

Raising the Clinical Standard of Care for Suicidal Soldiers: An Army Process Improvement Initiative

Debra Archuleta, PhD

David A. Jobes, PhD

Lynette Pujol, PhD

Keith Jennings, MA

Jennifer Crumlish, PhD

René M. Lento, MA

Katherine Brazaitis, MA

Bret A. Moore, PsyD

Bruce Crow, PsyD

ABSTRACT

From 2004 to 2008, the suicide rate among US Army Soldiers increased 80%, reaching a record high in 2008 and surpassing the civilian rate for the first time in recorded history. In recent years, the rate of Army suicides rose again; the year 2012 reflects the highest rate of military suicides on record. There is a need to assess current behavioral health practices to identify both effective and ineffective practices, and to adapt services to meet the needs of the Army behavioral health patient population. This paper discusses a process improvement initiative developed in an effort to improve clinical processes for suicide risk mitigation in an Army behavioral health clinic located in the catchment area of the US Army Southern Regional Medical Command.

It has been estimated that in recent years up to 15% of casualties in the wars in Afghanistan and Iraq were the result of suicidal behavior and completed suicide.¹ According to the 2010 Department of Defense Sentinel Event Report (DoDSER),² 22.42% of Soldiers who died by suicide (n=63) and 44.15% of those who attempted suicide (n=381) had received outpatient behavioral health treatment during the prior month. The former US Army Vice Chief of Staff cited a document produced by the National Institute of Mental Health entitled “Opportunities to Improve Interventions to Reduce Suicidality: Civilian ‘Best Practices’ for Army Consideration”³ to illustrate the current lack of suicide-focused, empirically validated clinical treatments. In response, a number of suicide prevention initiatives have been enacted throughout the Army. Suicide prevention efforts within the Army aim in part to reduce suicidal behaviors through education, encouragement of help-seeking behaviors, and destigmatization.^{4,5} This is evident in the materials and publications developed by the US Army Center for Health Promotion and Preventive Medicine (now the Army Public Health Command) in conjunction with the American Association of Suicidology, and in multimedia publications from the Defense Centers of Excellence. These initiatives largely focus upon the identification of early warning signs in order to implement early intervention, namely, a referral to behavioral health. In spite of the development of these suicide prevention initiatives, Army service member suicide continues to rise. In 2012, a total of 349 US military

suicide deaths were recorded across the branches; the largest portion of these deaths, 182 potential suicides, comprised of members of active duty Army.^{6,7} These findings, coupled with the lack of suicide-focused clinical treatments for the military, prompted a flourish of research to understand suicidal behaviors within the military.

Suicide risk may concentrate more in Army Behavioral Health (BH) patient populations for several of the reasons that make military experience unique when compared to civilian life. When suicidality among military members accompanies behavioral health conditions associated with sleep disturbances, concentration problems, and physical symptoms that impact on daily functioning, this can lead to reduced occupational performance, physical conditioning, and combat readiness. Soldiers who are suicidal may also experience somatic concerns and related problems that result in a higher frequency of medical or sick call visits. This may then contribute to increased work stress and increased conflict with coworkers and family members, affecting morale and well-being. Special populations within the military community, such as Wounded Warriors, have their own unique set of risks including chronic pain, decreased level of functioning due to injury or other health problems, and potential prescription drug abuse. Psychological and physical pains are both likely contributors to suicide. Previous factor analytic research with suicidal inpatients has shown the important psychometric role of

RAISING THE CLINICAL STANDARD OF CARE FOR SUICIDAL SOLDIERS: AN ARMY PROCESS IMPROVEMENT INITIATIVE

psychological pain in acute suicidal states.⁸ In addition, in an analysis of risk factors for suicide in the Army, Retired COL Elspeth Ritchie notes the role of physical pain and disability as a precipitant for suicide, especially among older Service Members with higher rank.⁹

Soldiers who experience suicidal behaviors or who complete suicide have a disproportional effect on military communities. Units are primarily affected by a suicidal Soldier or by the loss of an integral team member which can have significant effects on surviving Soldiers and may lead them to experience a range of emotional reactions such as grief, guilt, and anger. This reduces work performance and contributes to increased vulnerability for a range of health-related problems including suicidal behaviors (ie, “contagion” effects).¹⁰ The contagion effect occurs when one suicide leads to a subsequent suicide.¹⁰ Factors that may support to the contagion effect have been researched and include documented clusters of suicides in close temporal or geographic proximity, exposure to media coverage of suicides and exposure to suicidal peers.¹⁰ Research has been focused on adolescents and young adults due their tendency to learn behavior by observing and modeling the behavior of others.¹⁰ This is of particular concern for military leadership due to the large number of military service members who are young adults under the age of 25.¹¹ There were indications of possible suicide clusters in the military among Army recruiters in 2008 and in 2009 within a National Guard unit, though these incidents have not been formally studied.¹¹ Additionally, the death of a Soldier by suicide often brings increased media and congressional attention leading to an increase in scrutiny of the chain of command. Finally, the military population is a highly transient population which translates into the high mobility of Soldier suicide risk. This often leads to disjointed treatment services that create challenges in the coordination of care for a Soldier between duty stations, as well as between clinics in a military medical treatment facility (MTF). Early and efficient treatment and intervention of suicidality can therefore improve occupational performance and mission effectiveness, while also having a positive effect on the health and well-being of a wide spectrum of the military community.

This paper discusses a process improvement (PI) initiative developed to meet the above noted needs and contribute to Army suicide prevention, as well as raise the clinical standard of care through improved clinical processes for suicide risk mitigation in an Army BH clinic located in the catchment area of the US Army Southern Regional Medical Command. What follows is our step-by-step approach systematically to endeavor to raise the clinical standard of care in an outpatient Army BH clinic.

A PROCESS IMPROVEMENT INITIATIVE

Development of a Needs Assessment Report

The initial phase of the PI initiative included a thorough and systematic evaluation of existing clinical practices related to suicidal Soldiers and their care. The evaluation was conducted to understand the unique needs of a military outpatient BH clinic and current clinical practices, both effective and ineffective, in order to tailor services to the needs of the Soldiers at risk for suicide.

