Can Access to Data Prevent Army Suicides?

Identifying Optimal Response Strategies for Army Leaders

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Key findings

- Experts generally agree that information on suicide risk indicators could be useful for devising a suicide prevention response strategy, provided leaders first and foremost seek advice from behavioral health experts.
- Central to any leader response to suicide risk indicators is the need to keep information about individual soldiers and the care they receive confidential.
- Data on atypically high-risk behaviors are valuable in raising leader awareness of risk indicators and for conducting "root cause" analyses.
- Trend data about suicidality within units has limited utility both because suicide is a relatively rare event and because individuals assigned to a unit change over time.

SUMMARY ■ Among the many efforts under way to prevent suicide in the U.S. Army is a program to develop an information system that would provide leaders with data on high-risk behaviors among individuals and within units that could serve as the basis for prevention and intervention activities. One shortfall of this approach, however, is the lack of guidance on how Army leaders should interpret and use these data. To address this gap, RAND convened a group of experts to reach consensus on recommended actions for leaders who are informed that (1) an individual soldier exhibits a risk factor for suicide, (2) their unit exhibits an atypically high prevalence of suicide risk factors, or (3) their unit exhibits a concerning trend of suicidality. The experts generally agreed that information on suicide risk indicators could be useful to unit leaders if leaders also received guidance on appropriate actions that should be taken based on this information. They felt that leaders who become aware of a soldier at high risk of suicide should first and foremost seek advice from behavioral health experts in devising a response strategy, but central to any response is the need to keep information about individual soldiers confidential. At the unit level, data on atypically high-risk behaviors should prompt a "root cause" analysis to discern whether the heightened prevalence is a reflection of actual behaviors or can be explained by other factors, like increased surveillance of behaviors in certain units. Suicide trend data at the unit level were considered of limited utility for leader action because suicide is a relatively rare event and because individuals assigned to a unit change over time, and, therefore, trends do not necessarily reflect a given cohort.

THE ORIGINS OF DATA-DRIVEN SUICIDE PREVENTION INITIATIVES IN THE ARMY

Over the past decade, the U.S. Army has invested significant resources in its efforts to prevent suicide and respond to a well-documented increase in suicides among active-duty soldiers (Ramchand et al., 2011; U.S. Department of Defense Task Force on the Prevention of Suicide by Members of the Armed Forces, 2010). Army guidance—specifically, Army Pamphlet 600-24, *Health Promotion, Risk Reduction, and Suicide Prevention*—describes official Army suicide prevention programs and calls specifically upon leaders to play an active role in preventing suicides (HQDA, 2009). For example, it states, "Prevention is dependent upon caring and proactive unit leaders and managers who make the effort to know their personnel, including estimating their ability to handle stress, and who offer a positive, cohesive environment which nurtures, and develops positive life-coping skills" (p. 1). Furthermore, "it is [commanders'] responsibility to ensure access to behavioral health care and that a particular problem or crisis has been resolved before assuming the person is out of danger" (p. 1).

In the 2010 *Army Health Promotion, Risk Reduction, and Suicide Prevention Report* (referred to as the "Red Book"), the Army expressed frustration with current information systems that fail to "adequately inform leaders of high risk behavior" (U.S. Army, 2010, p. 201). To address these limitations, it embarked on what was termed the Army Net-Centric Data Strategy, an "approach to Army data sharing that will make data visible, accessible, institutionalized, understandable, trusted, interoperable, and responsive to user needs" (U.S. Army, 2010, p. 201).

However, the Army acknowledged that this strategy is a long-term solution and promoted "customized information portals and dashboards" as an intermediate step for use by leaders and providers of programs and services for Army personnel. A portal, in this context, is "a web page with links to other sites, all related to a unifying core topic, and provides the beginning steps for aggregating and sharing data along the Care Continuum" (U.S. Army, 2010, p. 201).[1] A dashboard was defined as "a snapshot of key information summarized on a single web page that delivers *actionable knowledge* to leaders and program/service providers" (U.S. Army, 2010, p. 212; emphasis added).

While a number of portals exist across the Army today, to our knowledge, the idea of a dashboard was still notional in 2010. In response to the publication of the Red Book, the Army Health Promotion and Risk Reduction Council[2] assigned the Office of the Deputy Chief of Staff for Personnel (G-1) to develop and manage an information system that "provides Commanders the ability to detect, measure, and track unit-level risk behavior and to identify Soldiers who are high risk in order to engage in prevention and intervention activities" (U.S. Army Communications-Electronics Command, 2014). The G-1 took a series of steps to identify adequate funding sources, information technology solutions, and data elements and, in January 2014, deployed the Commander's Risk Reduction Dashboard (CRRD) in one Army battalion. As of December 2014, the Army was conducting evaluations of commanders' experiences with and reactions to the CRRD. When fully operational and disseminated across the Army enterprise, the CRRD is intended to provide information to identify high-risk behavior and risk factors, analyze soldier risk, analyze unit risk, identify trends, and develop intervention strategies. Although there has been progress in most of these domains, those in charge of developing and disseminating the CRRD have reported that that they have not yet identified intervention strategies or developed guidance for leaders on how to use the system.[3]

Data Elements in the CRRD

Proof of concept (current inclusions)
Screened for substance abuse, enrolled in Army substance abuse program, positive tests for illicit drugs, drug or alcohol offenses, criminal records, accidents/injuries, child or domestic abuse, readiness-limiting behavioral health profiles

Fully operational version (planned)
Courts martial, absence without official leave, disciplinary actions, administrative separations pending, financial problems, pending medical board decisions, Family Advocacy Program use, eviction notices, changes in marital status

NOTE: Data elements as of October 2014.

Identifying Data for Suicide Prevention and Recommending Actions for Army Leaders

The Army collects an enormous amount of data on soldiers that it could provide to leaders for use in monitoring suicide risk factors. However, it is unclear what specific actions leaders may or should take based on this information. The current study attempted to address this issue. Specifically, on August 11, 2014, RAND Arroyo Center gathered experts with back-

grounds in behavioral health and military leadership from across the United States to participate in a half-day exercise. The expert panel was tasked with reaching consensus on the best recommended actions for leaders who are informed that (1) one of their soldiers exhibits a risk factor for suicide, (2) their unit exhibits atypically high prevalence of suicide risk factors, or (3) their unit exhibits a concerning trend of suicidality (see box below).

