could be handled by the STARRS-LS research team without requiring additional resources and without negatively impacting the existing overall research analysis plan. The STARRS-LS GSC includes representatives from the Office of the Assistant Secretary of Defense (Health Affairs), ODUSA, National Institute of Mental Health, Veterans Health Administration, and the MRMC Military Operational Medicine Research Program (MOMRP), and representatives from the Services. These individuals advise whether their existing research portfolio would likely produce the needed results, either through currently funded research studies or future planned efforts. Other Army and DoD organizations that could perform the additional research or extended analyses include, but are not limited to, the ARHC, Army Research Institute, Walter Reed Army Institute of Research (e.g., Accession Medical Standards Analysis & Research Activity), Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury, or the Defense Suicide Prevention Office.

No Current Action Necessary Category

There were 116 findings that fit into this category, which can be further divided into three subcategories: Supported, Informed, and/or Replicated Existing Programs/Policies.

These findings might be considered relevant to an existing policy or program, but no new action was deemed necessary. In some cases, the existing policy/program validated policies and/or procedures that seemed to cover the problem. Alternatively, there may have already been significant changes since the time of the analyses, suggesting it would be prudent to determine the success/failure of the new or existing policy/program prior to recommending additional actions. This category also included findings that replicated earlier research and new action was either unnecessary or not possible. For example, socio-demographics risk factors for suicide or suicide attempt, such as gender, cannot be changed.

Myth Busters

Technically, these are considered to be negative findings. However, they were important because showing evidence to refute commonly held assumptions allowed Army senior leaders to focus on other problems and avoid wasting resources to change programs or policies unnecessarily. These results also proved useful in addressing queries from media, Congress, and others concerned with the rising suicide rates. The Army STARRS Research Advisory

Team assigned the following items to this category, i.e., the following were not found to be associated with increased risk for death by suicide:

- **While there was increased risk of suicide associated with a Soldier's first deployment, there was no additional risk associated with subsequent deployments**, and the risk of suicide among Soldiers who had never deployed also increased over the same time period to a comparable or greater degree as those who had deployed. Thus, suicides among currently or previously deployed Soldiers did not explain the steep rise in Army suicide rates during the peak war years. Note: Other military studies have found no increased risk of suicide with any deployment, including the first. This difference in findings may be explained by different methodologies used by the various researchers. One of the key methodological limitations of the Army STARRS research was that it focused only on the Army and did not link military data with national death records. At least two other research teams found no association with deployment linked data with national death records (allowing for tracking of military risk factors during and after military service) and expanded their populations to look across the entire DoD during the war years, including after 2009.
- **The length of time in one's current** deployment, length of time since return from one's most recent deployment, the total number of deployments, and the length of dwell time, did not predict suicide.
- **Accession waivers** for medical, substance use, or conduct among enlisted Soldiers with less than five years of service were not associated with increased suicide risk.
- **Living in private housing** (1+1, no roommate in one's sleeping area) was not associated with increased suicidality.
- **Serving under Stop Loss** was not associated with increased risk of suicide.
- **Deployment status** (never, currently, or previously deployed) also did not affect a Soldier's risk of being detected for committing a major violent crime.

Transferring Knowledge to Commanders

A core, critical component to successfully translating research findings into practical prevention involves effective communication of information that will improve commanders' ability to recognize risky behaviors and take effective preventive actions, especially at the company and battalion level. The Army STARRS Research Advisory Team identified two established processes that could be leveraged to assist in translating research findings.

1. The Army STARRS Research Advisory Team command representatives discussed ways in which the existing commander's intelligence assessment process could be used as a framework to monitor and respond to risk behaviors exhibited in units. This leverages tools that unit leaders are already familiar with and trust.
2. The other core approach involves updating existing training programs to promote a better awareness of risk and protective factors for all types of suicidal behavior. Training and education programs offer the potential for dependable and effective transfer of knowledge in a consistent manner. Training and education help correct faulty presuppositions and biases and may help prevent adverse outcomes by facilitating more

informed, evidence-based decision making. Target programs for ongoing review in this context include:

- a. Professional Military Education (PME), universal resilience and suicide prevention training, etc.
- b. ACE-SI. It will be important to teach commanders not to “target” groups/individuals based solely on a simplistic risk profile (e.g., young females). Instead, commanders would learn to focus on observable indicators and behaviors that suggest the need for referral to BH for evaluation and support.
- c. ACT Integrated Bystander Intervention, replaced by *Engage*, addresses multiple risky behaviors with overlapping risk factors.
- d. Unit leader training. For example, G1/ARD published a Leaders’ Guide for Building Personal Readiness and Resilience (December 2016).

Communication of Findings

A common problem with research is that it is very difficult to ensure those most likely to value and use the results are informed about them. The Army STARRS Research Advisory Team took this challenge seriously and actively informed a wide variety of known and potential stakeholders. Examples of this outreach effort included the following:

- Vice Chief of Staff of the Army (VCSA) and the Undersecretary of the Army (USA) quarterly updates;
- Office of Secretary of Defense (OSD) Personnel and Readiness (P&R), e.g., Personnel Risk Reduction Group;
- Defense Suicide Prevention Office, Suicide Prevention and Risk Reduction Committee (DSPO SPARRC) bi-monthly meetings;
- MRMC Military Operational Medicine Research Program (MRMC MOMRP), responsible for strategic planning, programming, and budgeting for psychological health research, including suicide prevention research;
- Army Sexual Harassment/Assault Response and Prevention (SHARP);
- Other government agencies, e.g., Veterans Health Administration, the Interagency Task Force for Military & Veteran Mental Health; and,
- STARRS-LS Government Steering Committee, feedback loop to inform ongoing STARRS-LS research, suggestions for additional analyses, either to address current questions or to provide clarity and additional context to earlier findings.

Benefits Derived from STARRS Research

A byproduct of the translation process was the opportunity to critically assess whether the Army received a return on its substantial investment in STARRS research. This is difficult to quantify as some potential benefits may not be recognized or realized until years later. Some findings proved useful to debunk assumptions leaders had about events correlated to suicide. This was immensely helpful in redirecting attention to those research factors that had considerably more merit.

There are a number of identified or perceived benefits from the Army STARRS study worth noting:

- Army STARRS furthered epidemiological research through:
 - Aggregating diverse, disparate data sets (involving around 40 different data systems) into a single huge relational database with individual-level records for more than 1.6 million Soldiers; one of the largest, most complex databases of linked Soldier records ever assembled for BH research.
 - Making the database available (upon request and with approval of the Deputy Under Secretary of the Army) to other DoD analysts/researchers, e.g., SOCOM, studies funded by MRMC, post-graduates working with other research teams such as the Military Suicide Research Consortium.
 - Making certain data (e.g., survey responses, neurocognitive testing results, biomarker and genetic results) available to a wide range of external, non-DoD researchers, including survey responses in the Inter-university Consortium for Political and Social Research (ICPSR), and results from genome-wide association studies in the Psychiatric Genomics Consortium (PGC).
 - Demonstrating the feasibility of using military administrative data and/or self-reported data in complex predictive models, developing and testing seventeen outcome-specific models (suicide, suicide attempts, sexual assault perpetration or victimization, major violent crimes, etc.) to date.
 - Contributing to similar groundbreaking work in the Veterans Health Administration (VHA). The VHA is piloting a suicide prediction model across its enterprise, which may provide important lessons learned to the Army and DoD.
- DoD gained expertise in aspects of Human Capital Big Data management and new analytical methodologies.
 - The Army Analytics Group (supports all Services) and the Uniformed Services University of the Health Sciences are two organizations that benefited directly.
- “Myth busting,” provided evidence-based answers to common media, public, Congressional, and DoD senior leader queries.
- Army STARRS produced a highly detailed characterization of Army suicidal behaviors.
 - More detailed picture of risk than protective factors. Many factors are the same as found in previous studies of the US civilian, military, and veteran populations.
 - Strong overlap of risk factors for various outcomes, encouraged Army to seek synergistic benefits, e.g., embedded behavioral health programs are likely to provide benefits across different outcomes.
 - Initial work indicates that the National Guard and the Army Reserve are more similar to Regular Army than different.
- Confirmed that it is not uncommon for Soldiers to enter the Army with a high risk profile due to prior life experiences, family history, etc., despite existing screening processes, although these problems do not necessarily occur at higher rates than comparable civilian populations.
 - Adds to ongoing efforts by the Army and DoD to reassess accession processes.

