

## Chapter 5

# Empirically Guided Community Intervention for Partner Abuse, Child Maltreatment, Suicidality, and Substance Misuse

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**Abstract** This chapter describes an initial implementation and evaluation of NORTH STAR, a community-based framework for the prevention of family maltreatment, suicidality, and substance problems. NORTH STAR was evaluated using existing installation-level prevention teams at 24 U.S. Air Force bases worldwide in the context of a randomized controlled trial (RCT). NORTH STAR organizes teams' prevention efforts by (a) providing the results of a needs assessment focused both on problems and risk/promotive factors, (b) prioritizing among problems and associated factors, (c) implementing activities from a menu of empirically supported community-based initiatives for each risk factor, (d) evaluating those activities, and (e) ensuring sustainability through a reliance on preexisting resources. NORTH STAR had promising results, appearing to reduce some problems, especially in communities with more adverse prevention climates. The implications of our efforts for community-wide prevention generally and within the U.S. Air Force are considered.

Force protection is one of the most significant tasks facing the U.S. military in these uncertain times. Whereas the majority of attention focuses on protecting active duty (AD) members from external threats (e.g., improved body armor to protect service members from enemy fire), less attention is directed toward internal threats affecting force protection and readiness. Three behavioral health threats – suicidality, family maltreatment, and problematic alcohol and drug use<sup>1</sup> – share several common traits: (a) they are prevalent (at least one out of three active duty members anonymously report at least one of these problems at a severe level; Slep, Heyman, & Lorber, 2009); (b) they are among the top concerns of military commanders

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<sup>1</sup>Beginning in 2008, a fourth behavioral health protection threat – Post-Traumatic Stress Disorder (PTSD)/Combat Operational Stress Reaction (COSR) – was added to this project's purview.

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(Office for Prevention and Health Services Assessment, 1999); (c) their existence is typically hidden by AD members and families; (d) they are costly, both in dollars required to handle incidents that come to light and in reduced readiness; (e) they share key risk and protective factors; (f) they are heavily influenced by social factors, and thus necessitate a community-level response; and (g) their presence often overlaps in affected military families.

Despite the widespread concern that these threats impair warfighters' readiness to fight and win our nation's wars, incomplete information and strategies prevent the provision of an optimal force health protection response. Moving toward "information superiority" – one of the key concepts of Joint Vision 2010/2020, the vision for the twenty-first century military – "is a driving force in the force health protection concept, which uses information to [optimize] preventive measures..." (Medical Readiness, Division, J-4, The Joint Staff, 2003, p. 3).

Just as military information superiority is considered a prerequisite to the effective countering of military threats, health information superiority is a prerequisite for effectively countering force behavioral health threats. This chapter will describe the history and evolution of the NORTH STAR,<sup>2</sup> a collaborative initiative of researchers at Stony Brook University and the U.S. Air Force (AF). NORTH STAR seeks to provide information necessary to guide military communities' prevention action planning and to test whether communities' implementing evidence-based prevention efforts reduces the prevalence of identified problems, decreases severity of associated risk factors and increases resilience. This chapter will (a) provide a brief history of the NORTH STAR initiative; (b) detail the rationale for NORTH STAR's approach; (c) discuss the outcomes and lessons learned from a 4-base pilot test; and (d) provide a preliminary sketch of the outcomes emerging and lessons learned from a 24-base randomized controlled trial (RCT).

Throughout this chapter, we will label three behavioral health threats – suicidality, family maltreatment, and alcohol and drug abuse – as "secretive problems." This is not at all to imply that their existence is a secret. The problems are not secret from military leadership, who have identified them as key targets for improved community health and have dedicated considerable resources to prevent and treat them. The problems are not secret from commanders, who list them among their top concerns (Office for Prevention and Health Services Assessment, 1999). The problems are not secret from affected members' companies, who bear the brunt of the morale and readiness degradation that are the common fallout of such problems. However, individuals, including AD members, try to keep these problems secret from the community, which typically learns that a member has a problem only after a serious incident (e.g., suicide attempt, partner abuse arrest, DUI charge).

The known prevalences of these problems – the "identified" proportion of the population tracked through current military systems – represent a minority of those with a secretive problem. The full prevalences of these problems – the proportion of

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<sup>2</sup>NORTH STAR is an acronym for *New Orientation for Reducing Threats to Health from Secretive-problems That Affect Readiness*.

the population engaging in these behaviors at problematic levels – are not definitively known across the U.S. military, although data from two AF-wide surveys indicate that it constitutes approximately 35% of AD members. Further, the surveys show that only about 1 in 13 of those self-reporting a severe secretive problem indicate that anyone in uniform knows that they are having even a mild problem.

In sum, the secretive nature of the problems requires innovation and adaptation in information gathering, prevention planning, and effectiveness monitoring. Because the secretive nature helps not only define the problems but also influence the solutions, we have adopted the label “secretive problems” throughout this chapter.