In preparation for the expert panel, on July 31, 2014, RAND experts, including two RAND Arroyo Center Army fellows,[4] convened for an initial pilot panel. The main objective was to test the expert elicitation methods and identify how the subsequent expert panel could be improved. Because changes were made to the structure of the exercise between the pilot and subsequent panels, we do not discuss the collective expert input we received. Nonetheless, we occasionally discuss results from the pilot panel to highlight where the two groups of experts converged and diverged in their recommendations.

The remainder of this report presents the views of the participating experts. It is important to note the possibility that a different group of experts would reach different conclusions. Replicating the exercise with other groups of experts would enhance the validity of the recommended actions.

Although our results are most directly relevant to the CRRD, the method we employed, the conclusions reached, and the recommendations provided may be relevant to the entire Army Net-Centric Data Strategy enterprise, which relies on data and the interpretation of data to further its mission.

The Expert Panel Process: Three Phases of Consensus Building

Phase 1 addressed individual soldier risk for suicide and consisted of two parts:

- Experts reached consensus on the risk factors and corresponding data elements that would be most useful for identifying a soldier's risk for suicide. Before the discussion began, each expert independently wrote down at least three suicide risk factors that would be useful for assessing suicide risk, could be made available to leaders, and would be actionable. After sharing and combining the risk factors by theme, the experts reached consensus on the top five that could be available to leaders and at least one data element representing the risk factor (e.g., medical records to identify a prior suicide attempt).
- Experts engaged in a hypothetical exercise in which a new soldier with a prior suicide attempt (the highest-ranked risk factor) arrived at an Army unit and the leader of the unit had access to such data. Experts discussed the unit leader's best action in this situation, considering the feasibility of implementing the action and the possible intended or unintended consequences for the soldier, unit, and leadership. If no clear consensus emerged, the group voted on the recommended actions. Finally, each expert independently and anonymously rated the usefulness of the knowledge that a soldier had a prior suicide attempt in terms of assessing future suicide risk.

Phase 2 addressed how units should be evaluated for suicide risk and consisted of three parts:

- Experts identified the criteria that leaders should use to evaluate the risk of suicide in a given unit. In other words, what information should leaders use to identify whether a unit is "atypically high" for a given risk factor? The experts sought to reach consensus on recommended courses of action using the example of a unit with an atypically high number of legal problems (one of the risk factors identified in the first phase of the exercise). Responses could range from "doing nothing" to "disbanding the entire unit."
- Experts considered a unit that ranked atypically high on all five of the top-ranked risk factors and whether the leader's recommended action would change in response.
- Each expert independently and anonymously rated the usefulness of knowledge that a unit has an atypically high incidence of legal problems in terms of assessing unit suicide risk.

Phase 3 involved identifying conclusions that could be drawn from suicide trend data at the battalion level:

- Experts reviewed and interpreted hypothetical suicide trend data for an Army battalion. Given the Army's suicide trend data between 2008 and 2013, and assuming a battalion of 1,000 soldiers, the figure mirrored the overall Army trend but was ten times higher than what might be expected (i.e., one to two suicides per year in a battalion).
- Experts discussed what additional information, if any, would be useful to interpret or act on suicide trend data and what actions should leaders take if they had data indicating an increase in suicide in a battalion.
- Each expert independently and anonymously rated the usefulness of suicide trend information for assessing unit suicide risk.

They may also be relevant to similar initiatives being pursued in other military branches and across the U.S. Department of Defense, such as the Wellness Assessment and Risk Nexus being developed by the Defense Suicide Prevention Office.

HELPING LEADERS IDENTIFY INDIVIDUAL SOLDIERS' RISK FOR SUICIDE

One of the primary purposes of the Army's data strategy, reflected in the CRRD, is to help leaders identify high-risk soldiers. But what data would be most useful to Army leaders for identifying soldier risk for suicide? What are the best actions leaders could take once they possess this information?

Collecting Risk Information

Epidemiologic evidence on risk factors for suicide and how they pertain to the military has been reviewed elsewhere (Ramchand et al., 2011; Nock et al., 2013). The strongest evidence is that prior suicide attempts, mental disorders, and substance-use disorders increase the risk for suicide, though there is also emerging evidence that head trauma/traumatic brain injury, psychological factors (e.g., hopelessness, problem-solving deficits, impulsivity), life events (e.g., relationship problems, death of a loved one), firearm access, and exposure to the suicides of others raise individual suicide risk. However, it should be noted

that even the strongest risk factors have relatively low predictive power. For example, the strongest risk factor for suicide is a history of prior suicide attempts, and although nearly half of suicides have a history of attempts, only 5–15 percent of those who attempt will ultimately die by suicide (Isometsa and Lonnqvist, 1998; Harris and Barraclough, 1997).

We assumed all the experts invited to participate in our panel had knowledge of this literature prior to participating. Yet, rather than provide the participants with a set of risk factors previously identified in the literature, we asked them to identify exclusively those risk factors that could be useful, available, and actionable. Because of the large number of actual or hypothesized risk factors for suicide, it was important to ensure "buy-in" among all experts on the panel in the second and third

Expert-Identified Risk Factors for Suicide Risk

- Agitation
- Behavior change
- Childhood experiences
- Confusion about duty
- Coworker conflict
- Distracted
- Domestic violence victim
- Exposure to suicide
- Guilt
- Hospitalization for a mental health problem
- Injuries
- Legal problems
- Major medical problem
- Mental health diagnosis
- Post-combat
- Punishment/Uniform Code of Military Justice action
- Recent loss
- Relationship problems
- Sense of belonging to unit
- Sleep problems
- Social media activity
- Statements of futility/hopelessness
- Substance abuse
- Suicidal ideation
- Suicide attempt
- Triggering events
- Withdrawn from others

phases of our exercise to identify the top five risk factors that met these criteria. In total, the expert panelists cited 27 unique risk factors that might help Army leaders identify soldiers at risk for suicide. According to the panel, the top five factors for identifying soldier risk are suicidality and mental health status, behavioral health status, relationship problems, legal problems, and financial problems. Table 1 lists data sources for these top risk factors; the list was not limited by whether leaders currently had access to this information.

