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14. ABSTRACT

The problem of suicide among our military members is one of growing concern for military commanders and political leaders alike. Traditionally the national suicide rates have usually remained higher than that of the military, at about 20 per 100,000. Depending on whose calculations to believe though, it appears that the rate of rise in suicides is much higher in military members than among their civilian counterparts. Although not as high as the United States Army (USA), rates among members of the United States Air Force (USAF) have also been on the rise. The only formal program instituted by the USAF to counteract suicides is the USAF Suicide Prevention Program (SPP) launched over 18 years ago in 1996. Although it may have had a positive effect in the years immediately following its launch, recent figures both published and unpublished suggest that effect no longer seems to be present. This paper begins with a review of existing suicide prevention programs by first outlining the results of a systematic review of the published literature. A proposed Zero Suicides Program (ZSP) model to update and improve the current existing SPP, will then be introduced. This will be accomplished with a focus on causal factors possibly unique to the USAF, by describing its relevant theory basis, goals and objectives, implementation, logic model and evaluation plan. Implementation of the ZSP will be accomplished by meeting a series of short and long term objectives, with an eventual goal of wide spread dissemination to the Air Force and military wide community.

15. SUBJECT TERMS
Suicide, military, U.S. Air Force, suicide prevention program

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The Zero Suicide Program (ZSP) as a Strategy for Reduction and Prevention of Suicides Among Active Duty United States Air Force Members: A Program and Evaluation Plan

By

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The views expressed in this thesis are those of the author and do not necessarily reflect the official policy or position of the Air Force, the Department of Defense, or the U.S. Government.

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Table of Contents

Distribution A: Approved for public release; distribution is unlimited. Case Number: 88ABW-2014-5889, 11 Dec 2014

Distribution A: Approved for public release; distribution is unlimited. Case Number: 88ABW-2014-5889, 11 Dec 2014

Distribution A: Approved for public release; distribution is unlimited. Case Number: 88ABW-2014-5889, 11 Dec 2014

Abstract

The problem of suicide among our military members is one of growing concern for military commanders and political leaders alike.[1,2,3,4] Traditionally the national suicide rates have usually remained higher than that of the military, at about 20 per 100,000.[5] Depending on whose calculations to believe though, it appears that the rate of rise in suicides is much higher in military members than among their civilian counterparts.[6]

Although not as high as the United States Army (USA), rates among members of the United States Air Force (USAF) have also been on the rise.[7] The only formal program instituted by the USAF to counteract suicides is the USAF Suicide Prevention Program (SPP) launched over 18 years ago in 1996. Although it may have had a positive effect in the years immediately following its launch, recent figures both published and unpublished suggest that effect no longer seems to be present.[7]

This paper begins with a review of existing suicide prevention programs by first outlining the results of a systematic review of the published literature. A proposed Zero Suicides Program (ZSP) model to update and improve the current existing SPP, will then be introduced. This will be accomplished with a focus on causal factors possibly unique to the USAF, by describing its relevant theory basis, goals and objectives, implementation, logic model and evaluation plan. Implementation of the ZSP will be accomplished by meeting a series of short and long term objectives, with an eventual goal of wide spread dissemination to the Air Force and military wide community.

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Introduction

National priorities and the current political climate

In recent years the rates of suicides among members of the military and recent veterans of the wars in Afghanistan and Iraq have been at the forefront of national news and been put under scrutiny by the popular media.[1,2,3,4,8] Political pundits and all manner of "expert" ex-military members as well as current brass alike, have weighed in with their opinions and thoughts on the so called epidemic of suicide ravaging our military forces.[3] With this have come varied opinions as to whether such an epidemic really exists or if the whole issue is being overblown.

Because of wide variation and inconsistencies regarding the definition of suicide and even of violence, the Centers for Disease Control (CDC) published a document in 2011 to standardize the meaning of these terms and quoted the World Health Organization's definition of violence as, "The intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in injury, death, psychological harm, maldevelopment or deprivation."[9,10]

According to the CDC, in 2010, suicide was the tenth leading cause of death across all age groups and when broken down further, was the third leading cause of death for individuals ages 15 to 24 years, and the second leading cause of death for those ages 25 to 34.[5] Since 1999, rates of suicide among persons ages 10 and older have been on the rise across both sexes. This trend has been steepest among those ages 45 to 54 and has been more gradual but just as consistent in the 25 to 44 year old age group.[11] From 1991 until 1999 there was actually a national decreasing trend of suicides per the findings of the CDC and the National Violent Death Reporting System (NVDRS) Surveillance Report.[5, 12]

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Military Comparisons

In March of 2014 the first findings from the USA Study to Assess Risk and Resilience in Service members (STARRS), was published in the Journal of the American Medical Association (JAMA). This was the largest mental health resilience study ever conducted as a partnership between the USA and the National Institutes of Mental Health (NIMH) branch of the National Institutes of Health (NIH).[1] The impetus for this study stemmed from concerns over seemingly alarming upward trends of suicide, especially in the USA.

The leading cause of death, after combat, among USAF members is currently suicide[12] and the Department of Defense (DOD) is taking this fact very seriously. At the 2009 second annual Suicide Prevention conference in Washington D.C., sponsored by the Veteran's Administration (VA) and the Defense Department, the previous Chairman of the Joints Chief of Staff, Admiral Mike Mullen voiced his concern for the problem. He admitted that there was to date, no evidence linking repeated deployments to suicide rates and that the military wide suicide rate at that time, was 12.5 per 100,000[13]. The suicide problem is highest among USA personnel and higher still among veterans under the age of 25 who leave the military. Rates for the Army averaged about 22 per 100,000 compared with the national average for men, of 20 per 100,000. Yet among young Army vets the rate was as high as 80 per 100,000, based on the latest published data in 2011.[15] For the same year the Air Force rates were 13.27 per 100.000.[14, 15]

The data base for military suicides is the Department of Defense Suicide Event Report (DoDSER).[16] The most recent publication was in 2011 because of the length of time it takes to investigate and confirm cases of suicide. In this report the trends of suicide seemed to closely mirror national trends, with the highest percentage occurring among members over the age of 25. Based on raw numbers and overall percentage rates, however, the highest rates occur among

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those under the age of 25. The majority are male with a lower educational level and with access to a personal firearm. As with national figures, suicide rates among active duty Airmen have been on a steady rise since 2000 but appear to have stabilized in the last three years of the report. Female members who attempted suicide were much higher at 36% compared with 8% of females actually completing a suicide.[16] This is again consistent with national data and trends.[3]

In March 2005 the Deployment Health Assessment (DHA) and Post Deployment Health Re-Assessment (PDHRA) program came on line among all branches of the military. This was mandated by the DoD as the result of issues raised by members of Congress regarding the impression that high numbers of members of the armed forces with mental and physical injuries, were returning from the war theater. The assessment is conducted via a face to face interview between a deploying or deployed member and a health care provider, prior to each deployment, just before re-deployment from the war zone and back to the member's home base assignment, 60 days post re-deployment and 180 days re-deployment[17]. While the original main focus of the development of the DHA/PDHRA tool was identification and treatment of military members with physical injuries and mental health trauma or Post Traumatic Stress Disorder (PTSD), it was also designed to help identify those at risk for suicide and thus help to decrease those death rates.

Stakeholders, finances, feasibility

The problem of suicide among military members is not easy to assess and may be different among the various services and also different among active duty members, reserve/guard members and veterans. Thus there is not, it seems, a "one size fits all" solution to the problem. Since the issue of suicides is such a high profile one, hopefully funding for implementation of or improvement to an existing but poorly functioning program will be

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considered a priority. The military suicide issue is quite large and goes beyond the scope of what could be accomplished in this paper. The focus will therefore be on evaluating the problem as it exists currently among the active duty members of the USAF, and the formulation of a potential program to decrease the current upward trends. Any application of suggestions outlined in this paper would, of course, require the buy-in of key stakeholders in the DoD, active duty Air Force Commanders and their Airmen.

Program Plan and Evaluation Plan

As a program planning and evaluation plan this paper is composed of two major parts. In the program planning section the results of a systematic review of the existing literature is described with a focus on the only current suicide program in use by the USAF. A proposal to update this program with the ZSP model is then introduced by explaining the chosen theories of relevance, the goals and objectives and a logic model further detailing stages of implementation. After the ZSP has been in place long enough for all short term goals and objectives to be met then the evaluation plan will be implemented. This plan and its accompanying logic model are outlined here along with a discussion of Institutional Review Board (IRB) considerations and a final summary.

Theories and Models of Relevance

The formulation of a planning and evaluation program includes the incorporation of psychosocial theories and models. One definition of such a theory is the systematic approach to understanding different situations using certain sets of concepts, ideas and definitions. Models use different theories to analyze certain problems. The theories work like tools in a tool box to

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design health promotion interventions used in specific situations. The overall goal is to find ways to improve health.[18]

This paper will focus on devising an appropriate program for the identification of and reduction of suicides among active duty air force members, and will use the Social Cognitive Theory and Diffusion of Innovations Theory as population-based approaches.[18]

Social Cognitive Theory

The belief that a person has the ability to exercise control over situations is a common way that psychosocial influences can have an effect on one's health and well-being. People cannot recover from relapses and setbacks unless they believe they are able to combine self-efficacy with goals. Only then will they be able to mobilize themselves to change poor health habits and persevere in this change.[19] These are hallmarks of Social Cognitive Theory. In this theory personal environmental and behavioral factors all interact with, and influence each other.[18]

There are certain "core determinants" of the Social Cognitive Theory. These include the knowledge of certain health risks based on certain behaviors, the perception of self-efficacy, expected health benefit outcomes, the perceived facilitators around them, and the possible societal impediments to their desired change that may exist.[19]

Evaluations of suicide data show that Air Force military members very rarely exhibit typical signs of suicidal risk behavior prior to completing their suicides. Psychological autopsies show these members had personal stressors that interacted with and influenced various aspects of their lives. Changing some of the focus of identification and prevention from traditional high risk military members already "categorized" as depressed and having certain high risk personality

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traits, to those with "normal" stress may drastically reduce suicide rates. The ecological roles of individual, family, workplace and community stressors seem to play a larger role among Air Force members' decisions to end their lives.[11, 5, 16] Devising a plan that utilizes the Social Cognitive Theory would therefore be critical to the success of a suicide prevention program for this specialized cohort of individuals.