## United States Air Force

The U.S. Air Force began as the U.S. Army Air Forces (formerly U.S. Army Air Corps) and was made a separate service in 1947. Currently, the AF has slightly fewer than 332,000 AD members and almost 180,000 civilian employees. These personnel are stationed at the approximately 80 AF permanent bases (not counting numerous other locations, such as in Iraq and Afghanistan), 65 located in the continental United States and 18 located in strategic overseas locations. Twenty percent of the current force is assigned to overseas bases. Demographically, the AF has 40% of members under the age of 26; 41% are single, and 19.4% of female. The AF has the most educated force of the four branches: 70% of enlisted personnel have completed at least one semester of college, with 19% having earned an associate’s degree, 5% a bachelor’s degree, and 1% master’s degree; 45% of officers have earned a bachelor’s degree, with 44% having earned a master’s degree, and 11% having earned a professional degree or doctorate.<sup>3</sup>

Air Staff, located predominantly at the Pentagon, provides overall oversight and operating guidance. Nine major commands<sup>4</sup> are organized on a functional basis in the United States (Air Combat Command, Air Education and Training Command, Air Force Global Strike Command, Air Force Materiel Command, Air Force Space Command, Air Force Special Operations Command, Air Mobility Command) and a geographic basis outside the continental U.S. (Pacific Air Forces, United States Air Forces in Europe). They accomplish designated elements of Air Force worldwide activities. Also, they organize, administer, equip, and train their subordinate elements for the accomplishment of assigned missions. In descending order of command, elements of major commands include numbered air forces (e.g., 1st, 9th, and 12th Air Forces are part of Air Combat Command), wings, groups, squadrons, and flights.

Wings constitute the AF’s operational arm and heavily influence the culture of base communities. Although there is a great range in the population and size of AF

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<sup>3</sup>Data as of January 2010 derived from the Air Force Personnel Center’s Interactive Demographic Analysis System ([www.afpc.randolph.af.mil/demographics/](http://www.afpc.randolph.af.mil/demographics/)).

<sup>4</sup>A tenth major command, the Air Force Reserve Command, is responsible for the 35 AF Reserve wings.

bases, the average AF base has approximately 3,000 AD members assigned; 30–40% of members and their families live on bases. (Over 350,000 family members are part of AF AD communities.) Like a small town and other services' installations, AF bases contain a wide range of resources, agencies, and services necessary to support a meaningful quality of life (e.g., recreational, medical, and human service agencies and programs). Many of these resources are focused on meeting the unique demands, such as frequent relocation and separation, associated with the military lifestyle.

## **History of the NORTH STAR Initiative**

In 1997, staff at Headquarters AF Family Advocacy Program (FAP; the agency charged with preventing and treating partner abuse and child maltreatment) asked for research proposals to help them better establish the full prevalence of family maltreatment in AF communities; FAP managed a central registry of all substantiated cases but did not know the prevalences of similar cases that never came to FAP's attention. A contract was executed with Stony Brook University to develop statistical algorithms to estimate family maltreatment from nonsensitive, regularly collected community survey data (see Heyman & Slep, *in press*). Those efforts went well, and plans were made to add detailed questions about family maltreatment to the biennial AF Community Assessment (CA). In 2001, these plans were vetted by the FAP's medical command and by the Associate Judge Advocate General of the AF. In 2001–2002, the two other behavioral health problems within the purview of the AF's Community Prevention Division (suicidality and alcohol abuse/drug use) were added to NORTH STAR's charge. Discussing potential participation in a pilot test of the additional, sensitive survey questions with wing leadership and local staff at four volunteer bases sparked the idea for NORTH STAR. To understand its genesis, one must understand the prevention infrastructure that exists at each base, major command, and the Air Staff itself.

## ***Air Force Community Action and Information Board (CAIBs) and Integrated Delivery System (IDS)***

In 1996, the AF formed the Suicide Prevention Integrated Product Team across all functional areas of the AF to create a strategy to reduce suicide among active duty members. The subsequent AF Suicide Prevention Program (Knox, Litts, Talcott, Feig, & Caine, 2003) adopted an approach emphasizing personal and community connections that fostered resilience and support to all Airmen (i.e., not waiting until an Airman was suicidal).

To enact this strategy, the AF established a comprehensive structure to coordinate the efforts of all AF members/staff and programs with responsibility for the general health and well-being of the force. This structure consists of a leadership

board and an action group at each management level (i.e., the Air Staff, each major command, and each AF installation). The board is the Community Action and Information Board (CAIB), mandated by Air Force Instruction (AFI) 90-501. The mission of the CAIB is to identify and resolve issues that impact the readiness of AF members and their families, promote the perception of the AF as a positive way of life, and enhance members' ability to function as productive members of the AF Community. The emphasis [is] on positive actions and programs that strengthen force readiness through a sense of community and assist AF members, their families, and communities to thrive and successfully manage the demands of military life. CAIBs function as a forum for the people of the AF, giving AF members and their families an opportunity to have their concerns addressed in a cross-functional setting" (Air Force Community Action Information Board, 2008).