Suicidality (i.e., suicidal ideation or a past suicide attempt) and mental health status (being discharged from a hospital with a mental health diagnosis) are the top factors that leaders can use to identify suicide risk in individual soldiers. The second-ranked risk factor is behavioral health status, which includes psychological symptoms (guilt, hopelessness, statements of futility), substance abuse, or a mental health diagnosis. For both of these constructs, possible data elements include medical records, reports by soldiers themselves or their family members, incident reports, and even soldiers' own social media activity. The third-ranked risk factor is relationship problems. Although the experts agreed that relationship problems are highly relevant to suicide risk, they debated whether data elements exist to capture relationship problems adequately enough to be actionable. They ultimately agreed that a change in a soldier's next of kin could be a potential, albeit crude, indicator of such problems. The fourth-ranked category is legal problems, including suspected commission of a crime and victimization, where existing data sources derive heavily from law enforcement but also, potentially, from self-reports (i.e., a restricted report of sexual assault). Finally, financial problems are the fifth most useful for identifying suicide risk; relevant data sources include credit scores, banking records, change of employment status, and change in security clearance.

It is worth noting that the five top-ranked risk factors are closely aligned with the risk factors identified by the RAND experts who participated in the pilot panel. Their top five resources are presented in Table 2.

Responding to Individual Soldier Risk Data

If a new soldier has arrived at an Army company and the leader is aware that the soldier has had a prior suicide attempt, how should the leader respond? Opinions differed as to what actions leaders should take, so we organize the recommended actions into three categories: those unanimously agreed upon, those with varying levels of expert agreement, and one that was raised and ultimately rejected.

The experts agreed on three recommended actions. The first was that leaders should *consult behavioral health providers* because these providers are best positioned to interpret this type of information. Behavioral health providers can then work with leaders to develop a strategy to integrate the soldier into a unit, identify specific opportunities for success, and monitor the soldier. Ideally, unit leaders would reach out to behavioral health

Table 1: Five Risk Factors Most Useful for Identifying Suicide Risk

Risk Factor	Possible Data Sources
Suicidality and mental health status Suicidal ideation, suicide attempt, hospital discharge for a mental health problem	Medical records, self-report, family report, police report, incident report, unit leader emails, social media activity
Behavioral health status Guilt, hopelessness, statements of futility, substance abuse, mental health diagnosis	Medical records, self-report, family report, police report, incident report, unit leader emails, social media activity
Relationship problems	Change of next-of-kin status
Legal problems Domestic violence, personal violence, sexual assault	Law enforcement/Uniform Code of Military Justice, self-report (victimization surveys)
Financial problems	Credit scores, banking records, change of employment status, change in security clearance

Table 2: Five Risk Factors Most Useful for Identifying Suicide Risk, Pilot Panel

Risk Factor	Possible Data Sources
Prior suicide attempt	Medical records
Mental health status	Medical records, screening data
Work relationships	Negative performance review/evaluation, performance counseling records
Personal relationships	Divorce, Army Community Service records
Financial problems	Wage garnishment, creditor notification

providers, not the other way around, to preserve confidentiality and trust between the soldier and provider.

If leaders and behavioral health providers agree that a particular response is warranted, it should be *tailored to the normal integration routine of the unit*. Leaders should not treat new soldiers with a suicide attempt history in a way that differs from the treatment of other new soldiers in the same unit. For example, leaders should not assign a "buddy" or "mentor" to a new soldier if other new soldiers are not assigned one. However, if it is routine practice to assign a buddy to new soldiers, leaders may tailor their response and assign a buddy who is particularly mature and empathetic. In addition, routine leadership practices—such as meeting with new soldiers and getting to know them, ensuring that they are aware of on-base resources, and following up with them to ensure that they are assimilating to the new environment—could help support new soldiers who have had a prior suicide attempt. This was the primary recommendation of the pilot panel as well; those advised that leaders "facilitate successful, non-unique, and non-stigmatizing assimilation," which included "watchful waiting."

The experts also agreed that *leaders should not address the past suicide attempt directly with the soldier* unless the soldier brings it up with the leader. Thus, when getting to know the soldier, leaders should not refer to or mention the past suicide attempt, nor should they refer to or mention the past suicide attempt to mentors or buddies assigned to the new soldier. However, if the soldier brings it up with the leader, the leader should be prepared to talk with the soldier about how he or she is doing and ensure that he or she is receiving needed care and is aware of existing resources. Again, the pilot panelists generally made the same recommendation.

Our experts identified four other actions a leader can take if made aware of an individual soldier who at risk for suicide, but views differed on whether these actions should be pursued.

Nine out of eleven experts agreed that leaders should *notify their superiors "up" the chain of command*. This recommendation was based on the assumption that senior leaders should know everything about soldiers that a company leader knows. Notifying up the chain of command would ensure that battalion, brigade, and division leaders know that the company commander is knowledgeable about the soldiers in his or her unit. It would also indicate that the company commander is working to successfully integrate new soldiers into the unit. Fewer experts (five) agreed that leaders should *notify those "down" the chain of command*, such as informing the noncommissioned officer in charge or a chaplain.

The potential problem with notifying the chain-of-command, up or down, is the risk that someone will divulge confidential information about an attempted suicide and, thus, that the shared information will ultimately have deleterious effects. Because nine experts agreed that this information should be shared up the chain of command, that divulgence is presumably less of a risk among senior leaders than among junior leaders, who may interact more regularly with the identified soldier. In contrast, pilot panel participants generally

Ideally, unit leaders would reach out to behavioral health providers, not the other way around, to preserve confidentiality between the soldier and provider.

agreed that leaders should engage in "selective sharing" of the information with a close-hold group that may include company commanders, chaplains, and possibly even noncommissioned officers.

Only one expert felt that leaders should *proactively seek out information* about the soldier's suicide attempt, though this was heavily debated. Those initially in favor of the recommendation indicated that individual narratives of the attempt could help identify more tailored ways to respond and support the soldier. However, other panel members emphatically challenged this idea, asserting that company leadership is not qualified to collect, interpret, or act on any information acquired through this type of investigation. Most panel members ultimately agreed that leaders should not seek out such information, especially in light of the unanimously agreed-upon recommendation to notify a behavioral health provider who is qualified to collect and interpret this information and would do so if it were found to be necessary.