- The Army STARRS Research Advisory Team established feedback loops to relevant policy, program, and research communities.
 - OSD(P&R), OASD(HA), MPMC MOMRP, DSPO, Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury (DCoE), SHARP, Army G1/ Army Resiliency Directorate (ARD), APHC.
 - Military Suicide Research Consortium (MSRC), NHRC Millennium Cohort Study.
 - Interagency collaboration.
 - VHA, primarily with regard to predictive analytics, expanding with STARRS-LS.
 - Interagency Task Force Military & Veteran Mental Health.
- Informed and educated both DoD and Army senior leaders and other audiences.
 - Many people are unaware or misinformed regarding suicidality in the Army.
 - Helped senior leaders and commanders focus on the most important issues.
- Contributed to the extant scientific literature.
 - Sixty-nine peer-reviewed manuscripts published in top-tier scientific journals to date.
 - Many presentations at scientific conferences.
 - Manuscripts by other researchers who used STARRS data, meta-analyses, etc.
- Motivated the Army to pilot a formal process to review and implement research findings.
- Met DoD's initial obligations per the National Research Action Plan.

Future Course—Challenges and Opportunities

Optimizing and enhancing readiness includes not only tackling suicide, but holistically addressing the health and well-being of our Soldiers and Families. A significant challenge to promoting health and mitigating negative trajectories is the complexity of individual, leader, unit, institution, and system factors. To address the multi-factorial nature of suicidal behavior, the Army's response must be multidisciplinary and interconnected. Research helps to optimize and enhance readiness by providing understandable and actionable information that shapes DOTMLPF-P solutions. Research empowers individuals and leaders at all levels to make informed decisions based on the best evidence available if findings are communicated in a timely and effective manner. However, a significant number of research studies have no significant findings or the findings are not actionable (e.g., young male Service members are more at risk for suicide). Additionally, some findings require replication and accumulation of evidence before warranting action.

MPMC MOMRP

The STARRS effort is a part of a larger comprehensive portfolio of rigorous psychological health and resilience research designed to inform and deliver evidence-based solutions to optimize and enhance readiness. MPMC is responsible for keeping tabs on the landscape of federal and non-federal funded psychological health and resilience research that may have applicability to the military. The Army STARRS Research Advisory Team process facilitates

consideration of Army STARRS findings in the context of other relevant efforts and research findings to ensure effective decision-making on the part of those responsible for implementing actions. The STARRS Research Advisory Team effort also helps to identify Army STARRS findings that are useful for informing intervention development and areas of focus that are part of the larger MRMC research portfolio.

The Army must capitalize on the Army STARRS Research Advisory Team process by not only focusing on translating Army STARRS findings, but also ensuring:

- organizations responsible for implementing actions are aware of other MRMC managed work, Federal and non-Federally funded research that is yielding promising interventions and tools that might be ready for small or large-scale implementation.
- senior leader visibility and implementation of promising interventions and tools derived through research.

DCS G1

ARD efforts have been informed by HPRRSP actions and continue to be refined by STARRS findings and methods. Resilience training started the same year as the HPRRSP Task Force and is intended as a more universal prevention method, whereas HPRRSP efforts were more targeted. However, both are concerned with the same sets of behaviors.

STARRS analysis has reinforced the fact that suicidal behavior, and the conditions that can contribute to those and other risky behaviors, is exceedingly complicated, but continues to demonstrate the multivariate entwining of underlying mental health problems, personal attributes, occupational experiences, interpersonal relationships, and environmental influences on Soldier behaviors, both positive and negative. Understanding the underlying complexity continues to move beyond past Army shortcomings in having developed stovepipe programs to provide single variable methods and answers. This builds on prior HPRRSP Task Force priorities which emphasized coordination and synchronization of efforts across programs. The STARRS research methods underscored the inherent complexity and tested enhanced statistical methods. The lessons learned from both efforts are allowing ARD to change the structure, process and perspective of addressing the issue. ARD is changing the structure of R2 programs to become integrated capabilities, with an integrated installation or mission command level to deal with local challenges, facilitated by the Community Health Promotions Council process. Most importantly, ARD is attempting to change the Army cultural perspective on Soldier risk behavior by focusing efforts on identifying positive behavior and results instead of concentrating solely on the reduction of negative behaviors. This perspective is reflected in the Army R2 Strategic Objectives, messaging and training focus on Optimized Human Performance and training Soldiers to *Engage* one another to correct attitudes or behaviors that are inconsistent with personal growth, mutual respect and dignity, a culture of trust and Army Values. Present and future STARRS research results will continue to inform Army R2 efforts. As an example, Army STARRS results showed that Soldiers who are demoted or at lower than expected rank may be more vulnerable to suicidal behaviors. This fact has been inserted into our Leader's Guide to Personal Readiness as a fact and watch item for supervisors and leaders.

The R2 Portfolio Capability Assessment (PCA) creates a common evaluation standard and framework that aligns capabilities and resources to Army strategic outcomes. This evaluation process has recently been revised to better synchronize the R2 Program Objectives and Measurements with those in the Enduring Personal Readiness OPORD and being added to AR 600-63. This realignment helped to increase efficiency and effectiveness of the evaluation efforts and better utilize internal and external assets to produce recommendations for Army Senior Leadership concerning program capability resourcing and priorities

Two efforts that the DCS G1 has managed separately from the STARRS involve the Commander's Risk Reduction Dashboard (CRRD) and the Complex Behavior Model (CBM). The impetus for the CRRD was a direct result of the HPRRSP Task Force. The CRRD meets the call for "effective communication of information that will improve a commander's ability to recognize risky behaviors and take effective preventive actions at the company and battalion level". CRRD is and will be the platform for conveying Soldier risk information to unit leaders.

The CBM attempts to look at the problem of suicide within the myriad of risk behaviors that are not suicidal, but might contribute to trajectories leading to more serious self-destructive behaviors, and as such, is focused on all behaviors that could be determined to be risk or protective factors. The CBM relies on a composite model of risk factors that continues to be under study for refinement and efficacy. As the results of STARRS predictive analysis are validated and refined, and predictive analysis from the CBM emerge, there is the potential for improving target interventions to Soldiers at highest risks, conveyed on the CRRD platform with guidance to unit leaders on which prevention or intervention actions may be most appropriate and effective.

ACSIM

Army Families tend to be self-sufficient, but as a RAND study of readiness notes, even small percentages of struggling families can have a significant impact on readiness in an institution as large as the Army. The ACSIM continues proactive coordination with all stakeholders to address family violence and other high-risk behaviors, such as suicides. In the 2015 and 2016 Army Crime Report, the ACSIM ensured that language addressing STARRS Finding #23, "the correlation between Family Violence and Suicide attempts," was included among Commander's learning points.