The action arm of the CAIB is the Integrated Delivery System (IDS) team. The IDS is chartered as a standing subcommittee of the CAIB (AFI 90-501). Six prevention-oriented agencies appoint leaders to sit on the IDS (i.e., Chaplain, Child and Youth Programs, FAP, Family Support, Health and Wellness Centers/Health Promotions, and Mental Health clinics). However, "since prevention is a community-wide concern, any [other] program or agency ... is welcome to participate in collaborating, coordinating, and marketing these efforts" (Nelson, 2001, p. 24). The IDS has four main functions: (a) centralized information and referral; (b) assessment of risk and protective factors at the unit and base level; (c) planning and delivery of prevention services; and (d) community awareness of the services that IDS constituent agencies offer.

That the CAIB and IDS are part of an infrastructure that gives the AF an advantage over civilian communities, where the precondition of bringing together a group of prevention-oriented leaders to coordinate initiatives for overarching community needs is difficult. The CAIB and IDS can mobilize tremendous assets in the effort to reduce secretive problems. However, the task of assessing risk and protective factors, making sense out of such data, selecting effective prevention activities, ensuring adequate reach, and offering a seamless system of comprehensive and effective prevention and treatment services – with no financial or personnel resources specifically allocated to these efforts – is a daunting one.

### ***NORTH STAR's Conception***

In 2001–2002, we met with wing leadership and IDSs to discuss the CA+ (the CA with the detailed assessment of family maltreatment, suicidality, and alcohol misuse/drug use; PTSD/COSR symptoms were added in the 2008 survey). However, this information infrastructure was being built for planning for Air Staff prevention/treatment planning and personnel allocation. When we discussed with base IDSs that an advantage of participation was that we could provide base-level risk and protective factor data to guide IDS community prevention action planning, it was clear that bases lacked the expertise to turn such information into informed action.

We recognized that the AF essentially was building or had built all the necessary pieces of state-of-the-art prevention infrastructure, but because the pieces were built for various purposes without an overarching strategy, they were lacking the interconnections to make the pieces function as a cohesive system. We envisioned NORTH STAR as the bridge between (a) the planned data gathering of the prevalences of various secretive problems and risk and protective factors for these problems and (b) the service delivery infrastructure that was not currently using empirical guidance in community action planning and only occasionally was using evidence based interventions. We were fortunate to receive two grants from the Department of Defense's Congressionally Directed Medical Research Program to (a) develop and pilot test NORTH STAR with 4 Air Force communities and (b) conduct a RCT at 12 NORTH STAR and 12 control communities.

In the following section, we will review the recent developments in prevention science that formed the foundation for NORTH STAR.

## A Prevention Science Approach

### *Orientation to the Prevention Science Approach*

*Health ≠ absence of disease.* Force health protection views the health of AD members along a continuum from peak functioning to death. Rather than focusing only on keeping specific AD members out of the pathologic portion of the continuum, the goal is to move the entire AD population toward optimal functioning. Both the AF's suicide prevention program (U.S. Air Force Suicide Prevention Program, 2009) and the Army's recent suicide leadership vector (Chiarelli, 2009) recognize that – although reducing the population prevalence of suicide, alcohol dependence, drug use, substantiated maltreatment, and PTSD/COSR is important – moving the population risk level farther from these severe and interrelated problems is equally important. Increasing community resilience not only reduces the risk for, and negative impact of, secretive problems, but also optimizes healthy functioning. This focus is consistent with a paradigm shift in public health, generally (Green & Raeburn, 1988). The military's efforts to promote and enhance population health, rather than just prevent and respond to disease, have necessitated a fresh perspective. First, health promotion requires proactive policies and interventions to prevent not only disease/problems, but also risk factors for disease/problems. Second, population health promotion requires a multilevel focus that includes community-wide interventions. By considering population functioning and the multiple contexts that affect individuals' behaviors, the functioning of a population can be enhanced.

*Evolution of prevention theory and methodology.* With this new emphasis on population health and calls for proactive and multilevel interventions came innumerable challenges for traditional treatment research methodology. RCTs are considered the gold standard in intervention research. In the 1970s and 1980s, a few RCTs of multilevel community-wide initiatives targeting heart disease (e.g., Faquhar et al.,

1977; Murray, 1995; Puska et al., 1985) and tobacco use (Commit Research Group, 1995a, 1995b) began. These studies were monumental and extraordinarily complex undertakings, because (a) the unit of randomization was the community, rather than the individual; (b) substantial fidelity challenges were presented by communities' varying size, geography, characteristics, and unique needs; (c) data collection challenges were plentiful (e.g., because multiple components targeted multiple subpopulations, a myriad of sampling, measurement strategies, and dependent variables were required); and (d) data analysis and interpretation was difficult because of the varied implementations, components, subpopulations, and targets.