Diffusion of Innovations Theory

In order to promote the major components of theories three components need to be considered. There should first be a *Theoretical Model* that identifies the means of producing effective change and what should be part of this psychosocial process. Secondly there needs to be a *Translational and Implementational Model* that translates theory into action. Then finally, a *Social Diffusion Model* to promote and facilitate adoption of the psychosocial programs, to different cultures and societies.[19] Diffusions of Innovations Theory first defines the innovation idea or solution for the issue at hand, devises a method of communicating this information broadly, aligns itself with groups of like-minded individuals who adopt the plan, and determines the time period of implementation.[18]

By its very nature the military community is unique in its ability to adopt new innovations and disseminate these innovations on a broad scale. Unlike a democratic political leader military commanders wishing to implement service wide change can do so once a program has been sanctioned by the leaders at the top, without the need for consensus or diplomacy. Information and policy change flows down the chain of command. Although most Air Force members follow similar demographic patterns of suicide as the rest of the nation there are a few unique differences, which when tackled, may have the potential to make significant outcome differences.[5]

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The goal of this paper will be to incorporate these theories and models into a practical, efficient, and cost effective evaluation and planning program which will be relatively seamless to implement, and acceptable by military commanders and their subordinates.

Systematic Review

Introduction

Apart from combat, suicide is the leading cause of death among active duty USAF members.[12] Some of the top suicidal triggers for military members are issues with personal intimate relationships, financial hardship, legal issues and social isolaton.[16,20] A few papers have been written evaluating suicide preventive measures in the Air Force but as yet there are no published systematic reviews on suicide prevention, among active duty military members, specifically looking at these triggers. To date, existing systematic reviews have looked at interventions targeting persons at “high risk” for suicide such as those with a history of suicide attempts, a diagnosis of depression and in treatment for other mental health disorders, as well as the incarcerated. Military suicide data show that the majority of those committing this act have never been seen by a mental health professional and were not on anyone’s “radar” as a potential suicide risk.[16, 21]

Research Question

A systematic review of specific articles was conducted with the research question: “Do suicide prevention measures focusing on the risk factors of social isolation and emotional distress reduce suicide rates among active duty United States Air Force members?”

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Methods

For the search methodology several databases were accessed via the University of North Carolina – Health Sciences Library. An electronic search for studies published between 2003 and 2013 was conducted in PubMed, the Cochrane Library, Google Scholar, the Database of Abstracts of Reviews of Effects (DARE), Up To Date, ClinicalKey, Psyclit, and Web of Science. Various Air Force Instructions, Department of Defense, Department of Veteran's Affairs, Centers for Disease Control and National Institutes of Health databases were also accessed. Key words and terminology used for the search were, "Suicide prevention" and (military or "Air Force"), "Suicide prevention" AND "Military," "Suicide prevention" AND "United States Air Force," and "Suicides" AND "Military." Also conducted was a manual search of the citations of each article. Studies were chosen for inclusion as part of the review based on their titles and abstracts. Other inclusion criteria were:

1. Active duty members in the United States Air Force
2. Suicide prevention aimed at all age groups, genders and ethnic groups among the targeted population
3. All study design types
4. Non clinical/non patient population
5. All suicide prevention programs in place for the United States Air Force established and evaluated between 2003 and 2013 – looking at the post 9/11 period
6. Published in English - only interested in the US Air Force

Because of the narrowness of the question and the paucity of published papers, all suicide prevention studies for the active duty military in general, were reviewed. Initially 25 abstracts on suicides among both civilian and military populations were reviewed and 16 complete articles

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of this number studied further. A 2012 Cochrane protocol was proposed to review and evaluate social connectedness interventions for prevention of suicides in young and middle-aged adults.[21] The final systematic review remains unpublished, however, as it was not able to be located. The proposed review would also not have been specific to the military. Three other systematic reviews on suicide prevention, written between 2005 and 2010 were found. Again none were specific to the USAF and one included data on veterans as well as on foreign militaries, therefore not meeting the inclusion critera.[32,33,34] A total of 9 other articles on suicides among active duty USAF members were reviewed but of this number 5 were general articles focusing on risk factors and trends, another focused on suicide prevention for members diagnosed with post-traumatic stress disorder (PTSD), and only 3 met the final criteria for USAF suicide prevention. The second paper published in 2010 was a follow up to the first one published in 2003. The third was a study and not a program evaluation. However, because the key question of interest was consistent with the research question of this paper, it is being included.

Summary of program/studies (see Table 3)

1. Risk of Suicide and Related Adverse Outcomes after Exposure to a Suicide Prevention Programme in the US Air Force: Cohort Study[23]

This was a landmark study by Knox, et al, published in 2003. Concerned with the upward trend of suicides beginning in 1990, among active duty Airmen, Air Force leaders formed a team representing 15 functional areas from Operational Command members, the Centers for Disease Control (CDC), health promotions, community based social services providers and health care providers. They implemented what became the eleven point Air Force Suicide Prevention Program (AFSPP) (see table 1). The team adopted the population oriented risk reduction approach as outlined by Rose in his landmark 1985 article.[24] The goals of the AFSPP were to

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reduce the rates of suicide among Airmen by increasing social networks, reducing the stigma of seeking mental health care, enhancing the understanding of mental health issues and risks of suicide by educating the community, and keeping the issue of suicide prevention always current with Commanders. Community wide educational models were instituted in 1996 and measures were put in place to help remove the stigma and possible punitive consequences of seeking mental health care. After 5 years of data the authors of this paper conducted a cohort study to analyze the effects of the program.

Methods

This was a cohort "quasi-experimental" design study with before intervention and after intervention cohorts. The study population included 5,260, 292 Air Force personnel on active duty between 1990 and 2002. Knox, et al, assigned in an un-randomized and non-blinded fashion, the population of airmen on active duty from 1990 to 1996, as the unexposed cohort and considered 1997 to 2002 to be the exposed cohort. Trend analyses of suicide rates and related outcomes (homicide, accidental death, and moderate and severe family violence) was conducted with the x^2 test along with the Mantel-Haenszel statistic looking for linear trends in increasing or decreasing levels of suicide. Relative risks were also calculated as the ratio of the outcome of interest between the exposed and unexposed groups. Potential confounders of demographic shifts, such as increased numbers of women, more African Americans, and higher proportions of higher ranking individuals, all protective factors, were considered. Other confounders also considered were marital status as well as those medically separated or retired from the Air Force due to a diagnosis of mental illness. A historical document review of all relevant Air Force Instructions (AFIs) was also conducted.

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Results

According to this study the relative risk reduction of suicide among the cohort exposed to the intervention was 33%. The trend analysis data showed there were statistically significant linear trends for reductions of all outcome measures with the exception of mild family violence, which increased. When the potential confounders were analyzed no statistical differences in the demographic distribution or the numbers of mental health diagnoses of both cohorts were found, with the exception of marital status. There was a slight increase in the proportion of unmarried members (excess relative risk of 18%).

Discussion

The goals of the AFSPP seems to have been accomplished with the results as outlined in this paper, with a relative risk reduction of suicides of 33%. Over the years that the program had been in effect there did appear to be a downward trend in the cases of Air Force suicides. These results may be generalizable to other service branches of the military but may be harder to implement in civilian populations. The exception may be certain subgroups of the civilian population such as police or firefighters, where a chain of command structure exists. The Air Force has the advantage of being a relatively demographically stable population and has always had the reputation of being considered an "early adopter" of change whether technical or behavioral. The authors concluded in this study that the "institutionalization" of suicide prevention training played a large role in the effects of mental health awareness among the troops. In a random 1999 survey, 73% of the Air Force Commanders polled, ranked the concern of suicide in their units as the number one concern they had. The authors also compared the effect of this population based intervention as similar to that of HIV awareness community style interventions.

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Some drawbacks to this study included one common to most suicide studies, of low statistical power due to traditionally few numbers when suicide is the outcome. For this reason randomized trials evaluating suicide are not feasible. There was also no traditional "Table 1" or summary of the demographics of the study populations before and after the intervention, in table form. Tepper et al. in their critical assessment of this study note that the national suicide trends in the United States were not included and that during that time period US rates declined as much as 23%, concluding that some of the results found by Knox et al, may have been due at least in part to national trends. They also note that trends within the USAF were already on the decline *before* implementation of the AFSPP in 1996.[31]

2. The US Air Force Suicide Prevention Program: Implications for Public Health Policy[25]

Five years after their initial cohort study on the topic, Knox, et al, returned to re-assess the results of the AFSPP. Rates of Air Force suicides for a 27 year time span from 1981 to 2008 were evaluated. Over this period of time many external factors such as 9/11, the wars in Iraq and Afghanistan and downsizing of the forces were in play. The main objectives of this study were to determine if Air Force suicide rates had continued to trend downwards since 1997, when the program was launched. It was also to determine to what extent the Air Force military installations were in compliance with implementation of the program. One of the major aims of the AFSPP was to lessen the stigma of seeking mental health care. The working assumption that led to the creation of the program was that airmen who kill themselves often exhibited signs of suicidal tendencies and so if early access to treatment was available, and sought out, then this could have a positive effect. By educating the public the creators of the program also hoped to make suicide therefore a population wide issue and not just a matter of individual concern.