Similar to many Army BH clinics, this was a busy outpatient clinic setting with a high volume of complex cases, including Soldiers who were actively suicidal. At the time of the needs assessment, no aggregate data and few formal policies and procedures that were specific to tracking number of Soldier attempts at suicide, methods of suicide, or completed suicides existed, in part, due to the low incidence of the events. Anecdotal reports indicated that there may have been “3 or 4” Soldiers seen at the clinic who completed suicide over the past “2 or 3 years.” The clinic leadership acknowledged that this information was included in the root cause analysis and the DoDSER which was completed following the death of a Soldier seen in any BH clinic, but not tracked locally

It was determined that the procedure in place to track suicidality at this clinic was a minimal paper and pencil self-report screening completed at the intake evaluation, during which the patient was asked only a single question about suicide. When suicidal ideation was endorsed, the clinic’s standard operating procedures (SOPs) required an assessment of suicidal risk using a local form derived from the Suicide Status Form-II that was then scanned into the electronic medical record. Routinely, no level of risk was assigned to the Soldier. The primary intention of the risk assessment was to assist in assessing safety and need for hospitalization. Although some suicidal patients were entered into a database developed by a psychologist within the BH department called the high interest patient database and monitored by a treatment team, not all individuals with suicidal ideation were included. Thus, there was no existing system for the tracking of ongoing suicide risk among suicidal patients, and there was no systematic methodology for recording when and if suicide risk had resolved in a patient. Extensive review of the clinic’s available procedures found guidelines for the hospitalization of a patient in the military hospital and in the community, as well as line of sight procedures for the emergency room for military personnel. There was no specific information available to the providers on instructions for weapons access or to aid in risk mitigation. Each provider passed along information informally to each on how to manage these situations or consulted

with the clinic chief for guidance. Some providers did periodic checks on the patients by phone, but there was no standardized procedure for this action. As a result of these findings, the team determined a great need for the development of SOPs with specific information available to all providers.

Treatment for suicidal ideation and behaviors generally followed the provider's theoretical orientation and most often focused on treatment of depression or coping with situational or relational concerns which may have minimized the risk posed by other factors such as pain and anxiety. Patients experiencing anxiety or posttraumatic stress-related symptoms were often placed in group treatment due to the limited number of providers available for individual treatment because of high workloads. Patients with pain problems were typically referred outside the clinic to a specialty care pain clinic at the hospital. Suicidal Soldiers were routinely hospitalized for brief inpatient stays at an MTF managed by active-duty personnel. A memorandum of understanding (MOU) was also negotiated with a private psychiatric facility where clinic patients may be hospitalized, seen in a day treatment program, or receive other outpatient services. There was no established or routine use of "postvention" (a systematic supportive intervention that follows a patient's death by suicide) to assist clinic staff who were affected by a loss.

Overall, the clinic's processes for working with suicidal Soldiers at the time of the needs assessment were relatively typical when compared to other Army MTFs and reflected the standard of care for similar civilian settings (ie, what reasonably prudent practitioners do with comparable patients in comparable settings). However, it seemed existing practices did not reflect optimal clinical care that could be provided in such a setting. In order to provide a more thorough consideration of what might constitute optimal care, a series of sensing sessions were conducted with clinic staff and Soldiers with current suicidal ideation or a history of ideation or attempts. The results of those sessions are described in the following sections.

Staff

Clinical staff indicated that their caseloads were full and challenging. Treatment providers, including psychology technicians (military occupational specialty 68X), described an average of 14 years of practice with an average of 1.6 years at this specific treatment facility. They estimated the rate of Soldiers with suicidal ideation or behaviors in their current practice as 21%, with a range of 0 to 85%. The lifetime rate of patient completed suicides ranged from zero to two, with an average number

of lifetime patient attempts per provider at slightly over three. Providers estimated that they completed an average of 9 hours of continuing medical education on suicide over the course of their careers.

Problems described by clinical staff mostly centered on the volume of complex, high-risk cases and the overall sense of being "spread too thin." New civilian clinical staff with little military background experienced challenges connected to acclimating to the military culture, including rules, regulations, and military acronyms. Providers noted various challenges in dealing with unit commanders and observed that commanders, for a variety of reasons, can implicitly or directly undermine BH treatment. Clinical staff struggled with threats of suicide that Soldiers used for secondary gain or as a means of avoiding further deployments. Some clinicians perceived a culture of blame vs being supported or understood after an adverse event. Clinical consultation was usually done informally with peers and senior clinicians. However, many clinicians expressed a desire for more support and for regularly scheduled formal consultation opportunities with subject matter experts. The perceived delay in medication consultation was also noted as a major challenge to the delivery of effective care.

Leadership

Clinic leadership recognized the high operational tempo of the clinic environment, the need for more staff support, and the development and use of postvention strategies following a suicide event in the clinic. There also was a sense that unit commanders would benefit from better education about BH in order to support—not undermine—BH care.

Service Members

Soldiers were interviewed individually by the external consulting team in the presence of their clinic BH provider. Between October 2009 and August 2010, the overall number of outpatient BH encounters was 4,951. Soldiers were primarily male (69%). Thirty-seven percent of patients ranged from ages 26-35 years, 29% were in the 36-45 year age group and 22% were in the 18-25 year age group. Due to limitations of the records system, there was no method for accurately tracking demographics on race, ethnicity, and marital status. Ranks most often seen by outpatient BH providers were E4 to E7 for enlisted and O3 to O5 for officers. The top 4 diagnoses for patients were: (1) adjustment reaction, (2) episodic mood disorders, (3) depressive disorder, and (4) anxiety. The modal number of visits fell in the 1 to 5 range, far exceeding the next category of 6 to 10 visits. There were issues with relatively high no-show rates (leadership estimated up to 33%) among clinic patients.