Assessing the Utility of Individual Risk Information

For the first part of the exercise, we asked the experts to identify and come to consensus on risk factors, data elements, and recommended actions. We then asked whether having information on a prior suicide attempt would be useful for assessing future suicide risk. As Figure 1 indicates, the experts were split: Four of the 11 panelists believed that such data were not at all useful (on a scale ranging from 1 = not at all useful to 4 = extremely useful); three rated the information extremely useful. The remainder believed that having information on a soldier's past suicide attempt was moderately useful (mean = 2.27, standard deviation = 1.27).

Determining Whether Context Matters

Our expert panelists mentioned that certain contextual information may help discern a soldier's level of suicide risk upon joining a new unit when he or she has had a prior suicide attempt—information such as the date of the suicide attempt, the number of past suicide attempts, and the means by which the soldier attempted suicide in the past. But experts agreed that unit leaders really do not require access to such information because *leaders are not qualified to interpret how contextual details about a soldier's past suicide attempt or history of suicidality affect the risk of future suicide*. This type of information is best left to behavioral health professionals to access and evaluate.

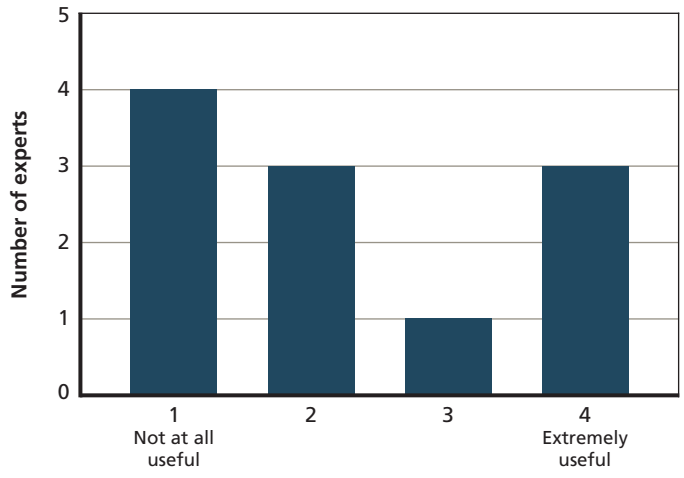
IDENTIFYING UNIT-LEVEL SUICIDE RISK

A secondary goal of the Army Net-Centric Data Strategy is to identify high-risk behavior within a unit, a function that would be available to leaders using the CRRD. But how should unit-level data be used? How should units be compared to define the prevalence of a behavior as "atypically high"? What are the best actions leaders could take once they know that their unit meets these criteria?

Comparing Units

A member of Army Resiliency Directorate, G-1, informed the expert group that the Army currently evaluates units relative to a rolling average for the entire service; rates above 1.5 or two times the average is considered atypically high. The experts agreed that the lowest level at which a unit should be evaluated is the *battalion level*—the smallest level at which minor changes do not have strong influence on averages and trends. Battalion-level aggregated data should be *compared across many different groups*, including the entire Army and the smallest similar unit (i.e., other battalions in the same division). A few panelists also recommended that, if feasible, efforts should be made to adjust for the different demographic compositions of groups being

Figure 1: Utility of Information on a Past Suicide Attempt for Assessing Suicide Risk



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compared, noting that there are significant differences between battalions with respect to age, gender, and rank that are associated with some of the risk factors identified earlier. Battalion commanders, however, may not have easy access to the data or analytic tools necessary to make such adjustments. *Historical comparisons within units should be avoided*, primarily because the composition of units is constantly changing, so such comparisons are not useful.

Responding to Unit-Level Risk Data

If a battalion has an atypically high level of legal problems, for example, how should Army leaders respond to this information? The expert panelists agreed that, first and foremost, it is important for leaders to understand that there are many misleading causes for atypically high rates of risk factors in Army units. For example, a battalion may have atypically high positive drug screens because the battalion commander screens soldiers more frequently, rather than because drug use is higher in that battalion. In other cases, certain leaders may be more strict and diligent in recordkeeping than other leaders. Thus, it is important to understand whether the data reflect a true high prevalence of a risk factor or merely increased scrutiny or surveillance in the unit.

Because of these various causes for atypically high rates, *no routine action is recommended* in response to unit-level suicide risk data; its value is in raising Army leader awareness and for use in analysis. In other words, Army leaders presented with these data have an indication of a potential problem that may warrant further investigation. With respect to the investigation, it is important to conduct a "root cause" analysis to determine the source of the increased prevalence of, in this case, legal problems. The Army already has means in place to collect data for use in conducting such analyses, which may include sensing sessions and command climate surveys.[5] Only after conducting a root cause analysis should leaders consider efforts for mitigation or intervention.

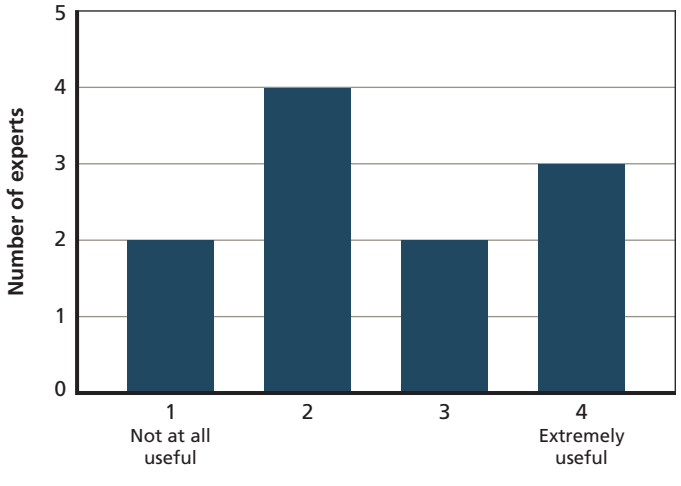
This conclusion—that no routine action is recommended other than raising awareness and supporting analysis—held up among the convened experts even in a case where a unit was atypically high on all five risk factors (suicidality, behavioral health, relationship problems, legal problems, and financial problems). But when a unit is atypically high on multiple risk factors, there is an increased likelihood that leadership or cultural factors are contributing to the problem, in addition to individual soldier risk. As a result, Army leadership at higher levels should investigate and should also be willing to request an external investigation, such as by the Army's Office of the Inspector General, which can bring to bear sufficient resources and objectivity, given a potentially critical situation.