The ACSIM, as proponent of Army Family and Morale, Welfare and Recreation (FMWR) programs, developed an Enterprise-wide methodology to review programs and portfolios of programs, and later was tasked by the VCSA's HPRRSP effort to further develop that methodology in order to create a balanced portfolio of programs in support of strategic HPRRSP readiness outcomes.

That original assessment methodology has continued to evolve and mature. The OACSIM and Installation Management Command (IMCOM) communities continue to drive culture-change to require outcome-based program management and delivery through formal program evaluation and cost-benefit analyses. These efforts are aimed at building a foundation of evidence of effectiveness for FMWR programs that strengthens Soldier and Family readiness.

The HPRRSP effort initiated an on-going, long-term commitment to ensure that programs are well-balanced, resourced, and proven to contribute to Soldier and Family readiness and self-reliance.

OTSG

One of the most complex discussions is about behavioral health issues and suicide. The OTSG/MEDCOM's on-going transformation of medical services addresses the presence of one or more underlying mental disorders, by far the strongest risk factor for suicide and suicidal behavior. As documented by multiple research studies and the Red and Gold Books, factors such as the stigma surrounding behavioral health care, barriers to accessing care, the complexity of treatment, and the existence of co-morbid conditions, such as post-traumatic stress disorder (PTSD), mild traumatic brain injury, and drug and alcohol abuse all impact the effectiveness of treatment efforts. The OTSG/MEDCOM provides the structure of care to support extensive screening and treatment for behavioral health conditions to support medical readiness. Considerable research over many years has identified key barriers to receiving optimal care, and this knowledge has been directly utilized to inform the transformation of services to ensure comprehensive behavioral health support across the Army.

As a result, since 2010 MEDCOM has completely transformed the structure of BH care across the Army, to include implementation of the Embedded BH program and BH providers in primary care which has helped to improve access, reduce barriers, and improve coordination and communication between providers and unit leaders. Outpatient, inpatient, multidisciplinary and family services have been expanded and standardized. OTSG/MEDCOM has also established routine mental health screening processes spanning a Soldier's professional career that are designed to enhance identification of BH problems and access to care. In addition, objective measures of effectiveness have been implemented.

The BH Data Portal (BHDP) has become the standard for measuring clinical outcomes. There are a number of clinical and programmatic outcomes that are routinely tracked at all levels of management to ensure there is sufficient capacity to meet demand and ensure high quality standardized care across the enterprise. Policies, standard operating procedures, and provider training have been revamped to foster consistent delivery of evidence-based treatments. Research has continually informed clinical programs and policies. Outcome measures have shown that these efforts have had a significant impact on improving care and provided the metrics for ongoing evaluation to refine and enhance all of these efforts. While many of these efforts began in parallel to the STARRS study, the study's benefit has promoted the need for continued research and support for the progress in the medical arena.

Office of the Chief of Chaplains–Unit Ministry and Family Life Chaplains

Because the lives of Soldiers, Family members and authorized Civilians matter, the U.S. Army Chaplain Corps builds spiritual strength through Title 10 religious support, comprehensive and confidential pastoral care, counseling, and moral leadership. Strategically, the Office of the Chief of Chaplains (OCCH) addresses the multi-factorial challenge of suicidal behavior by supporting the STARRS Research Advisory Team with policy advisement, with holistic physical

and spiritual health integration strategies, and with outcome-based translation of findings. Operationally and tactically, the Chaplain Corps provides religious support and gives care for every Soldier, Family member, and authorized Civilian. Some examples of the most salient OCCH focused-care initiatives are immediate care for at-risk STARR respondents, Title 10 religious services, Senior Leader Care events, Strong Bonds training events, Strong and Ready Initiative events, confidential Family Life counseling and resiliency programs, and embedded Chaplains and Chaplain Assistants at all Army battalions and above units. Each focused-care initiative provides empirical, outcome-based, and effective face-to-face confidential coaching, confidential counseling, and non-attribution safe environments that reduce suicidal risk, enhance life-behaviors, and increase Readiness.

Reviewing and Translating Findings from STARRS-Longitudinal Study (STARRS-LS)

Though much has been learned from the original Army STARRS research effort, additional benefits are likely to accrue from further research. This is especially true given that the various outcomes of interest, such as suicide and suicide attempts, are rare. A longer observation time allows the researchers to learn more about how the Soldiers they enrolled have done during their military careers. Recognizing this strong potential benefit, OASD(HA) funded a 5-year follow-on research effort called STARRS-Longitudinal Study (STARRS-LS). Consequently, the Army STARRS Research Advisory Team's work is not done and there will be many more findings to evaluate. The STARRS-LS Research Advisory Team Charter is Appendix C.

Applicability of the Army STARRS Research Advisory Team Translation Process to other Types of Research

The Army STARRS Research Advisory Team process can evaluate whether particular STARRS findings should inform the development and testing of specific interventions. Additionally, although the focus of the Army STARRS Research Advisory Team has been on STARRS findings, as the Army STARRS Research Advisory Team continues its work, ASA(M&RA) will also keep an eye open for opportunities to expand the existing process to include evaluation of other research efforts. The Army STARRS and STARRS-LS are components of a much larger, comprehensive suicide research portfolio managed by MRMC MOMRP that includes the work of the Military Suicide Research Consortium and other efforts focused on development and validation of screening and risk assessment tools as well as non-clinical prevention approaches (e.g., skills-based training) and clinical interventions. The Army STARRS Research Advisory Team is a logical platform to review and leverage findings from the larger MRMC MOMRP research portfolio that includes not only other suicide prevention research, but a broad array of behavioral health research, e.g., resilience building approaches, PTSD, and risk behavior preventive interventions.

The Army STARRS Research Advisory Team process can easily be applied to the findings from DoD and Army-funded intervention studies with positive findings in studies of Soldiers and other Service members. For example, in the past year, findings from other research efforts have

added to the body of evidence demonstrating that approaches such as brief cognitive behavior therapy for individuals who are at high risk of suicide can be effective for reducing the risk of future suicide attempts in active duty Soldiers. Also, crisis response planning and safety planning have been demonstrated in rigorously designed studies to decrease the chances of future suicide attempts in Soldiers. These are just a few examples of findings involving suicide prevention approaches that could benefit the Army and should be evaluated by the Army STARRS Research Advisory Team. There are also promising findings from PTSD treatment studies that the Army STARRS Research Advisory Team process may also help to facilitate translation into practice. There are a number of other suicide prevention intervention studies that will be finishing this year and within the next few years, which may yield results that the Army could leverage.

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Appendix A: Sample Pre-decisional Summary Report

Pre-decisional Summary of Army STARRS Finding(s) # 121, 123, 125, 127

Suicidal Ideation (SI) among US Army Enlisted Soldiers

Source: Ursano et al. Medically Documented Suicide Ideation Among U.S. Army Soldiers. Suicide & Life-threatening Behaviors, e-pub 29 Nov 2016. This analysis was part of the Historical Administrative Data Study (HADS) with n=778,041 Regular Army Soldiers serving in the period of 2006-2009. The researchers identified individuals with first medically documented suicidal ideation (SI), from DoDSER and MDR (v-code 62.84) records, and excluded anyone with documentation of other suicidal behaviors. The control group consisted of a 1:200 sample of control person-months. Time in service (TIS), deployment status, and mental health diagnosis were examined in separate models that controlled for basic sociodemographic variables (gender, age at entry into the Army, current age, race, education, and marital status). All analyses also included a dummy predictor variable for calendar month and year to control for secular trends. Discrete-time hazard functions examined association between TIS and SI.

Finding #121: There were 10,232 enlisted Soldiers (1,825 females) with first medical documentation of SI, which corresponded to a rate of 588/100,000 person-years (p-y).