RAISING THE CLINICAL STANDARD OF CARE FOR SUICIDAL SOLDIERS: AN ARMY PROCESS IMPROVEMENT INITIATIVE

Point of service for entry into the clinic for Soldiers occurred through walk-ins, referrals by commanders, or transfers from other medical treatment providers. Many Soldiers were in a state of personal and/or professional crisis and were having considerable problems at work and with their command. There were vocation-specific issues implicated in their suicidality, including the effect of multiple deployments, posttraumatic stress disorder (PTSD), and traumatic brain injury, as well as problems at home (ie, marital, parenting, and financial stressors). A major barrier to care for suicidal Soldiers was the perceived lack of support or even the undermining effect of their command. A number of the Soldiers interviewed readily acknowledged that their clinic treatment had been very helpful while others seemed somewhat critical of the larger military's response to their mental health situation.

Perceived strengths of the clinic were the quality of the staff and the excellent care the Soldiers received. The dedication and advocacy of clinical staff on the Soldiers' behalf was noted as a particularly helpful aspect of their treatment. Various evidence-based treatments used in the clinic (eg, prolonged exposure for PTSD) were found to be helpful. The perceived major weaknesses of the clinic were described as the staff being over-extended, very long wait times for medication consultation, and delays in referrals to specific treatments.

Outside Providers

Mixed reviews were provided about outsourced care. The MTF inpatient stays were relatively brief and oriented to short-term stabilization. The MTF inpatient staff reported that there were no treatment or therapies offered. There were very positive reviews of the care provided in the private setting that had established a military-specific treatment unit that catered to the culture and needs of active duty Soldiers. The MOU with the private center and the collaborative consultations had created a user-friendly treatment environment about which Soldiers and providers felt quite positive due to the availability of inpatient services and programming. Another private facility that did not have an MOU arrangement seemed to provide much less satisfactory care that largely reflected standard contemporary psychiatric care (ie, not tailored to the unique needs of active duty Soldiers).

RECOMMENDATIONS FOR THE PROCESS IMPROVEMENT

Based on the initial evaluation of clinic practices and focus groups, a number of recommendations were developed by the consultation team for consideration to enhance BH-related care of suicidal Soldiers. These included recommendations to establish written suicide-specific

policies and procedures, increase the use of screening tools to identify initial suicidal risk, and track ongoing risk across the course of care and to apply an electronic health record version of the Suicide Status Form (SSF) for the Collaborative Assessment and Management of Suicidality (CAMS), which is an evidence-based assessment of suicide risk. Additional suggestions included the use of CAMS-based therapeutic tools to stabilize outpatient care, problem-focused interventions and treatment of suicidal drivers, tracking of clinical outcomes, and overall improvement of clinical documentation. In addition, creation of a procedure for postvention for adverse events was proposed to support clinical staff and garner lessons learned. Lastly, effectively engaging commanders, family members, and supportive peers in support of clinical care of suicidal Soldiers (which may require separate educational efforts and the cultivation of collaborative working relationships with a Soldier's support structure) was considered as essential to successful remediation of the suicidal risk.

Another critical recommendation for a successful suicide-specific PI effort was to provide an opportunity for all clinical providers to attend a weekly telephonic clinical consultation meeting with the external consultation team members who are expert in the treatment. The external consultants would eventually withdraw from this consultation meeting once the meeting is clearly established and the use of the intervention has become routine. Such a meeting should be primarily case-focused, input on clinical strategies and related risk management issues should be encouraged to facilitate adoption of a new evidence-based clinical practice across the clinical staff. We observed that even the most reluctant clinical staff members eventually engaged in the use of the evidence-based approach when they heard about improvements in other providers' suicidal patients and saw growth in confidence among their peers cases with this new approach, even in the face of some very challenging circumstances.

A recommendation was also made for the implementation phase of the PI initiative, including a series of follow-up CAMS training sessions for the clinical staff by Dr Jobs and members of the Catholic University Suicide Prevention Laboratory. These training sessions emphasized the "nuts and bolts" of using CAMS and used a practical, hands-on approach featuring role-plays, video illustrations, and case examples. The primary learning objectives for training were: use of the SSF for risk assessment; development of Crisis Response Plans and problem-focused interventions targeting "suicidogenic" issues; use of the SSF to track suicide risk over the course of care; update crisis response plans and

treatment plans as needed; and use of CAMS and the SSF to achieve optimal clinical outcomes.

DEVELOPMENT OF A CLINIC ADVISORY TEAM

A well-intended PI effort to raise the clinical standard of care related to suicide risk can be potentially doomed by taking a purely top-down approach. In other words, if the chief of the clinic or the commander of the military treatment facility directs or orders clinical staff to embrace wholesale changes in their clinical practices, resistance in the form of subtle or even overt push-back is likely unavoidable. However, some of the anticipated resistance to changing clinical practices may be moderated somewhat by abject fears of losing patients to suicide. In addition, such resistance may be even more constrained by the prospect of malpractice litigation and/or a root cause analysis that attributes a suicide to failures in clinical care. But, even in the face of suicide risk, there are often challenges encountered when changing from familiar clinical practices to a new approach to treatment. Preparatory actions for the formation of a clinic advisory team can be taken to increase the likelihood of successful implementation. A successful PI initiative may be rooted in the ability of the consulting team to successfully engage key clinic providers as members of an internal advisory team within the overall PI effort. This can not be merely a symbolic gesture. It should be a genuine effort to engage a small group of invested staff members to help shape and tailor the PI efforts to the culture of the clinic. This allows the generation of a “bottom-up” effort as the advisory team is a key part of meaningfully shaping and influencing the changes that come with efforts to improve clinical practices. To avoid undesirable inefficiency and redundancy, the advisory team should not be too large, perhaps 3 to 5 members depending upon the size of the clinic. Beyond the formation of this internal team, we have also seen the critical need of an identified individual clinician “champion” who leads the internal team and serves as a point of contact to the external consulting team. Ideally, this champion is someone who has the respect of clinic staff and also has the requisite energy and ability to lead the effort and the work of the advisory team.