In this scenario, the experts on our initial pilot panel were less concerned about investigating the root cause of the heightened prevalence. Rather, they recommended introducing resources or measures to directly address the risk factor under consideration. For example, recommendations for a unit that had an atypically high incidence of financial problems included bringing in financial counselors and introducing refresher programs to help monitor and resolve the problem. These options may be useful for leaders if they do uncover that the increased prevalence is valid and not due to extraneous causes.

Assessing the Utility of Unit-Level Risk Information

As with the individual-level risk information, views on the utility of unit-level risk information varied, but, on average, the panelists believed that knowing that a battalion has an atypically high incidence of legal troubles is moderately useful for assessing suicide risk (mean = 2.55, standard deviation = 1.13, on a scale ranging from 1 = not at all useful to 4 = extremely useful). Figure 2 shows the distribution of panelist responses. The most frequently endorsed rating was 2, endorsed by four of the 11 panelists, followed by a rating of 4 (extremely useful), endorsed by three panelists.

Figure 2: Utility of Unit-Level Suicide Risk Indicators



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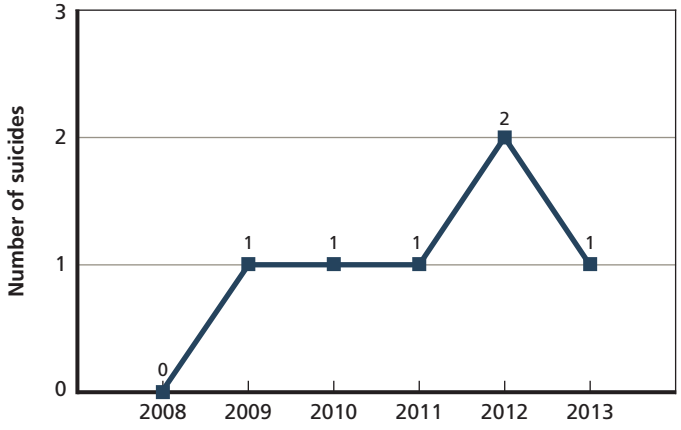
TRACKING UNIT-LEVEL TRENDS

One of the functionalities of the CRRD is to provide trend data at local levels. As the Army works to implement the Army Net-Centric Data Strategy, trend-level data on suicide and related behaviors within units may be made available to leaders. Especially in light of the relative rarity of suicide among active-duty solders (two to three per 10,000), how should leaders best interpret and respond to trend data about suicidality within their units? Experts were shown and asked to interpret Figure 3, which presents suicide trend data for a notional battalion. They were then asked to identify the best leader response to these data.

Interpreting Battalion-Level Suicide Trends

Most panelists recommended no action in response to trend data about suicidality for two reasons. First, the composition of a unit changes over time. Therefore, trend data do not measure similar groups of individuals from one year to the next. Second, unlike risk factors for suicide, which are likely to be more common, suicide in a battalion is too infrequent to make any concrete conclusions. Instead, the smallest unit at which suicide trend data should be presented or interpreted is the division level.[6] In addition to suicide trend data, the Army should present leaders with other, more prevalent markers of suicidality, including nonfatal attempts. The expert panelists also agreed that it would be useful to identify key events on a timeline experienced by the division (e.g., the Army Force Generation cycle), the Army, or the country. Such a record may add context to help explain apparent trends.

Figure 3: Suicide Trend Data for a Notional Army Battalion



NOTE: The figure was developed for the purposes of expert elicitation in a hypothetical scenario. The data do not reflect rates in an actual Army battalion.

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Responding to Suicide Trends

No routine action is recommended in response to data on increasing suicide trends in an Army division; its utility is in raising awareness among Army unit leaders and for analysis to identify possible root causes of the suicides and to compare trends with those in the Army as a whole. If trend data indicated an atypically high suicide rate, a number of courses of action could be pursued, but they are not unique and many are already standard practice in the Army. Such responses include

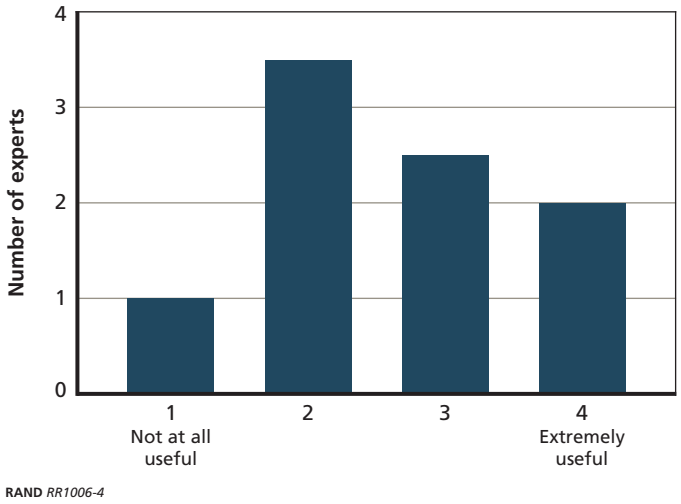
- committing new resources and developing new programs or initiatives
- increasing relational leadership training (i.e., how to "relate" to soldiers)
- reducing stigma in seeking mental health care
- increasing access to confidential care
- increasing awareness of available resources.

In addition to these actions, the experts identified two other actions that the Army should pursue. First, the Army should assess the means by which soldiers take their lives and work proactively to restrict access to those means. Given that firearms are the most common method of suicide in the Army, some experts expressed doubt that the service could ever be successful in restricting access. But they agreed that what could be achieved, and what is needed, is to place *more effort at the unit level* to increase localized leadership training, destigmatize mental health care, offer more and improved resources, and improve family engagement.[8]

Assessing the Utility of Division-Level Trend Data on Suicide

On average, the expert panelists believed that having tailored suicide trend information that includes other measures of suicidality—such as history of past attempts and soldiers' own thoughts about taking their own lives (i.e., suicidal ideation)—was moderately useful for assessing suicide risk in a division (mean = 2.61, standard deviation = 0.99, on a scale ranging from 1 = not at all useful to 4 = extremely useful).[9] Figure 4 shows the distribution of the panelists' responses. The most frequently endorsed rating was 2, endorsed by 3.5 of the 11 panel-

Figure 4: Utility of Division-Level Suicide Trend Data



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ists,[10] followed by 3, endorsed by 2.5 panelists. Again, there was divergence in perceptions of the utility of this information for assessing unit risk.