Related Research: The APHC 2015 Annual Suicide Surveillance Report includes suicide ideation rates. The overall crude rate for 2009 (enlisted and officer) was 159.4/100,000. The crude rate among junior enlisted Soldiers (E1-E4) was 288.4/100,000. However, cases were limited to DoDSER reports. Not including events based on the SI v-code would result in a lower rate than what the researchers reported.

Finding #123: Enlisted demographic predictors of SI included being female (OR 1.6 (1.5–1.7), 788.0/100,000 p-y), < 21 years at the time of the SI (OR 3.9 (3.6–4.3), 1,209.9/100,000 p-y), 25 or older when entering Army service (OR 1.6 (1.5–1.8), 557.9/100,000 p-y), no high school diploma (OR 1.8 (1.7–1.9), 1,244.7/100,000), and having never (OR 3.9 (3.6–4.2), 936.8/100,000 p-y) or previously deployed (OR 3.5 (3.2–3.8), 519.9/100,000 p-y). Being 40 years or older was protective (OR 0.6 (0.5–0.7), 188.7/100,000 p-y), though SI was still four times more common among the older enlisted Soldiers.

Related Research: These predictors are quite similar to what STARRS reported for suicide attempts by Soldiers.

Finding #125: Clinical predictors of SI if enlisted personnel included any mental health diagnosis in the past month (OR 14.4 (13.7–15.0), 4,676.3/100,000 p-y).

Related Research: Well-recognized and widely reported predictor for all types of suicidality.

Finding #127: The risk for SI was highest during the first two years of enlisted service (OR 2.2 (2.0–2.4), 1,113.4/100,000 p-y) peaking in the second month, and then declining steadily.

Related Research: Same as STARRS reported for suicide attempts by Soldiers.

	Criterion	Rating	Comment
A	Strength of association	High	Nothing notable compared with other findings on suicide behaviors. Note: This study relied on medical encounter records to identify cases. The vast majority of events involving suicidal thoughts do not come to the attention of a healthcare provider, so the reported findings underestimate the true burden.
B	Consistency, specificity, and coherence	High	Similar to other findings.
C	Relevant to a potential action or intervention	Low	Nothing that is newly actionable
D	Ethicality	Ethical	
E	Legality	Legal	
F	Practicality and feasibility of the potential action	Low	An intervention specifically targeting suicide ideation would be impractical.
G	Likelihood of unintended consequences or potential that harm could outweigh benefits	High	Harm would likely outweigh risks focusing solely on ideation.

Screening Review Team Comments:

Suicide ideation is both an indicator of distress and a predictor of more serious suicidal behavior. Approximately a third of individuals with suicide ideation go on to attempt suicide. The number and rates of medically documented suicide ideation reported in this study underrepresent the extent of the problem as most episodes never come to the attention of the medical community or chain of command. The predictors for Soldiers who do not seek help may differ from the predictors for Soldiers who were willing to discuss what was bothering them. The risk of medically documented suicide ideation was highest among enlisted Soldiers, particularly in the early phases of Army service. The peak for SI was in the second month of service, when Basic Training is drawing to a close, similar to the timing of suicide attempts. Basic trainees face many challenges, including physical and mental demands, separation from family and friends, and loss of control over one’s day-to-day life. Additionally, many trainees have pre-existing vulnerabilities related to their past experiences prior to joining the Army.

Many Soldiers with SI had recently been evaluated for a mental health problem. This highlights the importance of accurately assessing suicide risk during clinical encounters and providing help. Several ongoing DoD and Army research efforts seek to identify better ways to assess suicide risk and develop more effective interventions.

The most consistent predictors among all Soldiers included being female, young, and with a recent mental health diagnosis. Effective interventions focused on these groups within the Army,

especially during basic training when the risk of suicide ideation and attempts are both high, may prevent more serious suicidal outcomes. Despite females being at greater risk, the majority of cases of suicide ideation in the Army involve male Soldiers given the relative scarcity of female Soldiers (males accounted for 84% of the enlisted SI cases). Consequently, education, awareness, training, and interventions must be designed to address the needs of both male and female Soldiers.

Training programs and educational materials must take into account the different backgrounds of specific audiences. For example, much of this information is already known among clinicians, but may not be as widely recognized by Army peers, supervisors, First Sergeants, and Commanders. It is critical that everyone understand that every suicidal statements is serious and requires specific actions (interventions), not allowing the individual to claim it was a “joke.” This applies to Applied Suicide Intervention Skills Training (ASIST) and other suicide prevention and intervention training courses.

Recommendation(s):

No other recommended actions at this time. Archive for future reference.

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Appendix B: Approved Finding Implementation Plans

Implementation Plan for Finding #23: Family violence is associated with an increased risk of suicide attempts among both men and women victims and offenders. This was true whether the victim of the violence was an adult or a child. The greatest risk was found among Soldiers with less than 5 years of military service.

Lead: ACSIM, First Assist: G1/ARD, Second Assist: OTSG/BHD

Other research that supports/ and or refutes the finding:

STARRS finding #23 is supported by several research studies which illustrate a correlation between family abuse and suicide among victims and offenders. The pending loss of freedom, shame, etc. – in addition to relationship losses – increases the risk of suicide.

- In a 2008 report published in the British Journal of Psychiatry (, Dr. Gustavo Turecki and colleagues at McGill University in Montreal Canada found that the incidence of suicide attempts bears a correlation to the type of abuse and the identity of the abuser, generally a first line relative, such as a father or brother will have greater impact on an individual (Brezo, et al. (2008.) Predicting suicide attempts in young adults with histories of childhood abuse. *British Journal of Psychiatry*; 193(2): 134-139.
- Suicide.Org cites “one out of every four women who is a victim of domestic violence attempts suicide”.
- The New York State Office of Prevention of Domestic Violence, highlighted in their 2010 bulletin “women who experience intimate partner violence are 12 times more likely to end their lives by suicide than those who have not. Children are at risk also.”
- In accordance with a study done by Shanta Dube, there is a two to five fold increase in suicidal behavior for children exposed to domestic violence (Dube, et al. (2001.) Childhood abuse, household dysfunction, and risk of attempted suicide throughout the life span. *Journal of the American Medicinal Association*; 268 (24): 3089-3096).
- In D. Cohen, M. Lorente, and M. Eisdorfer study of Homicide/Suicide in Older Persons, the following was cited: marital conflict involving divorce is indicated in about one-third of homicide-suicides among older couples, an increased use of alcohol, a recent perceived or actual significant decline in health before the act and spouses facing a separation, such as a move to a long-term care residence, are risk factors for suicide homicide (Cohen, D., Llorente, M., Eisdorfer, M. (1998.) Homicide-suicide in older persons. *American Journal of Psychiatry*; 155: 390–6, 1998). Though, the latter study references older persons, many Soldiers experience similar experiences such as divorce, increase in the use of alcohol, long term health care, which make them vulnerable for suicide/ homicidal behaviors found in older couples.

What is being done already to address this finding (Policies, Programs, Research)?

The Health Promotion Risk Reduction, Suicide Prevention (HPSPRR) Pamphlet, 600-24 has very prescriptive language regarding roles and responsibilities of stake holders in identifying risk, and actions to be taken in mitigating suicide. In collaboration with the Public Health Center (USAPHC), the Suicide Prevention Office, produces material that list family violence as one of many risk factors associated with suicidal behavior. For example, ACE for Soldiers

and ACE for Army Civilians address anger as a warning sign and one type of noticeable changes of behavior. ACE for Army Civilians also discusses anger issues and anger management and violence in the home or social environment. While violence in the home environment is cited in current training, the ideas that this warning sign applies to victims or perpetrators, adults or children is new.