It is critical that the facility is prepared to make an ongoing commitment to successfully raising the standard of care through the PI initiative. The clinic advisory team must have strong leadership support and the necessary authority to make systemic changes and exact minimum requirements for success from clinic staff. As previous literature indicates, success or failure in the use of evidence-based practices begins and ends with sufficient behavioral reinforcements for providers to risk changing what they ordinarily do.¹² One of the biggest implications

in this regard is that many evidence-based practices are labor intensive and require more front-end engagement, sometimes including longer session durations.

An almost certain way to undermine a PI effort is to require busy clinicians to do more on top of more; such an approach will only breed resentment and resistance, dooming the potential success of the PI. Systemic changes and potential modifications of policies and procedures, such as modified schedules including longer sessions initially, must be pursued so as to “reward” clinicians for engaging in an evidence-based form of care. While these providers may see fewer patients—which is an obvious problem in many over-run systems—there are ways to offset the effect by triage, risk stratification, and matching patients to different kinds of treatments (group vs individual) of different intensities and “doses” of care in direct relation to the risk that they present. There should not be a “one-size fits all” approach to effectively treating the range of suicidal risk. In 2012, the National Action Alliance for Suicide Prevention published clear guidance about specific systemic changes to better accommodate and facilitate the treatment of suicidal risk across treatment settings.¹³

SELECTING AN EVIDENCE-BASED APPROACH

As discussed in previous reviews,^{3,14} there have been surprisingly few empirically-supported treatments for suicide risk published in the professional literature. Among the limited options, dialectical behavior therapy and a suicide-specific form of cognitive-behavioral therapy (CBT) are the leading approaches with the best empirical support. Specific to suicide risk among military personnel, a newly adapted brief CBT approach is now being studied in randomized clinical trials for suicidal service members in outpatient¹⁵ and inpatient¹⁶ clinical settings. As noted in the review by Schoenbaum and colleagues,³ other approaches such as Stanley and Brown’s safety planning intervention¹⁷ and CAMS developed by Jobes^{18,19} are being studied in Department of Defense (DoD) and Veterans Affairs (VA) settings within rigorous randomized clinical trials.

The PI effort described in the current article featured the use of CAMS because, as described by Jobes and colleagues,²⁰ this is a flexible clinical intervention that focuses on an effort to keep suicidal service members *out* of the hospital through the effective development an outpatient stabilization plan (eg, a crisis response plan or a safety plan) as well as the successful targeting and treatment of key suicidal “drivers”—those patient-identified issues that directly and indirectly compel the patient to take their life. It was deemed to have an inherent adaptability that is unique among existing evidence-based

RAISING THE CLINICAL STANDARD OF CARE FOR SUICIDAL SOLDIERS: AN ARMY PROCESS IMPROVEMENT INITIATIVE

approaches. Moreover, this is currently the only published approach that has been used successfully with suicidal active duty service members.²¹ In their nonrandomized clinical trial of CAMS vs treatment as usual (TAU) with 55 active duty suicidal Air Force personnel, these investigators observed a strong relationship between CAMS care and rapid and significant reductions in suicidality with co-occurring significant decreases in nonmental healthcare use related to emergency department and primary care visits. As described by Jobes in a recent review paper on CAMS,¹⁹ an additional 5 correlational studies have provided uniformly strong support for the effectiveness of CAMS across a variety of settings and populations. A recent, small randomized clinical trial (RCT) provided convincing causal data about the effectiveness of CAMS in relation to significant decreases in suicidal ideation and overall symptom distress at 12-month follow-up compared to TAU. In addition, CAMS caused significant increases in hope, patient satisfaction, and retention when compared to TAU.²² Currently, a well-powered RCT is underway with suicidal Soldiers in Georgia, and another large RCT is being conducted in Denmark comparing CAMS to dialectical behavior therapy with suicidal outpatients.¹⁹ Given our successful experiences in various PI efforts featuring CAMS, we anticipate the prospective use of CAMS being practiced both widely and effectively with suicidal military members across all service branches.²³

CLINICIAN TRAINING

The training process used in the course of this PI initiative was largely successful but not without challenges. One of the inherent training issues that plague DoD and VA evidence-based professional training is the lack of actual subsequent use of the newly-trained intervention after the training. To address this concern, we sought a 3-phase training approach within the process improvement effort:

1. Phase I. One full day of didactic CAMS orientation-training to BH clinical staff across professional disciplines (including psychology technicians).
2. Phase II. Follow-up CAMS role-play training for all clinical providers over a day and half.
3. Phase III. Follow-on consultation calls between key PI members and clinical staff.

The following sections detail each phase of training and discuss the highlights and challenges that we encountered.

Phase I: CAMS Orientation Training

A 6-hour PowerPoint-based didactic training session was given to all PI participants from the participating clinic. This orientation training was video-recorded for future use by new providers arriving in the clinic. The goal of this training was to broadly orient the clinicians to the field of clinical suicidology and, more specifically, to help them learn about CAMS, including the theoretical foundation and existing empirical support for the approach. This training provided an orientation to the problem of suicide, including the rising rate of suicide in the US Army, difficulties of accurately predicting suicidal behaviors, and the latest research in suicidology. In the course of this training, the providers learned that CAMS is a therapeutic framework, not a new psychotherapy, that emphasizes a certain philosophy of clinical care as well as the clinical use of the suicide status form, a multipurpose assessment, treatment planning, tracking, and outcome tool.

Phase II: CAMS Role-play Training

This phase consisted of 2 days of training for providers approximately one month after Orientation Training. Focus was an introduction to the CAMS suicide status forms which are collaboratively used in all sessions with service members with suicidal behaviors. Role-plays of a hypothetical course of typical CAMS care of 10 to 12 sessions were interspersed with practice in dyads for intakes, safety planning, follow-up sessions, and suicide resolution sessions using CAMS. Use of the new electronic version of the suicide status form (eSSF) was taught during the second day. Additionally, the SOPs developed by the PI Clinic Advisory Team for integration into the clinic and measures for evaluation of the PI were covered. Two separate training sessions were conducted one week apart to accommodate the number of people who required training.