CONCLUDING THOUGHTS

In the final portion of the exercise, we facilitated an open discussion among the expert panelists regarding whether making data accessible to leaders can aid suicide prevention. Four major themes emerged during the discussion: leadership accountability, the effects of data availability on interactions between soldiers and leaders, collaboration between leaders and behavioral health providers, and confidentiality. The panel concluded with the experts providing their overarching opinion about whether the benefits of accessible data outweigh the apparent risks.

Leadership Accountability for Preventing Suicide

Putting individual risk factor data in the hands of company leaders raises the following question: "What is the company commander's job, and how much control does he or she actually have?" Some panelists asserted that the belief that commanders have any control over suicides in their units is a myth. Therefore, although giving data to commanders could make them more accountable for suicides that occur in their units, such accountability may be misplaced. According to one panelist, sharing this information would lead to "paranoia" among leaders and create an incentive to recommend the transfer or discharge of soldiers with problems rather than helping them. However, other experts responded that there would be negative consequences if the Army were to "disarm the culturally prevalent perception and expectation that the commander is in control." Further, because commanders are so highly scrutinized—and held accountable—for their soldiers' behaviors, data need to be provided to them. According to these experts, it would be unjust to both hold leaders accountable for suicides and deny them access to potentially useful data. Other panelists countered this argument, however, suggesting that "just because the command thinks that the information would make a difference doesn't mean that it would." In the end, the expert panelists generally agreed that leaders should know about their soldiers' problems but should not be intimately involved in mitigating these issues without advisement from behavioral health professionals.

Effects of Data Access on Soldier-Leader Interactions

Opinions were mixed on whether having access to individual-level information about soldiers would foster better leadership. Some said that such data would enable leaders to reach out to soldiers who need the most help, and, regardless of whether the data actually prevented suicide, it would make better leaders. The expert panelists wary of this conclusion raised two concerns. First, if soldiers know that leaders have access to individual-level data, such as seeking behavioral health treatment, and if leaders are acting on this information, soldiers will try to hide these behaviors. Second, for already busy leaders, making computerized data available might increase "screen time" at the expense of personal interaction.

Collaboration Between Leaders and Behavioral Health Providers

Collaboration between leaders and behavioral health providers is essential to preventing suicide. Some panelists emphatically stressed that leaders are not qualified to interpret risk information and that there are potentially harmful consequences if leaders interpret data incorrectly. This prompted many in the group to question whether data might be used more effectively to prevent suicides if given to behavioral health providers, not leaders. Many in the group thought that this would mitigate some of the concerns about making data available to leaders,

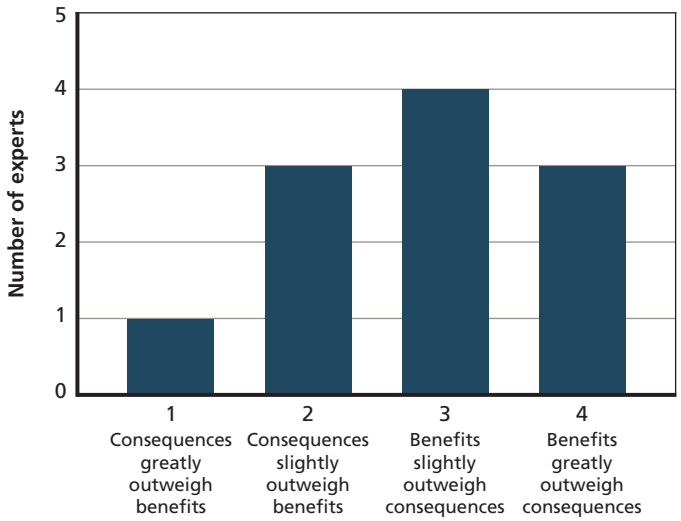
primarily the risk of inadvertently releasing sensitive information about individual soldiers.

Confidentiality

One of the biggest risks in making data available to leaders is the risk of releasing sensitive information about an individual soldier, which could be embarrassing, damage his or her career, or ultimately increase the risk of suicide for a soldier who is already potentially vulnerable. Making less specific data available (e.g., labeling soldiers as "high risk," "moderate risk," and "low risk") might mitigate some concerns about the disclosure of sensitive information, but this type of labeling could backfire.

Like individual risk data, the care provided to individual soldiers should be kept confidential. In the words of one expert: "The best thing you can do to prevent suicide is expand access to confidential care."

Figure 5: Trade-Offs Between the Potential Benefits and Risks of Making Personalized Risk Information Available to Leaders



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Weighing Potential Benefits Against Consequences

The expert elicitation exercise was designed specifically to identify the *best* actions that leaders can take after being provided with what the experts believed are the *best* data elements for preventing future suicides. Although not explicitly defined, the experts came to the exercise with content expertise and discussed the potential adverse consequences of providing data to leaders. In sum, the most serious concern was that any given risk factor suffers from relatively low predictive power, resulting in many "false positives." The experts believed that, as an institution, the Army needs to consider whether the potential benefits of providing leaders with this information outweigh the potential consequences of potentially compromising the privacy of soldiers who may be (but are most likely not) at risk of attempting suicide.

In general, the experts believed that the potential benefits of making personalized risk information available to leaders outweigh the potential negative consequences, but a sizable minority of experts disagreed. On a scale of 1 to 4, with 1 being "consequences greatly outweigh benefits" and 4 being "benefits greatly outweigh consequences," seven panelists believed that the benefits greatly or somewhat outweighed consequence. Four believed that the consequences greatly or slightly outweighed the benefits. As shown in Figure 5, responses varied widely, with the average score somewhat slightly favoring benefits outweighing consequences (mean = 2.82, standard deviation = 0.98). Experts from the pilot panel expressed even greater concern about making personalized risk information available to leaders.