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Methods

For this study the researchers used an Intervention Regression Model (Stochastic Dependency type) to assess the quarterly suicide rates over the previous 11 years as well as to predict future suicide rates. They looked back at a 16 year period prior to implementation, and the post intervention time frame. This was once again a non-blinded and non-randomized study but despite this the risk of selection bias was minimal since the study population was comprised of 100 percent of confirmed suicides during the study time period. Population size was a possible confounder and thus was adjusted for in the analysis using the regression model. To determine compliance with establishment of each of the 11 initiatives of the AFSPP an implementation appraisal survey was first conducted in 2004. These initiatives were further clustered into seven prevention domains also known as indicator or operational measures. These included (1) leadership involvement, (2) continuous professional military training, (3) development of guidelines for Commanders, (4) ongoing community education, (5) development of Integrated Delivery System (IDS) and Community Action Information Boards (CAIB), (6) enhancement of community health services, and (7) instituting policies. The researchers then constructed an index by combining the values of the measured variables and then using these to calculate implementation scores for each of the seven domains. To reduce measurement bias researchers were blinded to the responses of commanders from different installations who responded to the 11 initiatives survey in 2004 and the 11 initiatives checklist (a refined version of the survey) in 2006. Data were received both from the local base levels as well as from the nine Major Commands.

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Results

The pre-intervention suicide average rate was 3.033 per 100,000 compared with 2.387 per 100,000 in the post-intervention period; a statistically significant change of 0.646 ($P<0.01$). Between 1997 and 2007 this decrease in suicide rates was consistently maintained except for a statistically significant upward spike ($P <0.001$) noted in 2006. Using risk indicators the researchers predicted a suicide rate of 9.3 per 100,000 for 2008. They also established "normal" indices based on standard deviations from the forecasted rate. Rates less than or equal to one standard deviation from the 2008 rate or <12.1 per 100,000 were considered to be "indicators of concern." If the rates were one standard deviation greater than the norm (12.1-14.8 per 100,000) they were categorized as "indicators of warning." Finally rates greater than two standard deviations from the norm (>14.8 per 100,000) were identified as "critical indicators of a change in the pattern of suicide rates." Median implementation rates of the seven prevention domains in 2004 across all military installations was only 56%. In 2006 however the median rates of two of the seven domains was at 100% for 95% of all the bases, and "high levels" of the other five domains in at least half of the other bases.

Discussion

The authors of this paper postulate that the longstanding wars in place since shortly after September 11, 2001 has had an adverse effect on the risk and rates of suicides in the military as a whole. They make the point that morale tends to be high at the start of any conflict but "troops" become war weary eventually. The reason for the 2004 upward spike could have been an effect of the wars, the result of poor implementation of the AFSPP that year or a combination of both. To reduce the chances in the future of an implementation issue having a directly negative effect on suicide rates, the Air Force closely monitors compliance with the program as well as trends in

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Air Force suicides on an annual basis. The goal is to be able to identify early shifts in patterns of suicides.

Since its implementation in 1997 the AFSPP has been modified and continuously improved. Over this same time period the overall size of the Air Force has been reduced. Population size was therefore a factor that was adjusted for during analysis. The researchers state that before this correction they found that the relationship between the declining population and suicides, although inverse, was non-significant. From this they assumed that there must not have been a very strong linear relationship between the exposure of fewer airmen to perform the same duties and the outcome of interest.

A major goal of the AFSPP was to change the culture of mental health by "institutionalizing" it thus reducing the stigma associated with seeking mental health care. Data collected by the DoD showed that in 1998 9.5% of airmen received mental health care while in 2002 that number had risen to 13.5% and stayed at 13.3% in 2005. It is difficult to ascertain however, if these percentages are staying high because of an increased rate of mental health issues or because the AFSPPs goal of earlier and more frequent use of mental health services are being realized. The author's also noted that 97% of Air Force personnel who took advantage of these services did not suffer any adverse effects on their careers.

The authors concluded in this paper that the USAF has shown the capacity to decrease suicide rates through the systematic implementation of the Air Force Suicide Prevention Program and that the general public through public health efforts should be able to adopt some aspects of the program. They do admit, though, to the limited generalizability and external validity potential because of the uniqueness of the Air Force.

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Table 1. 11 US Air Force Suicide Prevention Program Initiatives[25]

1. Leadership involvement	AF leaders support entire suicide prevention spectrum.
2. Addressing suicide prevention through professional military education	All military formal training inclusive of suicide prevention training.
3. Guidelines for commanders on use of mental health services	Commanders trained when and how to use metal health services and encouragement of early help seeking behavior.
4. Community preventive services	The Medical Expense and Performance Reporting System updated to track preventive measures.
5. Community education and training	Annual suicide prevention training for all airmen and air force civilian employees.
6. Investigative interview policy	The immediate period following an arrest is considered a high risk period so custody of airmen handed over to commander or first sergeant who then assesses individual's emotional and mental health and need for referral to mental health or not.
7. Trauma stress response (originally critical incident stress management)	Trauma stress response teams deployed to areas of terrorist attacks, accidents, incidents or suicides to assist personnel with emotions.
8. Integrated Delivery System (IDS) and Community Action Information Board (CAIB)	Found at the major command and base levels. IDS and CAIB provide forum for cross organizational review and resolution of individual, family, installation and community issues that impact force readiness and quality of life.
9. Limited Privilege Suicide Prevention Program	Patients at risk for suicide are entitled to increased confidentiality when treated by mental health providers. The Limited Patient-Psychotherapist Privilege was established in 1999 limiting the release of patient information during Uniform Code of Military Justice proceedings.
10. IDS Consultation Assessment	This tool allows commanders to assess unit strengths and identify areas of vulnerability thus being able to support health and welfare of personnel with assistance of IDS consultants.
11. Suicide Event Surveillance system	Central database for AF suicides and attempts

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3. The functions of Social Support as Protective Factors for Suicidal Ideation in a Sample of Air Force Personnel[26]

This study by Bryan and Hernandez looked at social support, both tangible and psychological, as a means of suicide reduction among Air Force members. Per this paper, suicide was on the rise among members of the military including the Air Force and had jumped up from 8.9 per 100,000 in 2008 (better than the projection by Knox et al. of 9.3 per 100,000) to 15.5 per 100,000 in 2012. Studies by Chioqueta & Stiles in 2007[27] and Kaslow in 2005[28] show there is an inverse relationship between suicidal ideation/attempts and social support. In this paper the researchers defined social support in four ways, *Tangible support*, *Belonging*, *Appraisal support* and *Esteem support.* The first type of social support referred to the practical support of assistance from an individual or individuals to include financial assistance, help with household chores, helping with immediate short term problems, etcetera. Belonging included a sense of having companionship and importance to someone else. Appraisal support was defined as constructive feedback and emotional validation by peers and supervisors. Esteem support was the belief or faith in one's abilities to overcome. The perception of belongingness and connectedness was shown to correlate with decreased suicidal ideation among military veterans enrolled in college, and also among active duty members during deployment.[29] The specific questions posed by this paper were to determine which of the social support functions were associated directly or indirectly with lower suicide ideation and which caused a decrease effect of emotional distress on suicide.

Method

This study was an observational, cross sectional, non-randomized cohort study. The source population was the active duty USAF population from which 273 airmen were chosen

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ranging in age from 19-50, at two air force bases in the southern United States. There was no blinding or randomization in the selection of participants who were recruited during Security Forces unit formations at their respective bases. “Volunteers” completed several measures including the Beck Scale for Suicidal Ideation-Worst (BSSI-W), the Beck Scale for Suicidal Ideation-Current (BSSI-C), the Anxiety Depression Distress Index-27 (ADDI-27), and the Interpersonal support Evaluation List (ISEL). Generalized liner regression modeling for a Zero-inflated Poisson distribution (ZIP) was used for the analysis because 18 airmen or 6.6% of the sample showed signs of current suicidal ideation on the BSSI-C (score>0). The ZIP model uses a combination of two regression models at the same time and divides those who are actively suicidal with a score above 0 from those who are not.

Results

Of the Airmen who were currently suicidal, 88.9% were male and 77.8% were non-Hispanic Caucasian with an average age of 25.78 years. 19.4% of the Airmen had positive scores on the BSSI-W indicating a history of past suicidal ideation. Of this number 81.1% were male and 75.5% were non-Hispanic Caucasian. Regression models were applied to each social support function separately and the covariates of age, gender, worst-point suicidal ideation, and emotional distress were entered into the models. A final regression model indicated that only esteem and tangible social support were directly linked to a lesser degree of suicidal ideation. Additionally it appeared that tangible support lessened any effect of emotional distress on suicidal ideation.

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Discussion

In general, Airmen with the perception of greater social support had a decreased rate of suicidal ideation and among those with an increased risk the social support function with greatest benefit was esteem support. Furthermore it appeared that Airmen who had emotional distress seemed to be at higher risk of suicide if that emotional distress was also coupled with lack of tangible support. The researchers therefore suggested that easy access to concrete resources by those at risk of suicide could help to lower incidence of this problem. The social support function of belonging was not found to be linked with suicidal ideation which seems to contradict earlier findings by Van Orden et al. in 2010.[30] However thwarted belongingness has been postulated to be composed of two areas, that of the absence of reciprocal care (a form of tangible assistance), and loneliness.