Two overarching public health implications became apparent. First, public health cannot be advanced if the strategies, no matter how effective, cannot be sustained by the communities themselves once the research study is over (Altman, 1995). Second, invariant packages cannot inform stakeholders about the most critical question facing them: Given the unique characteristics, assets and needs of a particular community, what strategies would work to reduce the prevalence of the targeted public health threat(s) in that community? (e.g., Hawkins, Catalano, & Arthur, 2002).

Prevention theory and methodology have advanced considerably over the last 20 years. Analytic techniques, such as multi-level modeling (Raudenbush & Bryk, 2002), became more mainstream and were adopted to solve some of prevention studies' most vexing statistical challenges. Theoretical frameworks to guide prevention science were developed (e.g., the Prevention Intervention Research Cycle; Mrazek & Haggerty, 1994), replacing the old primary–secondary–tertiary distinctions. These advances led to others: (a) understanding of risk and protective factors increased, as did the number of prevention programs and strategies with demonstrated efficacy; and (b) sustainability and dissemination became design targets or areas of inquiry in their own rights (e.g., Brekke, Ell, & Palinkas, 2007; Kerner, Rimer, & Emmons, 2005; Rohrbach, Grana, Sussman, & Valente, 2006) rather than afterthoughts. Building on these advances, prevention scientists were able to crack the paradox: how can one scientifically study effectiveness if the programs that communities implement are not invariant? The solution was to design RCTs that used an invariant *process*, but which allowed for community choices on targets and strategies.

This solution – adopted by Hawkins, Catalano and colleagues' (1992) in their “Communities That Care” (CtC) approach for adolescent problems such as teen pregnancy and drug and alcohol use) – was not only scientifically viable, but resulted in excellent community acceptability and promising prevention outcomes (e.g., Feinberg, Greenberg, & Osgood, 2004; Hawkins, 2001). In CtC, prevention science and community action are merged through the following four stages: (a) community mobilization, (b) assessment, (c) strategic plan development, and (d) evaluation. Mobilization refers to engaging a group of leaders and stakeholders and convincing them of the merits of adopting a data-based approach using empirically supported activities directed toward specific risk factors found to be prominent within the community. Assessment involves collecting data to describe the risk and protective factor profile of the community. Planning involves teaching community to use the data gathered in the assessment phase to prioritize needs and leverage points within the community and to identify empirically supported strategies targeting

those leverage points. CtC recommends that communities select multiple strategies for each high priority risk or protective factor that would operate at different levels, thereby increasing the likelihood of a measurable community-level change. Evaluation involves guiding the community board in how to plan and monitor the implementation of each chosen strategy (a) to ensure adequate fidelity (e.g., set minimum performance standards and monitor against those), (b) to use of process data and fresh assessment data to gauge the impact of each strategy, and (c) to refine the implementation as indicated. CtC is currently conducting its first efficacy trial; communities that have implemented CtC over the years, however, have been able to achieve some impressive and diverse outcomes, including significant improvement in cognitive skills, a 30% reduction in school problems, and a nearly 30% decrease in drug and assault charges (Hawkins, 1996). The initial results led the United States government to purchase the rights to CtC, and it is now publicly available free of charge (Substance Abuse and Mental Health Services Administration, 2009). In conclusion, although the final results of RCTs are not yet available, the CtC approach is appealing model for empirically driven, coordinated, locally tailored community intervention.

In reviewing both CtC and other leading prevention science models and programs, we identified several necessary elements for effective community-level intervention, most of which already existed within the AF or within the scientific literature. The first element was a team of positional and prevention leaders charged with monitoring and addressing community functioning and who could access viable service delivery system infrastructures. As noted earlier, each AF installation is required to have a multidisciplinary team of professionals (i.e., the IDS) who work directly with base leadership (i.e., the CAIB). The strength of the IDS is that it includes representation from every helping agency on the base and is, at least on paper, intimately connected with base leadership, which should facilitate action. Most of the agencies represented on the IDS formally include prevention programming, community outreach, or both in their activities, which suggests that they would have some staffing resources that could be directed toward empirically supported activities.

The second necessary element was an accurate and frequently updated surveillance system in place to track (a) the prevalence of maltreatment and any other problems to be addressed and how these problems are distributed within the community; (b) the status of the community on important risk and protective factors; and (c) the strength of associations between the risk/protective factors and key outcomes (e.g., secretive problems). Without this information, communities cannot set priorities, knowledgeably target potential threats, or exploit areas of strength. We believed that the anonymous, internet-based, biennial CA (with the secretive problem supplement) could be an adequate source of such data. In 2003, the AF revamped the CA based on a well-articulated model of community functioning (Bowen, Martin, & Nelson, 2002). The CA's emphasis on potentially malleable risk and protective factors is especially important for prevention: intervention efforts at any level can only target factors that are not fixed. Even if genetics, personality, family of origin experiences, and behavior during adolescence are powerful risk