The Installation Management and Medical Commands are aware of their roles in establishing platforms to mitigate suicide and other at-risk behaviors, and to adapt processes and training to address this issue. Army Community Service (ACS) is required to conduct informational Family Advocacy Program (FAP) briefings to commanders within 45 calendar days of assuming command (and annually thereafter), unit leaders, Soldiers, spouse organizations, and civilian staff. In accordance with AR 608-18, The Family Advocacy Program, FAP, is responsible for promoting public awareness within the military community and coordinating professional intervention at all levels within the civilian and military communities, including law enforcement, social services, health services, and legal services. The broad interpretation of FAP guidance allows the Army to easily incorporate Family violence as an additional risk factor to suicide in all Family Programs staff training agendas, briefings and campaigns.

FAP staff works with the U.S. Army Training and Doctrine Command (TRADOC), The Judge Advocate General (TJAG), and individual Army schools to ensure instruction is sufficient to prepare school attendees to perform their duties and responsibilities in relation to prevention, intervention and reporting family violence (domestic violence and child Abuse /Neglect. In response to HPRRSP tasks, Assistant Chief of Staff (Installation Management)/Installation Management Command (ACSIM/IMCOM) revised AR 608-1, Army Community Service, to ensure suicide prevention material obtained from USAPHC is included in briefs to ACS staff, and Child, Youth and School Services (CYSS) personnel in support of suicide risk identification efforts, and ensures the integration of suicide prevention materials obtained from USAPHC is included in ACS training plans and briefings to Family members. Finally, AR 608-1 enforces collaboration with installation chaplains and Warrior Transition Unit commanders when conducting suicide prevention training and establishing a comprehensive information program that includes the suicide prevention hotline number, and other resources to mitigate suicide.

The US Army Medical Research and Materiel Command (MRMC) research portfolio includes studies aimed at increasing family resilience and understanding factors that contribute to family violence in order to deliver interventions that can address the factors. For example, a study was recently funded to evaluate a military adaptation of an evidence-based civilian intervention designed for early detection and preventive care for struggling couples before marriage dissolution occurs. Initial work demonstrated that the intervention delivered in three 30-minute appointments can be effectively used by behavioral health consultants working in Air Force integrated primary care clinics. The current work will investigate the efficacy of this intervention in a randomized controlled trial with active duty and activated Reserve participants.

MEDCOM utilizes a clinical FAP intake to identify risk of harm to self or others. It examines a range of variables, such as sleep, pain, medication abuse, substance abuse, PTSD/depression, loss of relationship, financial problems, etc. to arrive at a snapshot of their risk.

Commanders impose a cooling off period after a domestic violence incident is reported. The Soldier is ordered into the barracks for a period of time between 3-7 days. A FAP clinical provider must make every attempt to assess both the Soldier and their partner early on to determine the risk of harm to self or others and communicate that risk to the Command.

Is there a new action required in response to this finding? Yes

If yes, what new action is required: (Policy, Program, Research)

Clinical staff make every attempt to assess both the soldier and their partner early on to determine the risk of harm to self or others and communicate that risk to the Command.

Program: Integrate this finding in ACS Family Programs training, FAP stakeholder training, briefs, and FAP directed campaigns treatment. Work with the U.S. Army Training and Doctrine Command (TRADOC), The Judge Advocate General (TJAG), and individual Army schools to ensure instruction is sufficient to prepare school attendees to perform their duties and responsibilities in relation to Family Violence.

Define Outcomes: (Program: Training and Awareness)

1. Enhanced awareness and understanding within the Army community (commands, Soldiers, family members and civilians) regarding the increase in suicide attempts among child and adult victims and offenders of family violence, regardless of gender.

2. Increased understanding among the Army community regarding risk factors and resources available to intervene in preventing domestic abuse and suicide using material available through United States Army Public Health Command (USAPHC).

3. Increased knowledge among Family Advocacy Treatment providers to better assess suicidal ideations among Soldiers and family members (victim or offender) engaged in family violence and ensure appropriate and timely referrals.

4. Increased non-clinical FAP personnel knowledge by highlighting the need for more comprehensive assessments when developing and safety plans for both victims and offenders of family violence.

Policy Implications/Requirement: There are no implications for policy revisions for ACSIM/IMCOM. However, Army G-1 ARD proposes to revise their policies to meet the intent of this action.

1. The Army Community Service executes two policies, AR 608-18 and AR 608-1; each are written broadly enough to allow for a finding such as STARRS #23 be included in all training curricular, briefs, campaign plans design for the Army Community. In addition, Health Promotions, Suicide Prevention and Risk Reduction Pamphlet; 600-24 provides prescriptive language to the Army Community on roles and responsibilities for mitigating suicide.

2. G-1/ARD will pursue changing the policy to identify as a minimum all required Gatekeepers at installations and MTFs and post this result in AR 600-63 Table 4-1. Posts, camps and stations, mission command or MTFs may add gatekeepers to the minimum required list at their discretion, but they must be resourced locally.

Research Implication(s): No implications for further research at this time.

Population: Soldiers, commanders, 1SGs, Family Members, civilians, peers, and students and trainers of the following Army schools: pre-command course, JAG, Family Advocacy Staff Training, behavioral health providers, Child Youth and School Services personnel, law enforcement personnel. Military Family Life Counselors, Family Readiness Group Leaders, DA-sponsored FAP Staff Training (FAST) and FAST-Advanced (FAST-A) courses, to include specialized training for law enforcement and legal personnel.

Military Life Cycle Vector: Accessions throughout Transition

Process:

TASK 1: Ensure language regarding the finding is populated in training plans and suicide prevention products.

OACSIM/IMCOM task:

- Ensure language regarding this finding is included in commander and 1SGs training and briefed within 60 days of assuming command.
- Revise/update FAP products to highlight that family violence victims and offenders are at risk for suicide, i.e. FAP Commander's Guide.
- Ensure this finding is highlighted in domestic abuse and child abuse prevention campaigns
- Add to ACS Certification Process a review of all ACS curricula and briefs to insure family violence is listed as one of the indicators for suicide, an SOP that address responses to suicide and other emergency type situations, and a list of resources to mitigate suicide.
- Provide Information regarding this finding to stakeholders to include in training curricula.
- Collaborate with PHC to ensure that finding is highlighted in suicide prevention and intervention material.
- Collaborate with TRADOC to ensure finding is highlighted in military professional education curricula regarding domestic abuse and suicide prevention, (Pre-Command Course, JAG School, Law Enforcement School, Family Advocacy Staff Training, Sexual Harassment, Assault Response and Prevention School House).

G-1 Task:

- Ensure information regarding this finding is included in suicide prevention, SHARP and Army Substance Abuse Training and products.
- Ensure language included in the current material to provide an explanation of why family violence is a risk factor. This explanation, which should be briefly written, should address the fear for the loss of the relationship and abandonment as being an antecedent to the suicidal behavior

AMEDD task(s):

- Ensure BH assessment and/or treatment curricular are revised to address family violence as one of the risk factors for suicidal ideation.
- Ensure this finding is included in Family Advocacy Staff Training curriculum.

TRADOC Task:

- Ensure command military education includes this finding when conducting suicide prevention and Family Advocacy training at PME (Officer/NCO)

TASK 2: Include by-stander intervention for family violence in Army G-1/WRAIR combined unit training (e.g., CSF2, ASAP, Suicide prevention, etc.)

ACSIM/IMCOM TASK:

- Explore opportunities with Army G-1 to include finding and opportunities for FAP to be included in bystander intervention combined CSF2, ASAP, Suicide prevention training effort

TASK 3: Evaluation:

Task 3.a:

ACSIM/IMCOM Task:

- Utilize the Army Certification process to validate if ACS centers and MEDCOM have included family violence as one of the risk factors for suicidal behavior, and have proof that processes are in place for assessing, acting, intervening and referring Soldiers, Family Members, and Civilians in need of emergency services to appropriate resources.