There were several limitations to this study. First of all the majority of respondents were male and so findings could not be reliably generalized to females. In addition because such a small number (6.6%) were suicidal at the time of the data collection any findings here had very low power for a meaningful conclusion. Third, all the participants were volunteers who were more likely "voluntold" by their superiors to be in the study. Either a willing or unwilling group of participants would have unique reasons for not being the best subjects in a study and could likely contribute some selection bias. Fourth, all the measures evaluated were the result of self-reporting which may have been less than truthful because of the stigma still associated with suicide and mental health issues despite recent attempts to change the culture. Finally, due to the cross sectional nature of the study no causal relationships could be made. The researchers also failed to provide the cited source for their 2012 suicide rate of 15.5 per 100,000. The most recent

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confirmed and published rates from the DoD was 13.27 per 100,000 in 2007 which was actually a decrease from the year before[16].

Summary

Due to the very specific nature of the research question, the availability of studies with the major outcome of suicide prevention generally among USAF members or using certain modalities is quite limited. Each of the three had different study designs but none used any blinding or randomization opening the large possibility for selection and measurement bias. None of the studies were randomized controlled trials which would be expected, considering the outcome of interest. None of the studies addressed the issue of harms, either actual or postulated. The only actual program in existence and in current use by the USAF was assessed by the first two studies which both seemed to indicate some degree of success with the reductions of suicides as a result of implementation. One reason for this initial success was possibly the function of making suicides an Air Force wide issue involving participation of leadership, commanders and airmen. By moving it out of the sole purview of Air Force medicine the consciousness of the non-medical community was raised, and lay persons were better aware of signs and symptoms to watch for. The third and most recent study seemed to contradict this success however, although some critical citations were missing to support certain claims made. This was also not a program implementation paper as explained previously. Hopefully a pending Cochrane systematic review looking at the outcome in question among adults of a similar age to those in the Air Force will shed more light on the social isolation question and ways to further reduce suicidality.[21]

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Goals and Objectives

Goal: Prevent suicides in the United States Air Force through early identification and intervention, with the establishment of the Zero Suicides Program (ZSP).

Short Term Objectives:

1. ***Introduction and Development*** – An implementation team will brief the ZSP model to the current Air Force Medical Support Agency/ Suicide Prevention Program Manager (AFMSA/SG3OQ) and if required, the Air Force Community Action Information Board (CAIB) Chair and the Deputy Secretary of Defense (Health Affairs) of the Air Force. Brief proposed new education and training SPP updates to the Air Force Deputy Chief of Staff for Manpower, Personnel and Services (AF/A1) and garner support. Obtain guidance or permission to approach the Wing Commander (Wing CC) at a targeted base to initiate the ZSP, as a pilot project. Brief 100% of Commanders, First Sergeants and Senior Noncommissioned Officers (SNCOs) on all aspects of the program.

   By month 3:

   Activities: Obtain Institutional Review Board (IRB) consent from the Defense Health Agency/Tricare Management Activity office (DHA/TMA) to perform the pilot project.

   ***Activities*:** Introduce the ZSP model to the targeted air force base location. Brief the Wing CC, the Wing Command Chief, the Installation CAIB Chair and then members of the CAIB, on the ZSP.

   By month 6:

   Activities: Hire the ZSP Program Manager (PM) and Suicide Prevention Provider (SPPr) and identify an active duty military SPPr alternate to be appointed by the Military Treatment Facility Commander (MTF/CC). Obtain a contract with an External

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Evaluator/statistician to compile and analyze data for analysis. Begin transfer of implementation duties to the PM and the IDS ZSP community action sub-committee. At the recommendation of the IDS ZSP community action sub-committee, the Wing CC will appoint membership to a newly formed Zero Suicides Working Group ZaWG).

2. ***Training –*** The IDS ZSP sub-committee will develop updates to the current web based training program for eventual inclusion in the Advanced Learning System (ADLS) or its equivalent. Design final training curricula for airmen and awareness program for family members. Finalize training plans for dental and medical providers to include the use of suicide screening tools. Finalize also the use of screening and triage tools to be used by the SPPr. Provide monthly data and progress report briefings on training progress to the IDS and CAIB Chair.

   By month 6:

   Activities: Fifty percent of all airmen and civilians will complete general initial ZSP training (web based) while a similar percentage of medical and dental providers will also complete the provider specific portion. The exception will be all newcomers to the base who will receive training from the PM or an interim PM at their mandatory newcomers' orientations.

   Activities: Conduct community briefings to educate family members. Strongly encourage family members to accompany newcomers to monthly mandatory training. Hold separate monthly suicide awareness events, especially for family members, in association with Family Advocacy (FA) and the base chaplain's office.

Distribution A: Approved for public release; distribution is unlimited. Case Number: 88ABW-2014-5889, 11 Dec 2014

By month 18:

Activities: The ZSP model will be in place for a year at the targeted base. By this time all dental and medical providers and ninety percent of all other personnel will have ZSP training completed.

By month 30:

Activities: With the program in place for 24 months, the base will have 100% of all personnel with at least 6 months on station, trained.

3. ***Marketing –*** Launch a public relations informational campaign to educate the base wide population, focusing on the problem of suicide in the Air Force and the goal of "blazing a new trail" for the rest of the Air Force community to follow.

   By month 6:

   Activities: Saturate multi-media sites such as Armed Forces Network News (AFN), Air Force Times, Base magazines etc. with regular suicide awareness messages.

   Activities: By month 6, update local suicide prevention hotlines with the SPPr contact information.

   Activities: By month 6, ensure widespread dissemination of suicide prevention educational/awareness information.

4. ***Data collection –*** Report data analysis of suicidal risk referral rates and completed suicide rates monthly to the IDS and CAIB.

   By month 6:

   Activities: Obtain a contract with a statistician to compile and analyze data at critical time points of this pilot study.

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Activities: Begin collection of data regarding numbers of referrals by medical/dental providers to the SPPr, referrals from commanders and referrals from other entities/self-referrals. Also perform data collection of suicide attempts and completed suspected suicides.

By month 18:

Activities: The ZSP model will be in place for a complete year and there will be a 20% increase in the numbers of airmen referred to the SPPr and/or mental health services.

Activities: Produce and present to the Wing CC and the CAIB, initial data analysis reports regarding any trends with the target base population.

Activities: Make a follow-up presentation to the AFMSA/SG3OQ, the CAIB Chair and the Deputy Secretary of Defense (Health Affairs) of the Air Force.

Long Term Objectives:

1. *By month 60:*

   The ZSP will be in place at the targeted test site for 54 months and Air Force wide for 48 months. There will be a decrease in suicides air force wide by 20% of most recent pre 2014 confirmed statistics, or 8 per 100,000. There will be increases in mental health or SPPr referrals by 50% over most recent pre 2014 Department of Defense Suicide Event Report (DoDSER) rates.

2. *By years 7-10:*

   The ZSP will be the benchmark program for all branches of the military. A zero tolerance for suicide culture will be the norm. Suicide rates will be maintained below 5 per 100,000.

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Logic Model

Assumptions

Although the rates of suicide among Air Force members remains lower than the national US average of 20 per 100,000,[1] it is still the leading cause of death in this population.[2] There also appear to be some unique risk factors found among Air Force personnel, not seen in the general population[3] or among members of the Army. It would therefore seem to make sense that any suicide prevention program keep these differences in mind. The current AFSPP established in 1996, is the only formal program for suicide prevention ever implemented by the Air Force.[4] The contribution of frequent deployments to suicide risk remains controversial but has not shown a positive correlation.[5,7] Air Force leadership is concerned about suicide trends and would be willing to consider a complementary adjustment to a prevention program that has not changed in the past 17 years.

(See Appendix C for Logic Model Table).

Program Implementation

Activities

We will launch the Zero Suicides Program (ZSP) over a 24 month period by meeting several short term objectives and making adjustments as needed. The first step will be to obtain the official sanction of Air Force leadership as outlined in the Goals and Objectives section of this paper. Once the targeted base has been identified we will form a ZSP community action subcommittee within the Integrated Delivery System (IDS) that will work with the initial ZSP implementation team. In consultation from the Chief of Aerospace Medicine (SGP), mental health and a Communications Squadron representative, this subcommittee will produce the final job descriptions and place the job announcements for the Program Manager (PM), the Suicide

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Prevention Provider (SPP), as well as a contract statistician. Another task of the subcommittee will be to update/create formal mentorship and sponsorship Wing Instructions (WIs) as well as finalize training plans for all active duty members and civilians on base. Additionally continuous marketing of the ZSP and also data collection of training, rates of referral of suicide at risk individuals and completed suicide rates will be the responsibility of the subcommittee who will report all metrics to the IDS and CAIB each month.

The long term objective of reaching suicide goals of less than 5 per 100,000 and becoming the benchmark suicide prevention program will be achieved by obtaining the full support of the DoD, expanding the ZSP to all USAF installations, vigilant oversight of all aspects of the program and a changing cultural attitude towards suicides.

Budget Proposal

The next several paragraphs summarize the proposed budget for the ZSP outlined in detail in Appendix D.

Source of Funding

The total initial short term funding to establish the ZSP model at the targeted base will be $213,549.67 (estimated) in the first year then $254,739.67 (estimated) the second year, for a total of $468,289.34 (estimated). One hundred percent of these funds will be provided from DoD sources.

Personnel Costs/Fringe Benefits: $401,413.34 (estimated)

Ideally the positions of PM and SPP will be civilian government employees at the pay-scale General Service (GS) levels of at least GS-12 and GS-9 respectively. Proposed salaries for these positions were based on 2014 rates in the Washington D.C. area for a GS-12 (step 10) and GS-9 (step 1). A budget based on a 2 year pilot project would normally be staffed with

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contractors. We are proposing this budget based on civilian government employees with the assumption that it will be adopted for widespread and continued use by the USAF. The community action subcommittee of the IDS will establish the ZSP model working group or "ZaWG", with membership composed of at least the Chief of Aerospace Medicine (SGP), mental health representatives, (Family Advocacy) FA representative, Chaplain, Judge Advocate General (JAG), Office of Special Investigations (OSI), Top three representative, SPPr, and chaired by the PM. The ZaWG will track and discuss at risk members monthly, as well as review findings of psychological autopsies of any completed suicides.