factors for problems in adulthood, none of these factors could ever be altered by community intervention (although they might be used in selective, targeted interventions). In contrast, work stress, family conflict, social support, and depression are all areas that could be targeted by community prevention efforts. The measure was subjected to rigorous psychometric evaluation (Snarr, Heyman, & Slep, 2007) and a shortened/strengthened version was used in the 2008 AF CA. For secretive problems, we worked with the AF for several years to develop and pilot test a supplemental survey of secretive problems. Measures of family maltreatment (partner physical and emotional abuse; child physical and emotional abuse, child neglect) that match the AF's standards were developed and tested (Heyman, Slep, & Casillas, 2001). In addition, extant measures of suicidality, alcohol abuse, and PTSD/COSR symptoms were selected. The CA is administered to large, representative samples at each base and includes brief, psychometrically sound scales assessing a variety of individual (e.g., personal coping, depressive symptoms), family (e.g., relationship satisfaction), workplace (e.g., support from leadership, workgroup cohesion), and community (e.g., community cohesion, community safety) variables. Some of these variables have been empirically identified as risk or protective factors for multiple secretive problems (e.g., depressive symptoms, relationship satisfaction, social support), whereas others have not been explored in the literature (e.g., workgroup cohesion). To facilitate the IDS teams' understanding of their data, we developed feedback report templates that graphically and verbally explained problem prevalences, the strength of risk and protective relations, and the base's specific risk or protective factor profile. Reports were kept brief and were provided in both paper and electronic formats.

The third necessary element was empirically supported intervention strategies that could (a) improve functioning on important risk and protective factors and (b) be effectively implemented on a community level. For example, several parent training programs have good empirical support and had been packaged for dissemination (e.g., Incredible Years, Webster-Stratton, 2001; Triple P, Sanders, 1999), and several programs targeting couples' communication and conflict resolution skills were similarly well developed (e.g., PREP, Markman, Renick, Floyd, Stanely, & Clements, 1993; Couple CARE, Halford, Moore, Wilson, Dyer, & Farrugia, 2004). What the AF was lacking, however, was knowledge of which strategies or programs had empirical support. Therefore, we conducted exhaustive literature reviews of interventions targeting each of the factors analyzed in the CA. As CtC had done, we assembled *A Guidebook to Activities that Work* (Slep & Heyman, 2006) that compiled basic information about each program, including a summary of the program, ways in which it had been implemented, the resources required, the strength of empirical support for the program, and how to obtain more information about the program. The current version of the guidebook includes a wide variety of activities, from WWW-based interventions (e.g., MoodGym, Christensen et al., 2004; RELATE, Busby, Holman, & Taniguchi, 2001) to DVD-based programs (e.g., Incredible Years, Webster-Stratton, 2001, Couple CARE, Halford et al., 2004) to college classes (e.g., Stress and the Healthy Mind, Schiraldi & Brown, 2002) to activities (e.g., community gardening, walking clubs).

The fourth was the capacity to conduct ongoing evaluations of impact to refine implementation. The IDS teams included individuals with the necessary skills and training to conduct informal evaluations of process, fidelity, and outcome. Typically, these teams included at least one master's level social worker or psychologist and multiple people with sophisticated computer skills. What the IDS teams did not have was the time and knowledge necessary to design evaluations that balanced competing needs, were feasible, and would result in useful data. In the pilot, we provided consultation and technical assistance with evaluation planning and implementation.

Finally, we concluded that sustainability had to be built into the entire process for it to ultimately result in a reduction in secretive problems. If the ongoing effort of the researchers is essential to the continuation of interventions, the programs are unlikely to be retained once a study is over. Furthermore, it would be difficult for such interventions to propagate to other communities without a corresponding increase in the size of the research team. Relatively little is known about what factors predict an intervention being continued after a research initiative (e.g., Gomez, Greenberg, & Feinberg, 2005). We believe that for interventions to be sustained, multiple stakeholders must be convinced of their effectiveness and value relative to other possible expenditures. Expensive training requirements are both a financial and a human resource barrier that hinders sustainability. Thus, all of our training materials and other resources were made available on the WWW without the need for in-person consultation. Furthermore, we incorporated activities (e.g., cross-base teleconferences and electronic mailing lists) that we thought might increase engagement and investment.

## **NORTH STAR Implementation to Date**

### ***Pilot Trial (2003–2006)***

*Secretive problems supplement.* Prior to administration of the CA+ at the four pilot bases, it was unclear whether AD members and spouses would report secretive problems, both because of the perceived stigma and the potential career and legal repercussions of admitting to drug use and alcohol abuse. Based on feedback from pre-CA focus groups, several steps were taken to minimize respondent burden and to increase respondents' confidence in the anonymity of the survey. First, respondents were asked to log in to the survey site and select their own non-identifying and unique user identifications and passwords. Respondents were informed that they could take the survey from any computer with an internet connection. Respondents were able to exit and re-enter the survey from any computer at any time after they had established their IDs and passwords. When respondents began the secretive problem supplement, they received a consent page ("Information to Help You Decide If You Want to Participate") which described the sensitive questions

they were about to be asked, the rationale for asking them, and a summary of how the data will be used and when and how they will be able to learn the results for their community. The supplemental survey screen had links that provided reminders about anonymity and other information provided earlier. The high reported amounts of these problems and the extremely low number of complaints implied that it was viable to ask such questions to military members and spouses on an officially sanctioned survey.