Participants of the phase II training were 12 psychologists, 7 psychiatrists, 6 social workers, a licensed professional counselor, 5 psychology interns, 2 psychology residents, an advanced practical nurse, a pharmacist, 4 psychology technicians, and a secretary. Prior to the training, participants rated their anxiety working with suicidal patients and their confidence in their ability to assess and treat suicidal patients on a 1-5 scale (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree). Most participants indicated confidence in their ability to form a strong therapeutic alliance with a patient with suicidal concerns (3.9/5), and to successfully assess (3.7/5) and treat (3.6/5) suicidal behaviors.

The role-play training sessions were conducted by the external consulting team that included 2 licensed

psychologists and 3 senior doctoral students in clinical psychology. The format for this training experience involved 2 members of the training team performing demonstrations of segments of CAMS over a “typical” course of CAMS care. One member played a suicidal Soldier; the other showed the CAMS-use of the SSF for each segment of care (eg, session 1, a subsequent “tracking” session, and a final “resolution” outcome session). After each demonstration role-play, the clinicians in the training sessions were placed in dyads and then asked to role-play the demonstration that was just modeled. Within each training dyad, one partner was designated to role-play a suicidal Soldier-patient that he or she had previously seen, which gave their training partner an experiential chance to learn about using CAMS with a realistic case. With the successful completion of each segment of CAMS, the partners would then switch roles so that each had the chance to experience the clinician role for each training segment. During the role-playing, members of the external consultation team moved among the dyads to answer questions and make suggestions if the role-players became “stuck” or were unclear about certain aspects of the intervention. This role-play training gave providers an initial, first-hand experience of using CAMS.

During the training phase, participants completed a 6-question pre- and postknowledge test to measure their knowledge of CAMS principles and practices. Participants’ correct scores increased by 1.6 (27%) at posttest. Satisfaction with the implementation training experience was also measured. Most participants were satisfied with training, with 72.5% of participants stating they were “very satisfied,” and 25% indicating they were “satisfied.” The remaining 2.5% answered “neutral.” Satisfaction ratings with training averaged greater than 4 (agree) on a 5-point scale for the content and presentation of material, willingness to learn more, and an expectation that CAMS would benefit practice. Participants on average said they were confident they would use the material learned in training (4.4/5) and indicated they would recommend other providers participate in CAMS training (4.5/5).

Ultimately, the goal for the PI training effort was for all providers to have the orientation and role-play training prior to clinic-wide implementation of CAMS, which occurred within weeks of the final role-play training. With clinic providers fully oriented and trained in CAMS, the implementation phase would be supported by phase III.

Phase III: Follow-on Consultation Calls

As noted earlier, the follow-on consultation calls for clinicians was seen as a critical element to implementation

success. The calls between the clinical providers and members of the consultation team began on schedule within weeks of the implementation of CAMS across the clinic. Despite all efforts to thoughtfully orient, train, and prepare providers through the phasic training process, early uptake and use of this intervention was slow and inconsistent among all providers. In our experience, there was initial reluctance of many staff members to use the evidence-based treatment for which they had been trained because many reported that they were “too busy” to introduce a new and “complicated” approach into their practice. In spite of this feedback, one provider was able to present a new case almost every week and the patients markedly improved. Hearing about this success over time inspired clinicians to give the approach a try.

There were various problems that we encountered in the course of the training. Although CAMS was implemented in military and VA settings prior to this PI initiative, it had not been integrated into an Army BH clinic. Therefore, the trainers’ approach to the PI was to keep the process as flexible as possible to meet the needs of providers in a busy military clinic. The initial format of training was based on the extensive training experience of one of the authors (D. A. J.) who developed CAMS. This flexible approach was helpful in designing the ultimate form of training, but also may have introduced some ambiguity for providers.

The biggest problem that plagued each phase of training was related to technology. The training team decided to develop the digital eSSF, with the hope of potential ease of use in administration and the collection of long-term outcome data. However, the beta version of the eSSF that debuted during the first orientation training proved to be more cumbersome for providers than expected. It required a multistep procedure for converting SSF data into a PDF that could then be cut and pasted into the electronic medical record. Providers in the initial training experienced frustration with the system and the transfer of the document, which produced a negative perception of the eSSF. Providers’ comments were used to refine the system and it was later presented in the Phase III training. The results of the CAMS role-play training were somewhat mixed. Much of the role-play training slowed due to the technology complication which became a major distraction. Ultimately, within the PI effort, the decision was made to scan hard copy versions of the SSF into the electronic medical record due to the many complications associated with the eSSF.

The acceptance and routine use of CAMS in the targeted clinic was quite slow from the start and was also

RAISING THE CLINICAL STANDARD OF CARE FOR SUICIDAL SOLDIERS: AN ARMY PROCESS IMPROVEMENT INITIATIVE

somewhat discouraging. There was both subtle and overt resistance to using CAMS consistently across clinic providers. Providers were encouraged to use the approach, gently noting it was clinic policy to be using the intervention. However, there were transitions in leadership as well as internal systems issues that perhaps contributed to the modest start. For example, personnel changes due to deployment and staff turnover were challenging during the 3-year implementation of the PI. The clinic leadership changed 5 times, causing at least a temporary setback each time. Also, participation in the PI was initially mandatory for all providers. However, as leaders changed and reprioritized the PI, a reduction in staff adoption was experienced and implementation was voluntary by the end of the PI. In addition, significant momentum was lost during the training and implementation process due to unexpected challenges related to funding the contract, which resulted in the PI being interrupted for 6 months, thereby delaying the second orientation training. Reenergizing the PI proved to be challenging for the team. Nevertheless, we did eventually see the critical effect of 2 dedicated successive “champions” who led the clinic advisory team and sustained a focus on the use of the intervention. In addition, both department and internal clinic leadership maintained steady support for the use of the intervention.