RECOMMENDATIONS

The Army compiles massive amounts of data on its soldiers and, in response to growing concern about suicide in the Army, is beginning to make these data available to leaders. The objective is to help leaders "get left of the issue," but, to our knowledge, there is little guidance on how Army leaders should interpret and use these data. The experts convened by RAND Arroyo Center to discuss this shortcoming made a number of recommendations for leaders, for the Army, and for future research.

Recommendations for Leaders

Respond to data on individual soldier risk by consulting behavioral health providers and performing tailored routine integration.

Panelists agreed on two points: (1) leaders are not qualified to interpret detailed, individual-level risk information, and (2) doing anything unique vis-à-vis soldiers with certain types of individual risk information could have negative consequences.

Thus, leaders should consult with behavioral health providers, who should be more qualified to interpret risk-related information. Collectively, leaders and behavioral health providers should decide on a plan for acting on these data. The plan should entail tailored, routine integration so as to not further isolate a soldier who has factors that may increase his or her risk for suicide.

Respond to data on unit-level risk factors by identifying root causes for "atypically high" prevalence.

Leaders should direct analysis to identify the causes of atypically prevalence high rates within a battalion before taking steps toward mitigation. If a battalion exhibits high rates of multiple risk factors, leaders should direct an external body to perform the root cause analysis so that leadership and cultural factors are objectively examined and sufficient resources are allocated to ensure an expeditious investigation.

Recommendations for the Army

Continue to evaluate the benefits and potential risks of making personal data available to leaders.

Although the experts reached consensus on what strategies leaders should pursue when they possess data that potentially indicate suicide risk, they did not reach consensus that making such data available to leaders would be useful for preventing suicide. Across all exercise components, experts were roughly evenly split between thinking that access to data was useful versus not useful. This report presents what one group of experts considered the most optimal response to using these data. It would be prudent for Army leadership to articulate the risks of this strategy, including how it may weaken relationships between soldiers and between soldiers and leaders. In addition, Army leadership should consider whether adequate safeguards are in place to protect this information, as well as the potential consequences for individual soldiers and for units in the event that safeguards are breached.

Clarify roles and responsibilities for leaders and behavioral health providers.

Behavioral health experts and unit leadership should collaborate before unit leaders act upon risk information. The Army should thus ensure that local behavioral health providers and unit leaders have open lines of communication and that these parties are interacting regularly in practice. The Army—specifically, leaders in the Ready and Resilience Directorate, which oversees the CRRD, and the Office of the Surgeon General—should also consider whether individual-level risk data are better placed in the hands of local behavioral health care providers who can determine what information is appropriate for leaders to have about soldiers who may be at increased risk for suicide.

Data provided to leaders should be of high quality.

There can be multiple reasons for atypically high prevalence rates of unit-level risk factors. An ideal situation would be one in which battalion leaders are presented with data on which they can act immediately without conducting further investigation. However, the quality of data is affected by when the data are collected, how they are collected, and who collects them and under what circumstances—all of which may differ across units. Thus, the Army should ensure that data used to evaluate unit-level risk are of high quality, which, first and foremost, requires uniformity in their collection across units.

Increase access to confidential behavioral health care.

Our expert panelists asserted that increased access to confidential behavioral health care was the "most effective way to reduce military suicides." A number of reports and studies have highlighted high-quality behavioral health care as a primary strategy for mitigating suicide risk, and soldiers have cited concerns about confidentiality as a primary barrier to accessing behavioral health care (Ramchand et al., 2011). Current policies do not provide soldiers with absolute confidentiality (Acosta et al., 2014). The Army is experimenting with offering some forms of confidential behavioral health care; it should continue to actively promote the behavioral health care it affords to soldiers and consider which types of care can be made confidential.

Recommendations for Future Research

Replicate study results.

RAND Arroyo Center convened one panel with 11 experts. It is possible that a different group of experts would reach different conclusions. The recommendations we present here are derived from our expert elicitation exercise and should not be interpreted as "evidence-based." Replicating the exercise with other groups of experts would enhance the validity of the recommended actions.

Extend the exercise to identify expert consensus on more detailed aspects of using data to prevent suicide and mitigate outcomes other than suicide in different populations.

Our study is unique to leaders responding to suicide risk information among active component Army personnel. Future analysis may benefit from questions specific to suicide, such as the level (e.g., Army-wide, division, battalion) at which standardized guidance on using data to prevent suicide should be delivered. A more restricted set of data elements is available for members of the National Guard and Army Reserve, who also differ from the active component in terms of the resources available to them. Thus, the results from the current effort may not apply to these groups. Further, cultural differences in the Air Force, Navy, and Marine Corps may affect the applicability of these recommendations to other military services. Because efforts are under way to make data available to leaders across the military, replicating the current effort for these services would be informative for identifying optimal leader response.

Identify to what extent current Army policies and practices align with expert consensus.

A logical next step would be to assess how current Army leaders are using individual suicide risk data and to what extent their actions reflect or diverge from the actions recommended by experts. For example, how closely do local leaders collaborate with behavioral health providers in practice? How do leaders typically respond to a soldier whom they believe has an increased risk of suicide? Ideally, such an analysis would identify not only potential gaps between current practice and what experts recommend but also leaders' reactions to the panelists' recommendations. This would help identify the challenges leaders may feel about following the recommended actions.