In this budget we have also made provision for contract services towards the end of the 24 month period for data analysis and evaluation of the ZSP. The purpose of program evaluation will be key to decisions to expand the ZSP Air Force wide.

Equipment Costs: $4,600 (estimated)

Initial costs for computers and communication devices will total $4,600 (estimated). Costs for phones and pagers could be even less if these devices are leased with a contract and not purchased up front.

Website/Training: $0

The IDS community action sub-committee will incorporate training for the ZSP into the pre-existing suicide prevention training already in place on the ADLS site. Additional monthly training at Newcomer's Orientations and to commanders and family members will be included as part of the regular duties of both the PM and SPPr.

Travel: $4,200 (estimated)

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Funds will be allocated for annual travel for both the PM and SPPr for the purpose of conference attendance and other temporary duty assignments.

Office Supplies/Marketing: $29,200 (estimated)

Initially the IDS sub-committee and then the PM will ensure wide spread dissemination of suicide prevention pamphlets, refrigerator magnets, pens, etc. containing suicide hot line information. These will be distributed to every waiting room and lobby on base including the common areas of the Base Exchange (BX), Commissary, JAG waiting areas, hospital lobby, clinic waiting rooms and exam rooms. The PM will have representation at every health fair and public on-base event. In conjunction with anti- drinking campaigns at the start of long weekends and holidays, the PM will oversee distribution of suicide prevention materials, at the base entrance and exits. The PM and SPPr will also work with the chaplain's office to host family member events for the purpose of suicide prevention education. At risk families will also be identified for extra support. Those considered at risk are those with deployed members, chronic or long term illness, financial constraints, marital/relationship issues and legal problems. Some events could also be held in conjunction with deployed support functions already in existence.

Other Costs: $28,876 (estimated)

A portion of the allocated budget in this category will go towards provision of temporary housing. The PM and ZaWG will work with representatives from housing and the Air Force Inn/billeting office to provide "safe haven" accommodations or priority on base lodging for "potential risk" military members identified as such by the SPPr, and at the discretion of the appropriate commander. The bulk of funds in this category will be for the program evaluation further detailed in the evaluation portion of this paper.

Rationale and Approach to Evaluation

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The reasons for launching the ZSP as a pilot study are simply first, to see if it works, and second, to see if it can be replicated.[37] The ultimate success of the ZSP will be closely tied to regular evaluations and necessary adjustments. Results of the evaluation are used to determine the necessity and feasibility of moving forward with programs that are designed to be used at multiple locations, and over long periods of time. The evaluation also aids in the identification of key stakeholders and maintains the integrity of the process by keeping the progression points as transparent as possible.[35] Frequent collection of data, and analyzing the effects of the program in question on the target audience, is an integral part of the program establishment.[36] The major reasons to evaluate the ZSP will be to gauge the effects on the community such as morale levels, increased SPPr referrals, and thus decreasing suicide rates.

Ideally data collection will begin simultaneously with the launch of the ZSP and so out of necessity the PM should act as the program's internal evaluator. However, to maintain program integrity and have an overall objective assessment an external consultant should also be brought on board. The consultant will need to have expertise in data analysis, a good working knowledge of military policies and procedures, and be experienced and comfortable moving between the civilian community and the military world. Having an external consultant will also help to maintain program transparency and provide credibility.

The stakeholders for the ZSP will be first of all the military Airmen on the base for whom the program will be designed. Base leadership would also be obvious stakeholders. To bring representatives of all stakeholders into one cohesive group an Evaluation Stakeholder Workgroup (ESW) should be formed.[35] For the ZSP the already established ZaWG would serve the same purpose. Among its duties would be the collection, assessment and presentation of data. The ZaWG would also make recommendations for adjustments to the ZSP as needed depending

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on the outcomes and results of ongoing evaluation, to the ZSP sub-committee. Other important stakeholders will also be leadership at the DoD level who would ultimately be making the final decisions at the end of the primary 48 month evaluation process, whether to expand the ZSP or not.

Potential challenges that the ZSP evaluation process may face could include budgetary restrictions, timing of interventions and changing the culture/beliefs of the community. Another potential challenge could be the pressure to show the program as successful due to the high visibility the ZSP will engender.

Evaluation Study Design

To maintain transparency, final decisions about the details of the ZSP evaluation study design should be made by the ZaWG as early in the program implementation phase as possible.[35] Based on the prior evaluation of the current program in use in the USAF it will make sense to repeat a quasi-experimental study design for the ZSP. This will generally involve comparison of the same air force cohort, before and after intervention with the ZSP. More specifically it will be consistent with the "One group, time series design" or the "Single time series design." This design is used with a single population of individuals with data collected at different time intervals before, and then following the intervention[37]. One disadvantage of this design will include instrumentation, where post implementation data is collected using different methodology or with some tools not available in the pre-implementation period.[37] Other possible biases could include regression to the mean, maturation and history.[37]

Evaluation Methods

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The evaluators of the ZSP will largely use quantitative methods to determine the internal and potential external validity of the program. Referral rates to the SPPr and mental health clinic will be assessed from the hospital data base. Morale levels will be gauged by gleaning information from the Health Related Behaviors Survey of Active Duty Military Personnel (HRB). This will obviate the need for the design and implementation of a new survey system and so presents a clear advantage. This web based survey is conducted DoD wide and is anonymous in its administration. Subjects are obtained via a stratified random sample design and survey completion by those sampled is highly encouraged by commanders.[38] Information on the mental health and morale of airmen deployed within 3 years of the evaluation will also be able to be obtained from results of the PDHRA.[17] Additionally, psychological tools and questionnaires already in use like the Meaning in Life Questionnaire (MLQ)[39], the ADDI-27[40] and the Interpersonal Support Evaluation List (ISEL)[41] will also be utilized. Other measurements of morale will include the assessment of the levels of participation by airmen at voluntary or non-mandatory unit social events. Additionally secondary data will be retrieved from medical records and other organizational records on the numbers of suicide attempts and completed suicides, during the 24 months before and after the intervention.

The use of some of the data collection methods outlined here will be susceptible to some amount of bias such as response bias by participants who could either consciously or subconsciously give answers to questions in a manner they feel may be more "politically correct."[37] This will therefore be something the evaluators will have to keep in mind while collecting and performing their analyses of the data.

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EVALUATION PLANNING TABLES

Table 2

***Short Term Objective #1*: Introduction and Development of ZSP to targeted base:**

EVALUATION QUESTIONS	PARTICIPANT	EVALUATION METHOD
Was the ZSP approved by the leadership at the AFMOA/AFMSA or DoD level for implementation at the targeted base?	ZSP implementation team	Air Force leadership policy letter or memorandum supporting initiation of the ZSP
By 3 months were all commanders and Senior NCOs briefed by the implementation team?	IDS ZSP community action sub-committee members and ZSP implementation team	Minutes of CAIB and IDS
If required was IRB approval obtained prior to the initiation of the pilot study at the targeted base?	ZSP implementation team	IRB official decision statement
By 6 months were the ZSP PM and SPPr hired and was a contract made with an External Evaluator/statistician?	IDS ZSP community action sub-committee members and ZSP implementation team	Organizational Records, interviews with staff in those positions
Did the PM and ZSP community action sub-committee begin to assume implementation duties from the original implementation team?	IDS ZSP community action sub-committee members and ZSP implementation team	Organizational Records, IDS minutes, interviews of committee members
Was the ZaWG formed?	IDS ZSP community action sub-committee members and ZaWG	Organizational Records

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What improvements could be made to the implementation process?	Wing CC, Command Chief, IDS ZSP community action sub-committee members, ZaWG, PM and SPPr	Interviews, Focus Groups

***Short Term Objective #2*: Training: A web based training plan will be initiated and all airmen will undergo mandatory training. All provider training will be finalized.**

EVALUATION QUESTIONS	PARTICIPANT	EVALUATION METHOD
By 6 months, did at least half of all Airmen and civilians complete initial web based training and did at least half of all providers complete specific clinical prevention training?	Education and Training, PM	Organizational Records Training Logs
Were monthly training stats briefings given to the CAIB and IDS?	PM, IDS	Organizational Records IDS and CAIB minutes
Were community awareness events held in conjunction with FA and the Chaplain's office?	IDS, PM, Chaplain, FA	Interviews Focus Groups, IDS minutes
By 18 months had at least 90% of all airmen at 100% of providers received ZSP training?	Education and Training, PM	Organizational Records Training Logs
By 30 months had 100% of all personnel except for newcomers received ZSP training?	Education and Training, PM	Organizational Records Training Logs

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What went well with the training?	Education and Training, PM	Interviews Focus Groups
What about the training could be improved?	Ed Education and Training, PM	Interviews Focus Groups
Do Commanders, Airmen, and providers feel easier about referring members or seeking ZSP help for themselves?	PM, SPPr, ZaWG, Commanders, Airmen, providers	Interviews Focus Groups

***Short Term Objective #3*: Marketing:**

EVALUATION QUESTIONS	PARTICIPANT	EVALUATION METHOD
By 6 months were all available media in the base community promoting suicide awareness measures?	PM, Base Public Relations	Observation Data Collection Interviews
Were suicide hotlines updated with SPPr and updated information and were more calls being received?	PM, SPPr, mental health rep	Observation Data Collection
Were any problems encountered with promotional campaigns?	PM, Base Public Relations	Observation Data Collection Surveys
What sort of feedback has been received from the community and how can things be improved?	PM, IDS, Chaplain, mental health, SPPr	Interviews Focus Groups Surveys w/ Written Open-Ended Questions

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***Short Term Objective #4*: Data collection:**