TRACKING PI OUTCOMES

An evaluation plan to assess both the process and outcomes of the PI initiative was constructed prior to its implementation. The process evaluation focused on documenting various portions of the PI initiative, including the clinic advisory team and Warrior Resiliency Program team meetings, the Southern Regional Medical Command organization supporting the PI, and consultation calls. These documents served as due diligence for the processes associated with the PI and reminded individuals of tasks due to the various groups involved. Additionally, the process evaluation was helpful in documenting the real-life difficulties in the implementation of the PI initiative.

An outcome evaluation plan was constructed which included a logic model that depicted the flow of resources, services, and measurable outcomes expected from the PI initiative as shown in the Figure. Components that were to be assessed were CAMS training, the eSSF, consultative support, and the postvention process. The use of CAMS was to be assessed by an increase in the frequency and quality of documentation of suicide risks and treatment course in the electronic medical record. Individual patient outcomes were to be documented by 2 standardized instruments. The Scale for Suicide Ideation (SSI) and the Outcome Questionnaire 45 (OQ-45), were

given by the providers at both the beginning and end of treatment to assess CAMS effectiveness. The clinic advisory team assisted in determining how the instruments would be administered based on measures used in past research studies using CAMS,^{20,22} as well as the time to administer and the training required for administration. While other outcome measurements were initially introduced, they proved to be too complex to complete given multiple personnel changes at the clinic and the organization facilitating the PI and the operational tempo of the clinic. The possibility of the active duty psychology technicians administering the measures was explored, however, due to their changing roles/responsibilities and obligations outside the clinic, they were ruled out as an option to relieve some of the time constraints of the providers. Another option explored for administration of these measures was to use them during patient triage, but providers reported that they would prefer to administer the measures in order to build rapport and obtain important data related to the service member's suicidality. In spite of great care in vetting the SSI and OQ-45 with the Clinic Advisory Team, providers did not feel they had adequate time to provide services and collect outcome data. The providers seemed to see a benefit to the administration of the measures beyond collection of data for the PI, and many reported that they would use them if allotted more time for their intake sessions with the service member. Unfortunately, due to the high workload, this was not feasible. Therefore, due to reality-based constraints, both instruments were dropped from the evaluation plan and a plan for qualitative evaluation through focus groups was developed.

At the end of the PI initiative, focus groups were held by a person not involved in its implementation. A total of 11 individuals attended 2 focus groups. Two of the individuals had recently been hired and were trained by a designee in the clinic. Focus group participants were asked about the training, their use of CAMS, the SSF and what they thought were most and least beneficial.

During these focus groups, the majority of individuals (63%) indicated relatively consistent use of the SSF, while 27% used it “here and there, but not consistently.” When asked about their overall use of CAMS, few individuals reported using CAMS regularly according to the original protocol. Participants indicated that the SSF did not work well in triage with high risk patients because of the time needed to perform an intake. A familiar, shorter screening was preferred during triage as the first choice for individuals who were likely to be hospitalized.

Mixed opinions regarding training were expressed in reviews. Some individuals who attended the focus

THE ARMY MEDICAL DEPARTMENT JOURNAL

Process	Outcomes	
	Activities	Participants
What we invest:	What we do:	Whom we reach:
Providers and staff at the Behavioral Health Clinic Dr Jobs and Catholic University of America team Facilitating organization staff Facilitating organization funding CAMS book	Needs assessment Sensing sessions CAMS training Risk assessment Treatment Documentation Create electronic version of the SSF Documentation Support Consultative support Postvention process	Behavioral health providers Soldiers (all components) Program stakeholders (eg, family members)
Effects		
Short-term	Medium-term	Long-term
What are the expected short-term effects and measures?	What are the medium-term effects and measures expected one to 2 years out?	What are the long-term effects and measures expected 2 to 5 years out?
Changes in practice Improved accuracy of risk assessment Increased clarity in treatment planning Resolution of suicidal crisis Decrease no-show rate Increased documentation of risks and treatment course Increased sense of provider support Use and satisfaction with consultation service Decrease in provider anxiety Increased confidence in how leaders handle deaths by suicide	Increased competence in assessment and treatment of suicidal behaviors Decreased hospitalization Increased tracking of disposition Increased clinical outcome tracking Decreased perceived organizational barriers Increased perceived provider support	Increase quality of care Decreased cost of care Improved professional quality of life
The outcome evaluation plan logic model depicting the flow of resources, services, and measurable outcomes expected from the collaborative assessment and management of suicidality (CAMS) PI initiative. Mission: Pilot test and develop a military-specific, evidence-based, best-practice framework for suicide risk assessment, treatment, and documentation		

group indicated the training was long and too basic for senior clinicians. Most participants indicated the eSSF training time was wasted because it was never implemented. Other participants were pleased with training, indicating it was “clear and precise and people understood everything that was being taught.” Participants’ feedback on the SSF was largely positive. Participants indicated that using the form was good for “not getting lost in drama or stories,” but helped focus quickly on the drivers of suicidal ideation. They also commented that collaboration with the patients increased because they signed and dated the form, “validating the information and showing them exactly why they are in treatment.” One person said the form was useful beyond the suicidality to “speed up treatment.” Individuals also gave largely positive feedback on the consultation calls, primarily for meeting an area of unmet need at the clinic.

Some appreciated the consultant’s acknowledgement of the difficulty of the cases and found suggestions he gave helpful. Others indicated that it was most valuable to discuss cases with their colleagues since “we don’t get to do that very often anymore with the amount of work load given.”