PANEL PARTICIPANTS

Expert Panel

- Philip Carter is a lawyer and senior fellow, counsel, and director of the Military, Veterans, and Society Program at the Center for a New American Security. He served as an Army captain and deployed to Iraq in 2005–2006.
- Charles Engel is senior health scientist at the RAND Corporation. He is a psychiatrist and war veteran who served in the Army for 31 years, retiring with the rank of colonel. His last military assignment was as associate chair for research in the Department of Psychiatry at the Uniformed Services University of the Health Sciences.
- Lily Geyer is a law student at American University's Washington College of Law and a U.S. Army Reserve captain, branched air defense artillery. She has been a project associate at the RAND Corporation since 2011 and currently holds adjunct status.
- Anthony Hassan is a clinical professor and director of the Center for Innovation and Research on Veterans and Military Families in the University of Southern California's School of Social Work. He is a retired Air Force officer.
- Henry "Chip" Leonard is a senior defense research analyst at the RAND Corporation involved in studies of manpower, unit training, leader development, training resource management, and officer and noncommissioned officer career management programs. He was an officer in the Army for more than 27 years, half of which he spent with tactical units, including seven years of direct command experience.
- Leslie McFarling is the past director of the Army Substance Abuse Program and currently the chief of science and research integration in the Army Resiliency Directorate, Army G-1. He has 40 years of Army experience as a soldier, contractor, and civil servant in such areas as training development and evaluation; system development, test, and evaluation; human-system interface; and soldier high-risk behavior analysis and mitigation.
- LTC Craig Myatt is a senior research fellow in RAND Arroyo Center and an Army research psychologist who most recently served as the command psychologist and deputy director of the Health Fitness Directorate and is an assistant professor of behavioral science at the National Defense University.
- Donielle Preusser is a licensed clinical social worker with 20 years of experience. Her specialty is military trauma, and she has spent the majority of her career providing direct clinical intervention to service members and their families, both stateside and overseas. She has been working with the North Carolina National Guard's Integrated Behavioral Health System, providing suicide and crisis intervention, command consultation, critical incident stress debriefing, and support to deploying units since November 2010.
- Kim Ruocco is the director of postvention programs for the Tragedy Assistance Program for Survivors. She is also a military suicide loss survivor.

- Bruce Shahbaz is a U.S. Department of Defense civilian with 30 years of experience in military medicine and has worked on suicide prevention issues for the past five years. He began his military career as an enlisted psychiatric technician before being commissioned in the Army Medical Service Corps. He has served with the 1st Cavalry Division, 18th Airborne Corps, 8th Infantry Division, 1st Armored Division, and 4th Infantry Division.
- Caitlin Thompson is the deputy director of suicide prevention in the Department of Veterans Affairs and currently directs the policy and direction of the department's Suicide Prevention Program. Prior to this role, she spent five years as the clinical care coordinator for the national Veterans Crisis Line and Veterans Chat service. A licensed clinical psychologist, she completed postdoctoral fellowship work in suicide research at the University of Rochester and the Denver VA Medical Center.

Pilot Panel

- Kristie Gore is a clinical psychologist and senior behavioral Scientist at the RAND Corporation, where she serves as the associate director for military health in the Forces and Resources Policy Center in the RAND National Security Research Division.
- Dick Hoffmann is a defense research analyst at the RAND Corporation. Prior to joining RAND, he served for 20 years in the U.S. Navy as a SEAL officer.
- LTC George Lewis was a fellow in RAND Arroyo Center researching Army training requirements and costing factors for regionally aligned forces. He has more than 24 years of service in armor and cavalry assignments and force management positions. He is currently serving in the Office of the Assistant to the Chairman of the Joint Chiefs of Staff for National Guard and Reserve Matters.
- William Marcellino is a sociolinguist and discourse analyst at the RAND Corporation. Prior to joining RAND, he served as a U.S. Marine Corps tank officer and enlisted rifleman.
- LTC José R. Rodriguez is an Army fellow at the RAND Corporation. He is currently on active duty, with 18 years of service, half of which he served with operational units. His most recent assignment was as a force management officer in the U.S. Army Medical Command, Warrior Transition Command headquarters.
- Terri Tanielian is a senior social research analyst at the RAND Corporation. From 2004 to 2012, she served as a director of the RAND Center for Military Health Policy Research.
- Kayla Williams is a project associate at the RAND Corporation. She served in the U.S. Army for five years as an Arabic linguist, including a year in Iraq with the 101st Airborne Division (Air Assault).

Notes

[1] The Red Book refers to the care continuum as the "spectrum of wellness," a broader concept that includes health care services, as well as "recruiting thresholds, good order and discipline, post-event inquiry," and other components of force health and readiness (U.S. Army, 2010, p. 12).

[2] The council has since become Ready and Resilient Campaign.

[3] Discussion with Dr. Leslie McFarling, Chief of Science and Research Integration for the Army Resiliency Directorate, Army G-1, on June 9, 2015.

[4] Each year, the Army selects volunteer officers—grades O-4 and O-5 (MAJ/LTC)—to participate in RAND Arroyo Center's Army Fellows Program. The program affords these officers the opportunity to increase their analytical capabilities by contributing to studies addressing critical policy issues facing the Army. The one-year fellowship is followed by a three-year utilization assignment on a senior-level Army or joint staff. Since the program's inception in 1985, 197 officers have participated. There were ten officers in the 2013–2014 cohort.

[5] A sensing session is an open forum for expressing complaints. Command climate surveys are anonymous assessments of soldiers' perceptions of organizational effectiveness, equal opportunity, equal employment opportunity, fair treatment, sexual assault prevention and response, favoritism, diversity management, organizational processes, intention to stay, help-seeking behaviors, exhaustion or burnout, demeaning behaviors, and hazing.

[6] An Army division is typically commanded by a major general and consists of three brigades, totaling between 10,000 and 18,000 soldiers.

[7] The Army Force Generation process is the structured progression of unit readiness over time to develop trained, ready, and cohesive units prepared for operational deployment in support of the combatant commander and other Army requirements.

[8] Generally, the panelists referred to the company level, but the recommendation could also include the battalion level.

[9] Only nine of 11 panelists submitted ratings for this portion of the exercise.

[10] One panelist answered "2.5" to this question; half of the endorsement was categorized as 2 and half as 3.

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About This Report

This research was conducted as part of the RAND project "Analytic Support to the Under Secretary of the Army" with the objective of providing responsive analytical support to the Under Secretary of the Army.

As part of this support, RAND Arroyo Center worked with LTG Joseph E. Martz and his staff in the Office of the Assistant Secretary of the Army (Financial Management and Comptroller) to consider how individual-level soldier data could best support suicide prevention in the Army. RAND Arroyo Center convened a group of experts to address this issue in a half-day exercise designed to reach consensus on recommended actions for Army leaders. This work should be of interest to U.S. Army leaders who are involved in creating data dashboards and disseminating individual-level soldier data, as well as to Army leaders more broadly.

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