EVALUATION QUESTIONS	PARTICIPANT	EVALUATION METHODS
By 12 months after the ZSP implementation was there at least a 20% increase in the numbers of at risk referrals to the SPPr &/or mental health?	PM, SPPr, ZaWG, mental health	Organizational records, Medical records
Are presentations on the progress of the program scheduled to be made to AFMOA or the DoD?	PM, Wing CC	Interviews
How has the ZSP been received by the base community?	PM, IDS, ZaWG, Community and family members, Chaplain	Surveys Interviews Focus Groups
What can be improved?	PM, IDS, ZaWG, Community and family members, Chaplain	Surveys Interviews Focus Groups
What activities failed and which ones exceeded? Why?	PM, IDS, ZaWG, Community and family members, Chaplain	Surveys Interviews Focus Groups

***Long Term Objective #1*: By month 60, the ZSP will have been implemented Air Force wide and in place for 2 years:**

EVALUATION QUESTIONS	PARTICIPANT	EVALUATION METHODS
Was the goal of Air Force wide implementation of the ZSP achieved by year 3 of the initial	AFMOA representative	Organizational Records

Distribution A: Approved for public release; distribution is unlimited. Case Number: 88ABW-2014-5889, 11 Dec 2014

implementation at the original target base?		
Was the goal of an increase in at risk referrals of at least 50%, to preventive services, met?	AFMOA representative	Organizational Records
Has the goal of a 20% reduction in Air Force suicides compared to pre-2012 rates, been achieved?	AFMOA representative	Organizational Records
By years 7-10 were suicide rates of less than 5 per 100,000 being met and maintained in the USAF?	AFMOA representative	Organizational Records
Is zero tolerance for suicides the norm in Air Force communities and has the USAF achieved bench mark status among the military services?	AFMOA representative	Focus Groups HRB Survey[38]

Institutional Review Board Considerations

The success or failure of the ZSP will become apparent as a result of research conducted by both an internal evaluator as well as an external consultant during this critical phase of program evaluation. Because one of its major goals is dissemination of a successful program Air Force wide and also generalization to other branches of the military and pseudo-military civilian organizations, results of the ZSP evaluation will have to be submitted to the IRB via the DHA/TMA, for a full review.[42,43] The purpose of the IRB is to protect all human subjects used in research, by reviewing and granting approval prior to the initiation of such research. This insures

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that rules of research ethics are followed and human rights are not violated.[42] All staff members and evaluators involved in the collection or analysis of data from human subjects will need to undergo Human Subjects Training and only the co-evaluators themselves along with certain members of the ZaWG will have access to any initial data. All personal identifiable information will be removed from other records and will be compiled into aggregate data sets for analysis by other staff members.[42, 37] Informed consent will be required to be obtained from all participants in the evaluation study. This will explain their rights, potential risks, what their information will be used for, how it will be kept confidential and to whom they will be able to air grievances and ask questions.[37] A substantial amount of information will be gleaned from medical records and so all program staff will also need to complete Health Insurance Portability and Accountability Act (HIPAA) training.[42]

Although the evaluation research period will be the most critical phase requiring IRB approval, initiation of the IRB review process will take place at the start of the implementation process of the ZSP.

Dissemination

At the end of the initial 48 month implementation phase, and upon completion of initial evaluation study, the PM in the position of internal evaluator along with the external consultant will present the results to identified stakeholders. Initial presentations will be made to the Wing CC as well as to members of the CAIB. The information will also be disseminated to the rest of the base via commander's calls and civilian group town hall meetings. DoD leadership will also be given a formal presentation of findings both written as well via power point or equivalent methods. Results will also be submitted for publication in military medical and other review journals and also presented at national military and civilian national medical meetings.

Distribution A: Approved for public release; distribution is unlimited. Case Number: 88ABW-2014-5889, 11 Dec 2014

Discussion

The original USAF SPP is 18 years old and times have changed. Although it has been updated periodically over the years and the most major update occurred in 2011,[44] Air Force rates continue to rise.[16, 45] The initial success achieved by the SPP at the end of the 1990s was short lived and evidence shows that an upward trend had begun even before the onset of the wars in Afghanistan and Iraq, as early in fact as 2000.[23,16] However the SPP is far superior to every other suicide prevention currently in use by the DoD and has in its own right already established "benchmark status" as demonstrated by its adoption for use by some foreign militaries.[46, 47] The recent initial publications of the STARRS study highlight a few details of suicide risk among soldiers. The study by Nock, et al showed that the majority of soldiers with suicidal thoughts at any time had actually had these thoughts prior to enlistment. The study also reported that about a third of soldiers already enlisted and with post-enlistment suicide attempts had been diagnosed with a mental health disorder prior to enlisting.[1] In a separate study researchers hypothesized that perhaps the rise in suicidality among USA Soldiers is due to the admission of more members with mental health problems, increased admission waivers being granted to members with previous felony convictions and also to the Werther Effect from the plethora of news coverage of the suicides.[48]

Data from the Air Force seem to indicate that mental health statistics similar to the Army may exist. For airmen who attempted or completed suicides, the average rates of behavioral health diagnoses from 2009 to 2011 were 67.0% and 41.3% respectively.[16] The national burden of mental health illness in the United States per the National Institutes of Mental Health (NIMH) is 26.2% but the civilian suicide rates for this population are still much higher than the USAF at great than 90%.[49]

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Results from the STARRS study show that the pre-enlistment lifetime suicidal ideation/ plan prevalence of soldiers (58.2% - 52.9%) was actually much lower than the US population on a whole (82.4% - 62.4%), but then increased to a much higher percentage after enlistment. They also point out that the post–enlistment non-lethal suicide attempts were no higher than peer matched civilian counterparts, but rates of successful suicides compared to civilians, were. They postulate that perhaps easier access to firearms, a more lethal means of suicide, could explain this difference.[1] This is still debatable however, as the data show that these are personal weapons and not military issue being used.[16] It is unclear at this time whether or not pre-enlistment rates of suicidal ideation among air force recruits is comparable to army enlistees. Clearly the screening practices of all military recruitment processes needs closer scrutiny and some adjustments may need to be made to more easily identify those with a greater potential for suicide.

In evaluating further the DoDSER data for the USAF, a few other metrics seem to stand out (See Appendix E). Twenty-five percent of Airmen used alcohol as an aid to suicide, 23% were on psychotropic medication, 15.8% of them had a family history of behavioral health problems and 29.4% had experienced some recent legal or administrative problems.[16] The most interesting metrics though, showed that 65.3 % resided in off base housing while only 19 % of completed suicides occurred on base. Personal failed relationships had been experienced by 51% (29.7% having occurred in the immediate 30 days prior to the suicide), and 64% had seen a provider in a medical treatment facility for any reason, within 90 days of ending their lives. As for deployments, 76.2% had no history of a deployment to Iraq or Afghanistan and 95.4% had never experienced combat.[16] Unlike their civilian counterparts being married does not appear to have a protective effect on suicidal rates for either USAF Airmen or USA Soldiers and so the

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inference is that family separations and other work related factors seem to place an undue amount of stress on personal intimate relationships.[1, 16] This is supported by the findings of studies by Martin et al., and Logan et al., showing that decedents who were married had greater intimate relationship issues within 30 days of their suicides.[50, 51] A 2013 study by Bryan et al., indicated that airmen with a stronger sense of having a meaning in life, seemed to function at higher levels in all aspects of their lives, to exhibit lower levels of emotional distress and have less suicidal ideation. They also found that Airmen with greater access to tangible social support from others also had higher life functioning.[52]

The subject of suicides in the USAF and other branches of the US military is a complex one and thus no simple or easy fix exists. It must be attacked from different strategic angles in battle plan mode and treated as the war it is. The ZSP write out seeks to build on the existing SPP with specialized focus on the most frequently occurring commonalities found among Air Force suicidal decedents and attempters. We must also strive to foster a greater change in the Air Force's cultural approach to suicides. The AFSPP has been partly successful in helping to remove the stigma associated with seeking mental health services through education and public service messages. However much work remains and though many suicide completers will still not seek direct help from a mental health provider many will see another type of provider without expressing depressive symptoms or revealing the real reason for their visit.[53] The ZSP will give providers the tools needed to find these Airmen and create a more stream lined and efficient referral path for those needing help. Commanders and first line supervisors will also receive more relevant training and have direct access to the suicide specialist on base for immediate help/advice when required. The ZSP will also focus on improving the Wingman culture among peers by streamlining and standardizing the mentorship program as well as

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through outreach and community based initiatives. As the name implies the ultimate goal of the ZSP on base will be to have *zero* suicides, monitored quarter by quarter, and thus establish the USAF SPP as *the* benchmark among military and civilian programs alike.

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APPENDICES

A - Glossary of Terms

1. ADLS – Advanced Distributed Learning System – Department of Defense (DoD) administered web based education and training system.

2. AETC – One of the ten major US Air Force (USAF) Commands responsible for education and training of USAF members.

3. AFI – Air Force Instructions – Mandatory policy documents regulating standards of conduct/practice in the USAF.

4. AFMOA- Air Force Medical Operations Agency – Oversees the execution of the Air Surgeon General's health policies and works with the Secretary of the Air Force, the Assistant Secretary of Defense of the Air Force (Health Affairs) and the Chief of Staff of the Air Force.

5. AFMSA – Air Force Medical Service Agency – Air Force agency that provides consultation and support services as well as policy development for the Air Force Surgeon General.

6. Base Exchange (Bx)/Commissary – Retail shopping and grocery stores located on air force bases for use by members of the military.

7. CAIB – Community Action Information Board – Composed of base leaders and commanders who meet to discuss critical data and community issues to include suicide issues. Works to resolve problems and ensure wing readiness.

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8. Family Advocacy – On base agency that supports active duty members and family members with counseling support services, financial guidance/support, abuse protection, family resiliency support, etc.