*Development of guidebook to empirically supported activities.* The guidebook – *Enhancing the Integrated Delivery System: A Guidebook to Activities that Work* – not only included activities that had empirical support for impacting the 20 risk/protective factors included in the CA, but also others that were empirically demonstrated in the civilian literature (e.g., Heyman & Slep, 2001).

The guidebook presents interventions and activities that have empirical support for reducing risk factors and increasing protective factors for secretive problems. The activities included represent only a small fraction of those that have been developed for these purposes. Strict criteria were used to select interventions for inclusion. All of the activities presented in the guidebook:

- Target research-based *risk* and/or *protective* factors for secretive problems. Interventions that directly target family maltreatment, substance abuse, or suicidality were not included.
- Are available for implementation. That is, all information and/or materials necessary to carry them out can be obtained from the intervention developer, an independent distributor, a website, and/or other sources.
- Can be practically and feasibly implemented on a community scale. For example, interventions involving individual psychotherapy are not included in the guidebook. Although psychotherapy has been shown to have many potentially beneficial effects, it is time- and resource-intensive. On the other hand, group workshops are much more cost-effective than individual therapy and are included if they met the other criteria.
- Are empirically supported. That is, they have produced significant positive effects on the relevant risk and protective factors in community trials and/or controlled studies.

Empirical support was graded “Good,” “Better,” and “Best.” “Good” interventions have at least some evidence that they work. Efficacy/effectiveness studies may have involved a small sample size and no control group. If long-term follow-up data was available, the effects of these activities may not last as long as those labeled “Better” or “Best.” An intervention will also receive a rating of “Good” if only some of the studies evaluating it have found that it works, or if it only works with certain people or under particular circumstances. “Better” interventions have fairly strong evidence for their effectiveness, but have not been as well validated as the “Best” activities. Often, these interventions are relatively new and thus have not been evaluated in as many studies. The research may have involved a large sample size but no control group, or a control group but a small sample size; long-term follow-up data may not yet be available. “Best” interventions have been very well validated.

Most have existed for many years and have been tested in multiple studies with large sample sizes and control groups. Usually, their effects are known to last for an extended period of time. If an intervention is new, it could receive a rating of “Best” if it (a) is particularly innovative, (b) has been evaluated in at least one well-designed study, and (c) has produced especially impressive results.

Of course, the fact that a particular intervention has empirical support does not mean that it will work under all circumstances (e.g., Chambless & Ollendick, 2001). For example, most of the activities in the guidebook were validated only with civilians. It may be that AF communities, AD members, or AF families differ from their civilian counterparts in ways that make an activity less effective or even prevent it from having any beneficial effects at all. On the other hand, it may also be that factors within a military population (e.g., community cohesion, employed person in every household) are likely to *increase* the effectiveness of a given intervention.

Risk factors were organized by ecological level (i.e., individual, family, organization, community). As shown in Appendix, the overview of each intervention contained the following elements:

- *Intervention targets*: All of the NORTH STAR targets that the intervention is known to influence.
- *Description*: A brief summary of the intervention – what activities are involved and what the intervention was designed to accomplish.
- *Minimal implementation*: Who should do what, how often, and for how long if the intervention is to be counted as part of the base’s NORTH STAR activities.
- *Documented results*: The empirical evidence for the efficacy/effectiveness of the intervention. Specific studies and results are discussed and a global empirical evidence rating is provided (i.e., “Good,” “Better,” or “Best”).
- *Resources required*: The physical, financial, and human resources that would be necessary in order to implement the intervention as described. Specific cost information is included when available.
- *Where to find more information*: Contact information for the intervention developers, distributors, and/or sources of necessary materials.
- *References*: Citations for the books and articles that have been cited in the chapter introduction and intervention descriptions.

*NORTH STAR implementations at pilot bases.* The Stony Brook team visited each pilot base to provide an in-brief to the key leaders and/or the CAIB on the results of the CA+, the rationale for NORTH STAR, and the agenda for the training; one-half days of training with the IDS; and an out-brief to the CAIB. At the end of the initial training the bases had completed the first several steps of NORTH STAR (i.e., prioritizing target problems and risk/protective factors based on their data and identifying possible activities to implement from the guidebook) and were in the process of investigating/selecting activities and developing a community action plan.

To follow up, monthly (or more frequent) technical assistance calls were made between the Stony Brook team and the IDS chair. The following trends became evident during these calls: (a) inequitable distribution of work/labor – often the IDS Chair assumed too much responsibility, there was limited delegation or sharing of IDS workload, and there was a lack of involvement of other community stakeholders; (b) difficulties and/or delays in obtaining funding for activities; (c) lack of knowledge and sophistication by IDS on budget and resource issues; and (d) limited CAIB involvement and commitment to the IDS action plan (despite having approved it).