SUSTAINMENT OF PI INITIATIVE

A plan for sustainment of the new process for the use of the CAMS framework was made at the beginning of the PI initiative. Clinic protocols and SOPs were developed for each area of use for CAMS in the clinic including triage, intake session, follow-up visits, termination sessions, and hospitalization. These SOPs defined roles for the leadership, providers, and other clinic staff, including the front desk staff, in supporting the use of CAMS within the clinic. The SOPs were intended to provide

RAISING THE CLINICAL STANDARD OF CARE FOR SUICIDAL SOLDIERS: AN ARMY PROCESS IMPROVEMENT INITIATIVE

guidance to current staff as well as new staff, and be flexible enough for the Clinic Advisory Team to review and to adapt as needed over time. A model for ongoing training of new staff and refresher training was envisioned to be completely managed within the clinic by two volunteers or selected clinic staff members. However, because of staff changes and the waxing and waning support for the PI initiative, the training plan originally developed as a train-the-trainer model, did not materialize. Instead, a clinic staff member involved in implementation in the clinic used the videotaped orientation training to informally instruct new employees.

LESSONS LEARNED FOR A PI INITIATIVE IN A MILITARY BEHAVIORAL HEALTH CLINIC

With strong leadership and sustained focus over time, providers eventually began using CAMS with their suicidal Soldiers and realizing clinical success. Within 6 months of formal implementation, a robust clinical consultation meeting evolved where the majority of providers were using CAMS, presenting cases, and benefitting from the constructive and collegial phone meeting with members of the external consultation team. Critically, the explicit and implicit “blessing” of key, respected staff members seemed to markedly turn the tide from resistance to acceptance for the majority of providers in the clinic to use CAMS or at least be supportive of its use.

With regard to tracking patients with suicide risk, ideations, and/or attempts, clinic leadership instituted the required use of the high-interest patient database for all Soldiers seen within the clinic experiencing suicidal ideation, suicide attempts, or hospitalization. The policy also specified that Soldiers receiving CAMS would be included and tracked in the database. The high-interest patient database, along with the CAMS documentation placed directly in the electronic medical record, provided the clinic with a method to track and monitor Soldiers who have any inclinations or concerns related to suicide.

The program evaluation was designed to generate simple and flexible lessons learned. A PI initiative is not a randomized controlled trial, therefore, evaluation methods must be as fluid as the process of the initiative itself. Although more systematic evaluation methods were preferred, given the circumstances it was necessary to adapt. The feedback resulted in the creation of an updated version of CAMS training for the Army which is currently being implemented in another Army BH clinic. As a result of provider feedback, 2-day training consisting of orientation of CAMS and role-playing training was confirmed as sufficient for most providers to obtain basic competence in delivering CAMS.

In terms of its actual clinic use, there were internal adaptations in the use of CAMS that occurred naturally as the clinic staff and culture became more interested in using the approach. For example, there were cases where clinical social workers (who are assigned to handle walk-ins) would initially engage a suicidal Soldier in CAMS for a few sessions while waiting for psychotherapy (provided by psychologists) openings in the schedule. When a walk-in who was initially engaged by a CAMS-using clinical social worker began psychotherapy sessions, the transition to ongoing CAMS care with the new provider was readily facilitated because both the social worker and psychologist were familiar with treatment. In one case, the Soldier proudly “presented” the CAMS-guided SSF work that he done with his walk-in social worker to his new psychologist psychotherapist, who was of course quite interested and receptive. The process under which all clinic providers worked from the same “sheet of music” proved to be highly effective for a number of cases within this clinic’s system of care.

Finally, it is interesting to note the success was achieved in a separate Army BH clinic that was added near the end of the CAMS familiarization training. Even though members of this clinic staff received only the one-day orientation training (ie, they did not receive the role-play training and were not a part of the follow-on consultation calls), they had virtually adopted the use of CAMS by every provider within 6 months following the training. This particular clinic had received much less formal focus within the larger PI effort and limited consultation from the Warrior Resiliency Program team, but nevertheless enthusiastically adopted the CAMS strategy. This apparent success was attributed to strong internal leadership and an internal clinic culture that readily embraced evidence-based practices and worked with sensitivity to being “second guessed” in a root cause analysis should a suicide occur.

Army suicide prevention emphasizes the identification of Soldiers at risk and connecting them with helping resources, primarily Army BH. Although Army Medicine functions as a single healthcare system, there are few policies that standardize processes for BH providers with regard to the clinical management of suicidal behaviors among beneficiaries, of whom Soldiers are the primary patients. As a result, there is a need for knowledge regarding the application of an evidence-based treatment for suicide within individual Army BH clinics. The Process Improvement Initiative discussed in this article provided a unique insight into creating systematic change in a military behavioral health clinic and provided knowledge regarding perspectives of Soldiers and BH providers as well as areas of need. The

PI initiative also showed the potential to enhance the clinical standard of care through improved clinical processes for suicide risk mitigation with the intervention of a suicide-focused clinical treatment tailored for the Army population. The use of CAMS offers providers a framework for managing a patient's symptoms related to the patient's suicidal ideations or attempts, a process for documenting the risk, and the development of an infrastructure for support with the clinic. Due to the intricacies encountered during the implementation of this PI initiative, the lessons learned from this project were key in the development of the design for the randomized clinical controlled trial using CAMS implemented at Ft Stewart, Georgia. Future possibilities for the development of PI projects for implementation at other installations such as Darnell Army Community hospital at Ft Hood and Walter Reed Army Medical Center have been under consideration as well.

Areas of future research include examining the use of the PI to determine if it reduces suicide scores or reduces the need for "curbside consultations" with a military population. Real-life constraints limited this PI project from collecting data within these areas. Working with the Air Force, Jobes et al²¹ found reductions in emergency departments and primary care visits were related to using CAMS. Their findings support an examination of the clinic staff to investigate if the adoption of CAMS bolsters the moral of the clinic and/or increases effective and efficient provision of service as an important area for future research.