9. Integrated Delivery System – IDS – Answers to the CAIB and acts as the working committee of the CAIB that designs preventive programs and community outreach. Also responsible for conducting the "community needs assessment", biennially.

10. Institutional Review Board – IRB - Ethics board designed to review proposed studies and experiment applications where human subjects may be used.

11. Judge Advocate General – JAG – Military term for judicial system on base.

12. Psychological Autopsy – A post mortem evaluation of the decedent's psychological state of mind leading up to his/her death. This is done by reviewing medical records, job/performance reports and interviewing friends, family and colleagues.

13. Top Three – An association of the most Senior Non-Commissioned Officers which includes the ranks of Master Sergeant, Senior Master Sergeant and Chief Master Sergeant.

14. Werther Effect – Copycat suicide.

15. Wing Instructions – Written guidelines and standards for operations of base processes sanctioned by the Wing Commander.

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B - Table 2. Study characteristics of programs reviewed

Category	Knox et al, 2003	Knox et al, 2010	Bryan et al, 2013
Program/intervention/study	Air Force Suicide Prevention Program (AFSPP)	Air Force Suicide Prevention Program (AFSPP)	Social support as protective factor for suicide
Population	5,260,292 active duty USAF personnel	5,260,292 active duty USAF personnel	273 active duty Security Forces Airmen ages 19-50
Interventions	Implementation of the 11 point AFSPP	Application of an intervention regression model to assess success or failure of AFSPP	Administration of BSSI-C, BSSI-W, ADDI-27, ISEL screening measures
Comparators	Unexposed cohort and exposed cohort before and after 1997	Unexposed cohort and exposed cohort before and after 1997	Usual care
Outcomes	33% relative risk reduction among exposed cohort	Reduction of mean suicide rate from 2.387 per 100,000 to 3.033 per 100,000 (P<0.01)	6.6% or 18 Airmen found to have active suicidal ideation. Esteem & tangible social support found to be directly associated with decreased SI
Timing of outcome measurement/ length of follow-up	Post-exposure period from 1997 to 2002	Post-exposure period from 1997 to 2008	N/A (cross sectional study)
Time period	1990 to 1996 and 1997 to 2002	1981to 1996 and 1997 to 2008	2012
Settings	Active duty USAF bases and Major Commands	Active duty USAF bases and Major Commands	2 separate USAF bases in the southern US
Study type	Cohort study with quasi experimental design & analysis of cohorts before & after intervention	Intervention regression (stochastic dependency type) model	Observational cross sectional non randomized cohort study

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C - Table 3. Logic Model

<table>
<tr><th>INPUTS</th><th>ACTIVITIES</th><th>OUTPUTS</th><th>OUTCOMES (3-60 MOS)</th><th>IMPACT (7+ YEARS)</th></tr>
<tr><td>People:
AF CAIB Chair
AFMSA/SG3OQ
Wing CC
Installation CAIB Chair
MTF/CC
Group CCs
First Sergeants
SGP
Base Chaplain
Medical/dental providers
JAG rep
Security Forces rep
OSI rep
Housing office and Air Force lodge reps</td><td>Obtain AFMSA/SG3OQ sponsorship to brief appropriate Air Staff/DoD level stakeholders and garner support & sanctions
Brief ZSP model to Wing CC, Installation CAIB Chair and CAIB members</td><td>Monthly suicide awareness events with family member participation sponsored by Chaplain’s office and FA
Monthly briefings to IDS & CAIB
Regular public service messages on multimedia sources
PM & SPPr hired</td><td>Short Term:
By month 3 Wing CC, IDS & CAIB briefed; screening and training tools in place
By month 6, key personnel hired; 50% of all Airmen, civilians & providers trained; 100% of newcomers trained monthly
By month 18, 100% of medical/dental providers trained; 20% increase in referrals to SPP
By month 30, 100% trained; ZSP sanctioned for AF wide use</td><td rowspan="5">ZSP model is the benchmark program for all branches of the military
Zero tolerance for suicides is the cultural norm
Suicide rates maintained below 5 per 100,000</td></tr>
<tr><td>Organizational:
Family Advocacy
OSI
IDS
CAIB
AETC
AFMSA
AFMOA
DoD</td><td>Work with CAIB/IDS to form ZSP community action subcommittee
Work with housing and lodging to establish temporary “safe haven” sites on base and priority housing
Finalize provider training plan & screening tools to be used by SPP after approval from the AF/A1, IAW AFI 36-2201
Write job descriptions & post job announcements for SPPr & PM
Finalize updated sponsorship and mentorship programs</td><td>PM interacts with Wing CC and Command Chief to run the ZSP
SPPr screens, triages & refers potential or high risk mbrs appropriately
Increase in numbers of potential risk mbrs to SPPr &/or mental health
Continuous self-evaluation and feedback lead to modifications as needed of the ZSP
ZaWG established</td><td rowspan="3">Long Term:
By month 60, ZSP in place AF wide; 50% increase in numbers of Airmen referred to SPP/mental health; 100% annual training maintained by all personnel AF wide with greater than 6 mos TOS</td></tr>
<tr><td>Funding:
Pilot study funds through AFMSA
General Officer Insert funds
Other Air Staff funding</td><td>Assess program budget annually and present to stakeholders for renewal of support</td><td>Increased budget for Air Force wide implementation</td></tr>
<tr><td>Materials and Resources:
DoDSER & local base level data
Current AF SPP
Information tech
Volunteers (Red Cross, ROTC, Officer & Enlisted Spouses clubs, etc)</td><td>Design & implement web based training plan
Multimedia suicide prevention campaign via TV commercials, newspaper/magazine ads, posters etc
Distribution of reading material to common areas of base
Participation at health fairs etc
Pens, flyers, magnets etc with SPP contact information</td><td>Ongoing data collection & analysis by contracted statistician</td></tr>
<tr><td>Time</td><td>Update suicide prevention hotlines</td><td>Maintain timeline for short term & longterm objectives</td><td></td></tr>
</table>

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D - BUDGET PROPOSAL

A. Personnel

Position/Category	Computation* (estimated)	Cost (estimated)
ZSP Program Manager	$98,305/yr X 100% X 2	$196,610
ZSP Suicide Prevention Provider	$52,146/yr X 100% X 2	$104,292
ZSP alternate provider**	$0	$0
Statistician/Evaluator contract	$75,560/yr X 25% X 1	$18,890
Subtotal		$319,792
Cost of living increase	2% X 1 year	$6,395.84
Total		$326,187.84

*Salaries based on Office of Personnel Management rates for the Washington DC area for 2014: https://www.opm.gov/policy-data-oversight/pay-leave/salaries-wages/salary-tables/pdf/2014/DCB.pdf

**Alternate provider already receiving pay and benefits from USAF as active duty member – no additional costs to ZSP

B. Fringe Benefits

Position/Category	Benefit	Computation (estimated)	Cost (estimated)
ZSP Program Manager	25% of total	$98,305/yr X 0.25 X 2	$49,152.50
ZSP Suicide Prevention Provider	25% of total	$52,146/yr X 0.25 X 2	$26,073
ZSP alternate provider	0	0	$0
Statistician contract	0	0	$0
Total			$75,225.50

C. Equipment

Item	Computation* (estimated)	Cost (estimated)
PC Laptop computer	$1,800 X 2	$3,600
Smartphone	$400 X 2	$800
Pager	$200 X 1	$200
Total		$4,600

*Estimates based on prices found at www.dell.com, www.staples.com, www.bundle.com, https://www.google.com/#q=pager, http://us.blackberry.com/smartphones.html.

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D. Website/Training

Item	Computation* (estimated)	Cost (estimated)
Website development	100 hours	$0
Domain registration & maintenance	$0	$0
Total		$0

*Website information and training will be added to existing site on Advanced Distributed Learning Services (ADLS). No additional cost to ZSP

E. Travel

Item	Computation* (estimated)	Cost (estimated)
Airfare	$600/yr X 2 X 2 yrs	$2,400
Ground transportation	$50/yr X2 X 2yrs	$200
Hotel	$300/yr X 2 X 2 yrs	$600
Meals	$50 per day X 5 days/yr X 2 X 2 yrs	$1,000
Total		$4,200

*Cost estimates obtained from www.cwtsatotravel.com.

F. Office supplies/marketing

Item	Computation* (estimated)	Cost (estimated)
Supplies	$8.33/ month X 2 X 24	$400
Marketing/promo items/advertising	$1,200/month X 24	$28,800
Total		$29,200

*Estimates of costs obtained from www.lac-group.com/average-office-supply, www.nextdayflyers.com, www.superiorpromo.com.