A follow-up technical assistance trip was made about 9 months later consisting of 2 days of training for the IDS teams and an out-brief to the CAIB. At each base the IDS Team received one-half day training consisting of IDS overview and NORTH STAR review for new IDS members and a one-half-day training focused on base-specific implementation issues as well as monitoring and evaluation planning. These base consultation visits proved extremely valuable in identifying implementation challenges (gaps, limitations, and shortcomings) faced by the IDS service providers. Progress between the visits was limited. Although the pilot bases engaged in ongoing investigation of and planning for implementation of the selected activities, only one program at one base was implemented. One common theme was the lack of a clearly defined, detailed plan that included milestones and timelines. Responsibilities were not clearly delineated and accountability to CAIB was limited. Each base experienced difficulty in obtaining funding resources that might have been necessary for training or to purchase supplies. The first training provided “implementation considerations” for each of the identified activities, but did not engage the IDS teams in identifying specific points of contact responsible for each activity; nor in developing specific tasks and milestones; nor in establishing estimated completion dates. That training assumed, mistakenly, that IDS teams would establish these systems of structure and accountability to guide the implementation of each activity. As this assumption became evident, modifications were made to the training protocol, so that bases in the forthcoming randomized controlled trial would increase the detail and specificity of implementation plans and to ensure tasks, milestones and points of contact were identified.

During the technical assistance visit, another barrier to implementation became apparent. IDS teams were often operating almost in isolation, disconnected from the community. No sponsor, champion or advisor from senior leadership was monitoring the IDS. Team members were earnestly working but without the involvement or connection to other community stakeholders, in particular the CAIB, the community board of directors to whom they ultimately reported. At none of the bases was the CAIB engaged in an active, oversight, and guidance role. In terms of the CtC model, they were engaged in stage 3, “strategic plan development,” without capitalizing on the broad-based community coalition that existed. In particular, they were not optimizing their relationship with the community board, the CAIB.

*Lessons learned from the pilot implementations.* The NORTH STAR experience at the pilot bases fits the old military adage “No plan survives first contact with

the enemy.” The entire point of the pilot was to put NORTH STAR in the field and make any modifications necessary before launching a more extensive randomized control trial. We learned the following lessons:

- Involve senior leadership from the start. Identify and recruit a senior leader (CAIB member) to oversee and approve “work” with the IDS chair;
- Expand CAIB oversight by clearly identifying its role as the “community board”
- Build in accountability of IDS to the CAIB, base community, and the major command;
- Expand the initial training to three days so that IDS team develops a complete, comprehensive plan;
- Provide structure and guidance within each section of training to maximize its efficiency and effectiveness;
- Expand the Implementation Planning training section to ensure key tasks and milestones, points of contact, and estimated completion dates are identified and with a specific roadmap to guide implementation.
- Encourage IDS to appoint subcommittees for each activity to be implemented with a clearly designated points of contact.

*Pilot data on training satisfaction/effectiveness.* As reported in Slep and Heyman (2008), IDS members were assessed prior to and following receiving the NORTH STAR training. Participants were pleased with the NORTH STAR approach to prevention ( $M=4.38$  [out of 5],  $SD=0.57$ ), NORTH STAR training ( $M=4.56$ ,  $SD=0.51$ ), and NORTH STAR materials ( $M=4.44$ ,  $SD=0.65$ ). Participants’ ratings of their estimations of their ability to use CA data to create a community action plan improved significantly after receiving their NORTH STAR training  $t(49)=2.57$ ,  $p<0.05$ ), as did their beliefs that their efforts would be effective  $t(49)=3.63$ ,  $p<0.001$ . We derived four implications from these results. First, survey results revealed an even more pressing need for community-based prevention than had been anticipated. Second, the NORTH STAR framework is understandable and appealing to prevention team members and installation leadership. Third, the materials developed support the implementation of NORTH STAR framework as it was designed. Finally, the NORTH STAR framework appears effective in facilitating bases’ identification of key needs, and implementation of community-wide evidence-based activities to address those needs.

### ***Randomized Controlled Trial (2006–2008)***

*Major command briefings.* The first step of launching the RCT was briefing the Air Staff and all participating major commands on the results of the CA+, the plan for the NORTH STAR study, and the desired role of the major commands. These briefings were conducted in person, with one researcher and one AF member at all but one briefing. At these briefings, we emphasized the need for oversight and accountability, and requested that the major command IDSs hold bases participating in the trial accountable for developing community action plans and implementing them according to the timelines they propose.