Task 3.b.:

ACSIM/IMCOM Task:

- Develop a Tasking Plan to document whether FAP stakeholders have included Family Violence findings inherent training curricula's.

Task 4.:

Stakeholders Task: (TRADOC, TJAG, AMEDD Center and School, Army G-1 etc.)

- Inform ACSIM IMCOM of actions taken to include in the training curriculum.

Researchers' comments: not applicable

Implementation Plan for Findings #21 and 25: Soldiers who think they need treatment may fail to seek help due to attitudinal (desire to handle problem alone) and structural (lack of available and affordable civilian treatment that the Army would not find out about) barriers. More commonly, Soldiers with a mental health disorder perceived little or no need for treatment, believing they could handle the problem themselves, it was not serious, or that it was already getting better with time. Only about one-fifth of Soldiers with an active BH disorder reported being in treatment. Soldiers were more likely to be in treatment if they were married, non-Hispanic Black, or had previously deployed. Treatment was also more likely for three specific conditions (bipolar disorder, panic disorder, PTSD) and for any condition that had lasted more than 8 months. Note: This finding has not yet been published (awaiting editor's decision), and derived from survey responses from a subset of the All Army Study (N=5,428). Replication with the full AAS sample is planned. However, similar results have been reported by other researchers.

Lead: OTSG/BHD

Is there other research that supports or refutes this finding?

The finding that Soldiers fail to seek help when needed is confirmed as well as the data on reasons for not seeking help, particularly attitudinal perceptions of self-sufficiency.

- See for example the articles by Hoge, C. W., et al. (2014). PTSD treatment for soldiers after combat deployment: Low utilization of mental health care and reasons for dropout. *Psychiatric Services*; 65: 997-1004; and Adler AB et al. (2015). Longitudinal determinants of mental health treatment-seeking for US soldiers. *British Journal of Psychiatry*; 207(4): 346-350 doi:10.1192/bjp.bp.114.146506). Both of these articles also provide an overview of prior research.
- There is also considerable knowledge on structural barriers (e.g., Hoge, et al. (2004). Combat duty in Iraq and Afghanistan, mental health problems, and barriers to care. *New England Journal of Medicine*; 351: 132-22.). Multiple efforts that have been put into place to address findings in these and previous studies have led to documented improvements in stigma perceptions and access to care (e.g., Quartana, P. J., et al. (2014). Trends in mental health services utilization and stigma in US soldiers from 2002 to 2011. *American Journal of Public Health*; 104: 1671-1679.)
- The findings regarding demographics are also well known (e.g. females being more willing to seek help, association of help-seeking with deployment), and it is not surprising that conditions that lasted for longer periods would be associated with seeking treatment, as would other indicators of severity (e.g. including bipolar disorder diagnosis).
- The association of treatment seeking with the diagnoses of PTSD and panic disorder is also not surprising, considering the high programmatic and training attention on PTSD (which overlaps closely with other anxiety disorders, including panic disorder).

What is being done already to address this finding (Policies, Programs, Research)?

There are numerous policies and programs focused on decreasing stigma and barriers and on increasing access to high quality mental health services. These include BH in primary care, embedded behavioral health care in brigade combat teams, Combat Operational Stress Control forward deployed services, increased behavioral health personnel, and closer tracking of provider workload and installation capacity at the MEDCOM, regional, and installation level. There is continuous and enhanced screening for the most important mental health conditions throughout Soldiers' careers and deployment cycles, as well as routine screening during primary care visits. There is enhanced coordination of care to ensure that Soldiers who are identified and referred through the multiple screening initiatives receive needed services. There are also numerous training initiatives through Comprehensive Soldier and Family Fitness and other programs to specifically target stigma of mental health treatment to leaders, soldiers and families. Early data on structural barriers (e.g. Hoge, et. al. 2004) led directly to efforts to enhance availability of confidential services that are outside of normal military and TRICARE healthcare environments (e.g. Military One Source, Military Family Life Consultants). The recent plans to move the Alcohol and Substance Abuse Program services under MEDCOM and ensure more confidential treatment is another important effort to reduce the stigma of help-seeking for alcohol and substance use disorders.

MEDCOM is actively and routinely tracking retention in treatment through the monitoring of how many BH visits occur after new diagnosis of depression and PTSD, and there is routine coordination across MTFs focused on this outcome. There are also research efforts ongoing to try to figure out how to specifically address attitudinal perceptions that are most important in help-seeking, although this is an area in which there is a considerable gap in research.

Finally, MEDCOM is transforming outpatient BH care to extend opportunities to access and remain in care. Embedded BH (EBH) creates direct relationships between BH providers and specific battalions and moves the BH clinic closer to the point of need. Analysis by the Massachusetts Institute of Technology shows that Soldiers supported by EBH teams receive BH care approximately 35% more frequently than Soldiers in other units. MEDCOM has also extended access to BH care by placing BH providers into primary care clinics. The Internal BH Consultant (IBHC) program has made 94 BH providers available within the primary care setting to reduce stigma and increase ease of access for Soldiers and their Family Members.

Is there a new action required in response to this finding? Yes No

If Yes, what new action is required (Policy, Programmatic, Research)?

Policy/Programmatic: Complete implementation of EBH and IBHC programs.

Research: Increased research on the problem of attitudinal perceptions, particularly perceptions of self-sufficiency and negative perceptions of mental health care reported by Soldiers. Intervention trials focused on improving engagement and retention in mental health treatment are urgently needed.

Define outcomes and identify if outcomes are Policy, Programmatic, or Research outcomes:

1. Research Outcome: Demonstrate effectiveness of new intervention to improve engagement and retention in BH services after new diagnosis
2. Research Outcome: Demonstrate effectiveness of new intervention to improve perceptions of mental health care.
3. Programmatic Outcome: Increase utilization of EBH and IBHCs as program implementation continues.

Policy Implications: No policy implications at this time.

Program Requirement: No program requirement at this time, except to increase attention on research gap.

Program Name: N/A

Program Stakeholder(s) (ARSTAF/Garrison): US Army Medical Research and Material Command (MRMC)

Populations: Soldiers and Leaders

Continuum of Care: N/A (though research may lead to targeted interventions)

Key Features: N/A

Military Lifecycle Vector: Not limited to any particular facet of the military lifecycle.

Process: Finding Implementation Recommendation:

1. Coordinate with MRMC to ensure that there is focus on increasing interventions research focused on enhancing engagement and retention in treatment.
2. Complete roll-out of BH programs that move BH closer to the point of need, such as EBH and IBHCs.

Launch/Pilot Test Phase: N/A

Post-Implementation Monitoring (metrics/outcomes):

1. Per research protocols (with scientific and human use oversight).
 2. Staffing data through MEDCOM.
- Feedback to Researchers: Better integrate their findings with findings of other researchers.
Collect implementation results: N/A
Determine Army implementation: N/A
Final Implementation Recommendation: N/A
Researchers' comments: N/A

Implementation Plan for Findings #7 and 8: Non-fatal suicidal behavior was most common among Soldiers who had one or more of the following demographics: female, non-Hispanic white, never married, junior enlisted, less than a high school education, or entered Army before age 21. Females are twice as likely to make a suicide attempt as males. Females entering the Army after age 25 also had a higher rate of suicide attempts. Remember, though female Soldiers are more likely to make a suicide attempt than male Soldiers, males account for the majority of all suicide attempts each year due to the much larger proportion of male Soldiers in the Army.