REFERENCES

1. Luxton DD, Osenbach JE, Reger MA, et al. Department of Defense Suicide Event Report (DoDSER) Calendar Year 2011 Annual Report. Tacoma, WA. National Center for Telehealth and Technology; 2012. Available at: http://t2health.dcoe.mil/sites/default/files/dodser/DoDSER_2011_Annual_Report.pdf. Accessed October 17, 2014.
2. Kinn JT, Luxton DD, Reger MA, Gahm GA, Skopp NA, Bush NE. Department of Defense Suicide Event Report (DoDSER) Calendar Year 2010 Annual Report. Tacoma, WA. National Center for Telehealth and Technology; 2011.
3. Shoenbaum M, Heissen R, Pearson J. Opportunities to Improve Interventions to Reduce Suicidality: Civilian "Best Practices" for Army Consideration. Washington DC: US Dept of Health and Human Services; 2009.
4. *Army Health Promotion, Risk Reduction, and Suicide Prevention Report 2010*. Washington, DC: US Dept of the Army; 2010. Available at: <http://csf2.army.mil/downloads/HP-RR-SPReport2010.pdf>. Accessed August 3, 2013.
5. US Department of Defense. Defense Centers of Excellence for Psychological Health & Traumatic Brain Injury Website. Available at: http://www.dcoe.health.mil/Families/Suicide_Prevention_Warriors.aspx. Accessed August 2, 2013.
6. Army Releases December 2012 and Calendar Year 2012 Suicide Information [news release]. Washington, DC: US Department of Defense; February 1, 2013. Available at: <http://www.defense.gov/releases/release.aspx?releaseid=15797>. Accessed August 12, 2013.
7. Chappell W. US military's suicide rate surpassed combat deaths in 2012. National Public Radio [serial online]; January 14, 2013. Available at: <http://www.npr.org/blogs/thetwo-way/2013/01/14/169364733/u-s-militarys-suicide-rate-surpassed-combat-deaths-in-2012>. Accessed August 12, 2013.
8. Conrad, AK, Jacoby AM, Jobes DA, et al. A psychometric investigation of the suicide status form II with a psychiatric inpatient sample. *Suicide Life Threat Behav*. 2009;39:307-320.
9. Ritchie EC. Suicide and the United States Army: perspectives from the former psychiatry consultant to the Army Surgeon General. *Cerebrum*. January 2012. Available at: <http://dana.org/news/cerebrum/detail.aspx?id=35150>. Accessed August 25, 2014.
10. Insel BJ, Gould MS. Impact of modeling on adolescent suicidal behavior. *Psychiatr Clin North Am*. 2008;31:293-316.
11. Ramchand R, Acosta J, Burns RM, Jaycox LH, Pernin CG. *The War Within: Preventing Suicide on the US Military*. Santa Monica, CA: RAND Corporation; 2011. Available at: <http://www.rand.org/pubs/monographs/MG953.html>. Accessed October 1, 2014.
12. Jobes DA, Bryan CJ, Neal-Walden TA. Conducting suicide research in naturalistic clinical settings. *J Clin Psychol*. 2009;65:382-395.
13. Covington D, Hogan M, and the Clinical Care & Intervention Task Force. *Suicide Care in Systems Framework*. Washington, DC: National Action Alliance for Suicide Prevention; 2011. Available at: <http://actionallianceforsuicideprevention.org/sites/actionallianceforsuicideprevention.org/files/taskforces/ClinicalCareInterventionReport.pdf>. Accessed August 7, 2013.
14. Jobes DA. Reflections on suicide among soldiers. *Psychiatry*. 2013;76(2):126-131.
15. Rudd MD. Brief cognitive behavioral therapy (CBBT) for suicidality in military populations. *Mil Psychol*. 2012;24:592-603.

**RAISING THE CLINICAL STANDARD OF CARE FOR SUICIDAL SOLDIERS:
AN ARMY PROCESS IMPROVEMENT INITIATIVE**

16. Ghahramanlou-Holloway M, Cox DW, Greene FN. Post-admission cognitive therapy: a brief intervention for psychiatric inpatients admitted after a suicide attempt. *Cogn Behav Pract.* 2012;19(2):233-244.
17. Knox KL, Stanley B, Currier GW, Brenner L, Ghahramanlou-Holloway M, Brown G. An emergency department-based brief intervention for veterans at risk for suicide (SAFE VET). *Am J Public Health.* 2012;102(suppl 1):S33-S37.
18. Jobes DA. *Managing Suicidal Risk: A Collaborative Approach.* New York, NY: The Guilford Press; 2006.
19. Jobes DA. The collaborative assessment and management of suicidality (CAMS): an evolving evidence-based clinical approach to suicidal risk. *Suicide Life Threat Behav.* 2012; 42:640-653.
20. Jobes DA, Comtois K, Brenner L, Gutierrez P. Clinical trial feasibility studies of the collaborative assessment and management of suicidality (CAMS). In: O'Connor RC, Platt S, Gordon J, eds. *International Handbook of Suicide Prevention: Research, Policy, & Practice.* West Sussex, UK: Wiley-Blackwell; 2011:383-400.
21. Jobes DA, Wong SA, Conrad A, Drozd JF, Neal-Walden T. The collaborative assessment and management of suicidality vs treatment as usual: a retrospective study with suicidal outpatients. *Suicide Life Threat Behav.* 2005;35:483-497.
22. Comtois KA, Jobes DA, O'Connor SS, et al. Collaborative assessment and management of suicidality (CAMS): feasibility trial for next day appointment services. *Depress Anxiety.* 2011;28:963-972.
23. Jobes DA, Lento R, Brazaitis K. An evidence-based clinical approach to suicide prevention in the Department of Defense: the collaborative assessment and management of suicidality (CAMS). *Mil Psychol.* 2012;24:604-623.

AUTHORS

Dr Archuleta is with the University of Texas Health Science Center at San Antonio, Texas.

Dr Jobes, Mr Jennings, Dr Crumlish, Ms Lento, and Ms Brazaitis are with The Catholic University of America, Washington, DC.

Dr Pujol is with the Brooke Army Medical Center, San Antonio Military Medical Campus, San Antonio, Texas.

Dr Moore and Dr Crow are with the Warrior Resiliency Program of the Southern Regional Medical Command, Fort Sam Houston, Texas.