G. Other costs

Item	Computation* (estimated)	Cost (estimated)
Rent	$0	$0
Telephone	$0	$0
Printing	$67/month X 2 X 24	$3,216
Emergency or temporary housing**	$56/night X up to 30 nights/12 months X 2	$3,360
Program evaluation cost	5% of total program	$22,300
Total		$28,876

*Estimates of costs obtained from www.edwardsbusiness.com. **Based on cost at Joint Base Andrews http://www.andrewsfss.com/lodging.html

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Overall Budget

Budget Category	Cost (estimated)
A. Personnel	$326,187.84
B. Fringe benefits	$75,225.50
C. Equipment	$4,600
D. Website	$0
E. Travel	$4,200
F. Office supplies/marketing	$29,200
G. Other costs	$28,876
Total direct costs for 24 months	$468,289.34
Total indirect costs for 24 months	$0
Overall Total	**$468,289.34**

Requested amount from federal funds	$468,289.34 (estimated)
Requested amount from non-federal funds	$0

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E - Table 4. USAF Suicide Data[16]

	% Suicide attempts 2011	% Completed suicides 2011	% Average of completed suicides 2009-2011
Alcohol use during event	31.1	21.7	25.2
Off base residence	51.0	47.3	65.3
Shared on base housing	29.1	31.3	19.0
Behavioral dx	67.0	41.3	42.0
Seen by any provider w/in 90 days of event	66.5	60.9	64.0
On Psychotropic meds	70.5	23.9	23.0
Failed intimate relationship	65.7	45.6	51.0
- Within 30 days of event	42.2	26.1	29.7
History of family behavioral hlth problems	35.0	15.2	15.8
Any admin or legal issue	41.0	21.7	29.4
No history of Iraq/ Afghan./deployment	98.0	80.4	76.2
No combat exposure	85.3	97.8	95.4

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F. Table 5 - ZERO SUICIDES PROGRAM (ZSP)

(PROPOSED UPDATES TO THE CURRENT AIR FORCE SUICIDE PREVENTION PROGRAM)*

The following is a proposed outline of the ZSP comparing it with the current AFSPP. As will be noted the ZSP will be an update to the current program focusing on the most at risk issues affecting US Airmen. To be effective suicide prevention needs to be front and center on the agenda of the USAF which means that it needs to be a more robust program and the ZSP PM will need to be a senior level GS employee reporting directly to the Wing CC. Making suicide less of a medical responsibility and more of a population responsibility will give it much more visibility and credence in the eyes of the AF community. In particular focusing on ways to identify "normal" Airmen who compose the majority of those committing suicide by better equipping non-mental health providers to identify these individuals, and providing ease of referral access, will also play an important role.

AFI 90-505[44]	**ZSP**
Chapter 1 – Overview 1.1. Purpose 1.2. Background***** 1.3. Introduction***** 1.3.1.***** 1.3.2.***** 1.3.3. 1.3.4.	**Chapter 1 – Overview** 1.1. Purpose – unchanged 1.2. Background – The original AFSPP is over 18 years old and times have changed. Suicide trends are increasing once again despite the most recent updates in 2012. 1.3. 1. Protective factors are the same. Risk factors for AF suicides include failed personal relationships, marital or intimate partner strain/stress, social isolation, poor sense of belonging, access to personal firearms, residence off base, mental health diagnosis, legal problems, financial issues, alcohol misuse and previous suicide attempt. 1.3.2. The Zero Suicides Working Group (ZaWG) will be overseen by the Integrated Delivery System (IDS) and the Community Action

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	Information Board (CAIB). The rest of 1.3.2. remains the same. 1.3.3. unchanged but see 3.1.5. below 1.3.4. Unchanged
Chapter 2 – Responsibilities	**Chapter 2 – Responsibilities**
2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 2.10 2.11 2.12 2.13 2.14 2.15 2.16 2.17 2.18***** 2.19***** 2.20***** 2.21***** 2.22 2.23 2.24 2.25 2.26***** 2.26.1***** 2.26.2***** 2.26.3***** 2.26.4***** 2.26.5***** 2.27***** 2.28 2.29 2.30 2.31 2.32 2.33	2.1 – unchanged 2.2 – unchanged 2.3 – unchanged 2.4 – unchanged 2.5 – unchanged 2.6 – unchanged 2.7 – unchanged 2.8 – unchanged 2.9 – unchanged 2.10 – unchanged 2.11 – unchanged 2.12 – unchanged 2.13 – unchanged 2.14 – unchanged 2.15 – unchanged 2.16 – unchanged 2.17 – unchanged 2.18 – Unchanged except the CAIB Chair will relinquish all SPP related duties to the ZSP PM and will work with the CAIB Chair but report to the Installation Wing CC. 2.19 – Unchanged except the IDS Chair will relinquish SPP related duties to the ZSP PM. IDS Chair will also appoint members of the ZSP community action sub-committee who will in turn make recommendations to the Wing CC regarding the composition of the ZaWG. ZaWG will submit monthly reports To the sub-committee. 2.20 – Unchanged except the Chaplain will serve as a member of the ZaWG. 2.21 – Unchanged except the JAG will serve as a member of the ZaWG. 2.22 – unchanged 2.23 – unchanged 2.24 – unchanged 2.25 – unchanged 2.26.1. – The ZSP PM will assume duties of the MTF CC as the POC for the ZSP. 2.26.2. – MTF CC works with PM to ensure. 2.26.3. – MTF CC will appoint alternate SPPr who will be an AD member. 2.26.4. – ZSP PM will assume this duty. 2.26.5. – ZSP PM and SPPr will assume duties.

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	2.27 – Unchanged except PM will assume duties. 2.28.1. – unchanged 2.28.2. – unchanged 2.28.3. – Unchanged except the licensed mental health provider will be the SPPr. 2.28.4. – Unchanged 2.29.1. – unchanged 2.29.2. – unchanged 2.29.3. – unchanged 2.29.4. – unchanged 2.29.5. – unchanged 2.29.6. – unchanged 2.29.7. – Unchanged except the CC will have direct access to the SPPr for suspected at risk Airmen. 2.30 – unchanged 2.31.1. – unchanged 2.31.2. – unchanged 2.31.3. – unchanged 2.31.4. – unchanged 2.31.5. – ARC frontline supervisor training will occur within 180 days of assuming duties. Training will be updated per the ZSP requirements with approval of AF/A1. 2.32 – unchanged 2.33 – unchanged
Chapter 3 – Program **AFSPP 11 ELEMENTS:** 3.1.1. – Leadership 3.1.2. – Suicide Prevention Professional Military Education (PME)***** 3.1.3. – Commanders use of Mental Health Svcs***** 3.1.4. – Unit-based Preventive Services 3.1.5. – Wingman Culture*****	**Chapter 3 – Program** **ZSP** 3.1.1. – Leadership – unchanged 3.1.2. – ZSP PME will have changes more specific to the ZSP and these updates will be finalized by the ZSP IDS community action sub-committee. 3.1.3. – Commanders use of Mental Health Svcs: This will remain unchanged except that the First line of defense for the CC will be the SPPr for referral. 3.1.4. – Unit-based Preventive Svcs – unchanged 3.1.5. - Wingman Culture: The Wingman concept will be enhanced with a standardization and update of the Sponsorship Program Air Force wide. Sponsorship will be comprehensive and will be overseen by the ZaWG. All newcomers will be assigned a sponsor from their new duty area as soon as Permanent Change of Station (PCS) orders are available. The role of the sponsor will not end with the completion of the PCS move but

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	the original sponsor or other airman will become the newcomer's assigned Wingman. This concept will be carried forward to include family members with the assistance of the military spouse's clubs and other such agencies. It will also be expanded to include members retiring and separating. Along with current services, deployed mbrs support will also be enhanced.
3.1.6. – Investigative Interview Policy (Hands Off Policy)*****	3.1.6. – Investigative Interview Policy (Hands Off Policy)
3.1.6.1.	3.1.6.1. – no change
3.1.6.2.	3.1.6.2. – no change
3.1.6.3.*****	3.1.6.3. – The investigating agent will assume the member is at risk for suicide and will communicate this to the member's First Sergeant or Commander who will refer the member to the SPPr or the alternate.
3.1.6.4.*****	3.1.6.4. – The Commander or First Sergeant will maintain a high level of suspicion and assume the member is at risk for suicide and thus all members will require referral to the SPPr or the alternate.
3.1.7. – Post-Suicide Response (Postvention)*****	3.1.7. – Post-Suicide Response (Postvention): No change but additionally the PM and the SPPr will play an integral role in this process.
3.1.8. – CAIB and IDS*****	3.1.8. – CAIB and IDS: Unchanged but add that these committees will oversee the ZSP plan and will work hand in hand with the PM to make suicide prevention a more robust process with greater visibility and priority on base.
3.1.9. – LPSP Program	3.1.9. – LPSP Program
3.1.10. – Commander Consultation Tools*****	3.1.10. – Commander Consultation Tools:
3.1.10.1.	3.1.10.1. – unchanged
3.1.10.2.	3.1.10.2. – unchanged
3.1.10.3.*****	3.1.10.3. – The ZSP PM will work with local Commanders to select the best instrument for their unit and will also assist with interpretation of results along with ZSP Statistician.
3.1.11. – Suicide Event Tracking and Analysis	3.1.11. – Suicide Event Tracking and Analysis – unchanged
Chapter 4. – Education and Training	**Chapter 4. – Education and Training**
4.1.- Suicide Prevention	4.1.- Suicide Prevention
4.1.1.- Tier 1: Foundational training	4.1.1.- Tier 1: Foundational training
4.1.2.- Tier 2: Targeted training for at risk gps*****	4.1.2. –Tier 2: Targeted training for at risk gps –
4.1.2.1.	4.1.2.1. – unchanged

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4.1.2.2. 4.1.2.3. 4.1.2.4. 4.1.3.-Tier 3: Managing personnel in distress***** 4.1.3.1. 4.1.3.2.***** 4.1.3.3.*****	4.1.2.2. – unchanged 4.1.2.3. – unchanged 4.1.2.4. – New Air Reserve Component (ARC) frontline supervisors working with high risk groups should complete ZSP training within 180 days. 4.1.3.- Tier 3: Managing personnel in distress: 4.1.3.1.- no change 4.1.3.2. – The PM, SPPr and SPPr alternate will work as part of the Mental Health Flight to provide Limited Privilege Suicide Prevention (LPSP) training. 4.1.3.3. – All medical and dental providers will undergo provider specific SP training along with mental health providers.
Chapter 5 – Metrics 5.1 5.2	**Chapter 5 – Metrics** 5.1 5.2 5.3 - Additional metrics as outlined in the ZSP PP and E will be collected and analyzed by the ZaWG lead by the ZSP PM and the contracted External Evaluator/Statistician during the first 48 months of the ZSP implementation.

***Indicates a change**

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