Lead: G1/ARD, First Assist: OTSG/BHD.

Other research that supports or refutes this finding: This finding confirms and extends knowledge that behavioral health conditions, including suicide attempts and suicides, are higher in younger junior enlisted Soldiers earlier in their career. Additionally, females have higher rates of **attempts** while **death by suicide** is higher in males.

What is being done already to address this finding (Policies, Programs, Research)?:

While demographic risk factors are important, the reality is that these demographic groups represent large populations and underlying mental disorders are often not visible to commanders or unit leaders. The Army has programs in place to assist Soldiers with first term assignments to high operational tempo brigade combat teams by having behavioral health services embedded directly within their brigade work areas. These services are part of an integrated behavioral health system of care. In addition, there are standardized processes to facilitate communication between commanders and behavioral health providers. In addition, ACE-SI is suicide prevention training targeted deliberately to company level leaders (squad leaders, platoon sergeants, platoon leaders, first sergeants, executive officers, company commanders and Army Civilians assigned at company level).

Is there a new action required in response to the finding?: Is there an answer here? Yes
No

If Yes, What New Action is Required (Policy, Programmatic, Research)?

Training:

(1) Task: Analyze the resilience training and suicide prevention training that is delivered now in Initial Military Training (IMT) and Professional Military Education (PME). Determine if it can be revised to introduce more opportunities to support Soldiers and their families into the content.

Result: ARD has developed an internal Training Strategy for FY17-20. ARD is leveraging resilience skills as primary prevention for a host of risk or maladaptive behaviors. The analysis for IMT (BCT) is complete and partially implemented. Basic Leaders Course (BLC), Basic Officers Leaders Course (BOLC, including OCS, WOCS and WOBC), Company Commander/1SGT Pre-command course will be completed in FY17 and FY18. The revised content will replace annual ACE training. Tenets of ACE will continue to be taught through the *Engage* training now being implemented on a by request basis.

(2) Task: Ask, Care, Escort (ACE-SI) Suicide Intervention – Review and update with the demographic information. Ensure that training does not encourage leaders to “target” certain groups of individuals based solely on their demographics (e.g. young females), but to instead focuses on observable performance indicators and behaviors that suggest need for referral to BH care.

Result: ACE will be replaced by the results of Task 1.

(3) Task: ACT Integrated Bystander Intervention. Determine if it can be revised to introduce more “suicide protection” into the content. Determine if it is suitable to include demographic risk factors in the training.

Result: ARD has developed “*Engage*” training to address multiple risk behaviors. *Engage* teaches the principles of peer-to-peer engagement and is based on Army Values, emphasizing that all members of the Army team have a duty and obligation to engage when alerted. *Engage* is designed to allow for customization to address specific behaviors determined by routine assessment and teaches through the use of authentic scenarios that can be coached by lower level leaders. Soldiers proactively practice daily on-the-spot corrections to build confidence, form a connection and moves the opportunity to engage from a point-of-crisis intervention to the first deviation from standard.

(4) Task: Review current Army training for unit leaders to ensure that specific observable behaviors suggesting a need for a BH referral are included.

Result: All current and future training and training support products discuss observable behaviors that suggest leader attention and a need for a BH referral.

Define Outcomes and Categorize as Policy, Programmatic or Research

Training outcomes as stated above.

Policy Implications/Requirement: AR 600-63 will be revised to reflect the change from ACE to *Engage* once *Engage* is fully tested and field validated.

Program Requirements:

ARD/Suicide Prevention: Continue to develop and implement training as outlined in the Resilience Training Strategy FY 17-FY20.

Populations: Soldiers, Leaders, Family Members and Civilians

Continuum of Care: Universal

Military Lifecycle Vector: Total

Summary of Implementation Actions

1. Assessment of current training material.-Complete

2. Estimate of time and resources to implement changes. Complete and documented in ARD Training Strategy
3. Implement changes in training per Training Strategy
4. Evaluate knowledge change at end of training and trending self-reports of attitudes and behaviors in broader survey efforts such as the ARI Attitudes Survey now in development
5. Track numbers of Soldiers trained to estimate saturation or extent of impact of changes in attitudes or behaviors

Metrics:

1. R2 Strategic Objective 1- Sustained Personal Readiness to Meet Operational Requirements
2. SO 1.2 Individuals are psychologically ready to meet the mission
3. Key Performance Indicators from GAT:
 - a. Personal Assessments of: level of optimism, catastrophic thinking, existence of support networks, level of loneliness, quality of relationships, spirit-enhancing practices
 - b. Percentage of Soldiers who believe their life has meaning and believe there is a purpose for their life.

Researchers' comments: not applicable

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Appendix C: STARRS-Longitudinal Study Research Advisory Team Charter

CHARTER

Assistant Secretary of the Army (Manpower and Reserve Affairs) Study to Assess Risk and Resilience in Servicemembers Research Advisory Team

1. Name of Committee: Assistant Secretary of the Army (Manpower and Reserve Affairs) (ASA (M&RA)) Study to Assess Risk and Resilience in Servicemembers – (STARRS) Research Advisory Team (SRAT)
2. Category and Type of Committee: Intra-Army.
3. Date Established: 1 May 2017.
4. Authority: The Secretary of the Army memorandum dated 1 October 2015, subject: STARRS-Longitudinal Study (LS).
5. References:
 - a. DoD Instruction 5105.18 (DoD Intergovernmental and Intragovernmental Committee Management Program), 7 August 2012.
 - b. Army Regulation 15-39 (Department of the Army Intergovernmental and Intragovernmental Committee Management Program), 29 May 2015.
6. Date to be Terminated: The need for this advisory function is on a continuing basis. However, it will terminate upon completion of its mission or five years from the date this charter is approved, whichever is sooner, unless extended by the Secretary of the Army or their designee.
7. Mission or Purpose: The ASA (M&RA):
 - a. Reviews STARRS-LS findings and recommends associated Army action (e.g., new or revised Army policy and/or operational practices) to improve Army readiness.
 - b. Provides supervision/oversight of review and implementation of the STARRS actionable findings assigned to Army staff organizations using the established framework and step-by-step process and procedures identified in Enclosures 1, 2, and 3.
 - c. Establishes a governance process to use STARRS-LS research to improve understanding of the patterns and correlations of a wide range of outcomes with likely operational, clinical, and/or public health significance consistent with principles outlined in Attachments 1 & 2.

d. Recommends offices of primary responsibility and offices of coordinating responsibility for actions related to STARRS findings.

e. Applies Army-wide expertise to provide recommendations for STARRS Human Dimension (HD) initiatives and programs.

8. Direction and Control: The Advisory Team will report to and receive direction from the Assistant Secretary of the Army (Manpower & Reserve Affairs) (ASA(M&RA)) who exercises management direction and oversight related to findings interpretations and coordination, strategic communication, presentations, as appropriate to facilitate Senior Leader updates.

9. Committee Structure and Membership: The STARRS Advisory Team members are:

a. Senior Advisor for Integration (Human Dimension) ASA (M&RA), (Chair).

b. Deputy Chief of Staff, G-1 (DCS, G-1).

c. Deputy Chief of Staff, G-3/5/7 (DCS, G/3/5/7) command representatives.

d. Assistant Chief of Staff (Installation Management) (ACSIM).

e. The Surgeon General (TSG).

f. Chief, Army Reserve (CAR).

g. Director, Army National Guard (ARNG).

h. Medical Research and Materiel Command (MRMC).

i. Army Public Health Command (APHC).

j. Key stakeholders and subject matter experts (SMEs), requested to participate by the Advisory Team depending on the topic/issue.

10. Estimated Number of Meetings: The SRAT will meet at least quarterly, and up to biweekly (every other week), between approximately 10-20 times annually based on work demand.

11. Estimated Annual Operating Costs and Staff Years: The total estimated operating costs, including travel and meeting and contract support, are approximately \$326,888. The estimated annual personnel costs to the Department of the Army are 1.85 full-time equivalents (FTEs). The costs are:

a. The number of work years annually required for the attendance of Board participants (all Board members and any participating staff), including any requirements for formal action officer meetings, councils of colonels, and any other preliminary or shaping sessions leading to the Board, is 1.75 FTEs at an estimated cost of \$250,416.

b. The number of FTEs annually required to support the Board (including partial FTEs) is .30 FTEs at an estimated cost of \$36,728.

(1) The number and grade of any full-time Government (civilian or military) support staff or members whose duties are exclusive to the board is zero.

(2) The size, source, and estimated cost of any contract support staff is .10 FTEs at an estimated cost of \$39,744.

c. The cost of meeting space is zero because the Board will use existing Government facilities.

d. The annual travel costs are zero.

12. Administrative Support: The ASA (M&RA) is the sponsor the SRAT. The SRAT Chair will assign an Executive Secretary from the Office of the Deputy Under Secretary of the Army (ODUSA) STARRS or ASA (M&RA) to provide staff support that includes coordination of meetings, publication of meeting agendas and minutes, financial, administrative, and logistical and other support services necessary to carry out the functions of the SRAT. The Executive Secretary will assist in other matters pertinent to the operations of the SRAT.

13. Other Data: N/A.

14. Correspondence: Issues for referral to the committee should be directed to the Research Advisory Team's Executive Secretary.

a. The SRAT's Executive Secretary will establish and maintain a knowledge management center for sharing information within the SRAT and Army-wide as appropriate.

b. The SRAT's Executive Secretary will record, maintain and distribute minutes.

15. Date Reviewed:

16. Version 1.0

<signed>

Encls

DIANE M. RANDON
Senior Official Performing the Duties of
The Assistant Secretary of the Army
(Manpower and Reserve Affairs)

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Appendix D: STARRS-LS Research Advisory Team Members

Ms. Delores Johnson Davis	Chair (ASA (M&RA))
Mr. Joseph Trebing (P)	ACSIM
Ms. Kelly (Dorie) Hickson (A)	ACSIM
Ms. Jacqueline Richardson (A)	ACSIM
Dr. Kenneth Cox (P)	APHC
COL William Greer (P)	ARNG
LTC Larry Guenther (A)	ARNG
Mr. Gilbert Morales (A)	ARNG
LTC Kerri Golden (P)	ASA(M&RA)
COL Mary Krueger (A)	ASA(M&RA)
LTC Jason Townsend (P)	CMD Team
SGM Tamara Gregory (A)	CMD Team
Ms. Kathleen Dippold	DSPO
Dr. Laura Neely	DSPO
Mr. Randall Lane (P)	G1/ARD
Dr. Leslie McFarling (P)	G1/ARD
Mr. Richard Teolis	HRC
COL Dennis McGurk (P)	MRMC
Dr. Katharine Nassauer (A)	MRMC
Dr. Sharmila Chari (A)	MRMC
CH (COL) Jonathan Shaw (P)	OCCH
CH (COL) James Schaefer (A)	OCCH
CH (COL) Jerry Sieg (A)	OCCH
Mr. Isaac Farley (P)	OPMG
Ms. Katharine Brennan (A)	OPMG
Mr. Tom Blair (A)	OPMG
Mr. Lee K. Miller (A)	OPMG
Dr. John Davison (P)	OSD-HA

Dr. Allison Bondanza (A)	OSD-HA
LTC Todd Yosick (A)	OSD-HA
LTC Dennis Sarmiento (P)	OTSG- BHSL/MEDCOM
Dr. Charles Hoge (A)	OTSG- BHSL/MEDCOM
MAJ Sonya Brown (P)	USAR
LTC Carolyn Dukes (P)	USAR / OCAR
MSG Shaunron Lee (A)	USAR
Mr. Jose Mojica (A)	USAR / OCAR

(P) denotes Principal Member
(A) denotes Alternate Member

Appendix E: Glossary

ACE-SI	Ask, Care, Escort - Suicide Intervention
ACSIM	Assistant Chief of Staff for Installation Management
ACS	Army Community Service
AKO	Army Knowledge Online
AMEDD	Army Medical Department
APHC	Army Public Health Center
AR	Army Regulation
ARD	Army Resiliency Directorate
ARNG	Army National Guard
ASA (M&RA)	Assistant Secretary of the Army (Manpower & Reserve Affairs)
ASIST	Applied Suicide Prevention Intervention Skills Training
BLC	Basic Leaders Course
BHD	Behavioral Health Division
BHDP	Behavioral Health Data Portal
BOLC	Basic Officers Leaders Course
CAR	Chief, Army Reserves
CBM	Complex Behavioral Model
CRRD	Commander's Risk Reduction Dashboard
CYSS	Child, Youth and School Services
DA	Department of the Army
DCoE	Defense Centers of Excellence
DCS	Deputy Chief of Staff
DoD	Department of Defense
DoDSER	Department of Defense Suicide Event Report
DOTMLPF-P	Doctrine, Operations, Training, Materiel, Leadership and Education, Personnel, Facilities – Policy
DSPO SPARRC	Defense Suicide Prevention Office, Suicide Prevention and Risk Reduction Committee
EBH	Embedded Behavioral Health
FAP	Family Advocacy Program
FAST	Family Advocacy Staff Training
FAST-A	Family Advocacy Staff Training - Advanced
FMWR	Family and Morale, Welfare and Recreation
FTEs	Full Time Equivalents
GAT	Global Assessment Tool
GSC	Government Steering Committee
HADS	Historical Administrative Data Study

HPRRSP	Health Promotion Risk Reduction Suicide Prevention
IBHC	Integrated Behavioral Healthcare Consultants
ICPSR	Inter-university Consortium for Political and Social Research
IMCOM	Installation Management Command
IMT	Initial Military Training
MDR	Military Health System Data Repository
MEDCOM	Medical Command
MIT	Massachusetts Institute of Technology
MOMRP	Military Operational Medicine Research Program
MRMC	Medical Research and Materiel Command
MSRC	Military Suicide Research Consortium
MTFs	Military Treatment Facilities
NCO	Non-commissioned Officer
NHRC	Naval Health Research Center
NIMH	National Institute of Mental Health
OASD(HA)	Office of the Assistant Secretary of Defense for Health Affairs
OCCH	Office of the Chief of Chaplains
ODUSA	Office of the Deputy Under Secretary of the Army
OEF / OIF	Operation Enduring Freedom / Operation Iraqi Freedom
OPMG	Office of the Provost Marshal General
OTSG	Office of the Surgeon General
P&R	Personnel & Readiness
PGC	Psychiatric Genomics Consortium
PHC	Public Health Center
PME	Professional Military Education
PTSD	Post-traumatic Stress Disorder
R2	Ready & Resilient
SHARP	Sexual Harassment / Assault Response and Prevention
SI	Suicidal Ideation
SIG	Strategic Initiatives Group
SMEs	Subject Matter Experts
SOCOM	Special Operations Command
STARRS-LS	Study to Assess Risk and Resilience in Servicemembers-Longitudinal Study
TIS	Time in Service
TJAG	The Judge Advocate General
TRADOC	Training and Doctrine Command
TRG	Technical Review Group

USUHS
VCSA
VHA
WOBC
WOCS

Uniformed Services University of the Health
Sciences
Vice Chief of Staff of the Army
Veterans Health Administration
Warrant Officer Basic Course
Warrant Officer Candidate School

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