*Implementation.* To address the challenges identified in the pilot, we made a number of slight adjustments in implementing the trial. First, when we recruited bases, we warned there would be a need to support the IDS in its implementation of its action plan either with human resources, money, or both. Second, through the air staff and major command briefings, we sought to increase accountability to those beyond the base community. Third, we included slides about the need for the base CAIB to hold the IDS accountable at the in-brief and in the IDS's out-brief that were part of each launch visit. Fourth, we asked each base to identify one member of the CAIB (by definition, a senior leader) to serve as the CAIB liaison to the IDS. This person did not attend IDS meetings, but was an agreed upon contact for the IDS to use when needing leadership input or support. Fifth, we connected bases implementing the same or similar programs, forming "Communities-of-Practice" across NORTH STAR base teams for mutual support. Sixth, we continued to build our technical assistance resources. For example, we developed a series of WWW evaluation planning tools that walked the team step by step through the evaluation planning process for any given activity in the guidebook, recommending possible measures and methods and providing sample data structures that could be downloaded. The evaluation planning tool had sections designed for each of the empirically supported programs included in the guidebook. The tool included segments on designing and implementing fidelity, process (or implementation), and outcome evaluations. Seventh, we maintained regular contact not only with IDS teams, but also with major commands and CAIBs through regular newsletters and other communications.

Largely, rollout proceeded similarly to how it was designed in the pilot. We were able to make the in-person training more efficient. All the planning was conducted in a single trip, and this session resulted in the development of detailed implementation plans that were briefed to the CAIB. All bases in the NORTH STAR condition received these training and planning visits between November 2006 and May 2007. Feedback reports were provided at these visits. Control bases received the same style feedback reports, but no systematic training or consultation. All bases received regular status calls to monitor their progress and to assess process measures of IDS functioning. All NORTH STAR bases developed reasonably strong initial action plans, including at least two evidence-based activities. The actual implementation of these activities varied. By October 2007 all NORTH STAR bases were encouraged to have at least one activity in the field. More than half the NORTH STAR bases met this goal. Two-thirds of the NORTH STAR bases met this goal. Those that did not meet this goal experienced resistance or frank lack of support from their CAIBs paired with turnover of key personnel. Two of these bases later recovered and implemented robust interventions following turnovers in the CAIB leadership. Technical assistance continued throughout the implementation. The 2008 CA+ was administered beginning in April 2008, which effectively marked the end of the implementation of activities.

Generally, implementation was much smoother and less challenging in the trial as compared with the pilot. That said, some challenges remained and are likely part and parcel of community based prevention efforts in the military. First, although the NORTH STAR approach is fairly robust to personnel turnover, turnover in key positions (e.g., the wing commander, IDS chair), especially when the transition is

from someone generally supportive of community prevention to someone who is notably less supportive does lead to a change in climate for action of this sort. Second, the timing of this trial placed it squarely within the context of two wars. As war efforts continued, human resources became more precious and often “hot topics” of the moment would compete for attention with the action plan implementation. Despite these challenges, however, two-thirds of NORTH STAR bases implemented some empirically supported activity – and one-third implemented strong, evidence-based action plans – which suggests NORTH STAR might be an effective community action framework.

*Results.* The results of the NORTH STAR effectiveness trial are encouraging (Slep et al., 2009). Encouraging results were found despite the study having very little statistical power to detect effects (i.e., the sample size is effectively 24, because base was the unit of randomization and analysis) and the intervention being done in this real world context, with 3 of 12 of the intervention bases failing to successfully implement any evidence-based activities.

NORTH STAR bases, compared with control bases, significantly reduced alcohol abuse and likely reduced child emotional abuse.<sup>5</sup> When controlling for IDS functioning and wing command support into consideration, NORTH STAR bases, compared with control bases, significantly reduced suicidality, prescription drug misuse, and partner physical abuse. Such interactive effects are becoming common in the prevention literature, suggesting that prevention programs’ effects are more pronounced among people or communities that need prevention the most (e.g., Multisite Violence Prevention Project, 2009; Stice, Shaw, Bohon, Marti, & Rohde, 2009).

Further, NORTH STAR appeared to improve IDS team functioning while reducing the time and resource demands on team members, both on measures administered to the IDS (e.g., whether they used data in developing their community action plans, their expectancies that their action plans would work, increased empirical orientation in action plan development) and from objective ratings (e.g., the development of their action plans over time, how collaboratively the IDS worked). NORTH STAR improvements are most pronounced when IDS team faces adversity.

The general pattern that emerged is that NORTH STAR is significantly more effective than IDS with enhanced information under conditions of adversity (e.g., lower levels of IDS functioning, higher initial levels of risk).

## Conclusions

The NORTH STAR experience provides several lessons for both military and civilian communities. First, the RCT results suggest that a structured, empirically driven approach to community prevention action planning can be effective for adult problems.

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<sup>5</sup>Despite a relatively large effect ( $d=0.57$ ), this effect did not reach statistical significance.



Second, the variable IDS functioning is a cautionary tale of the difficulties of truly integrating the delivery of prevention activities across agencies. Military functional agencies, like their civilian counterparts, are funded and resourced to accomplish their primary aims and are expected to answer to the demands of their own leadership structure. In a now-permanent era of agencies being asked to do more and more with less and less, simply creating an agency consortium only will reduce agency burden and improve action if the agencies are doing duplicative work or if one or more influential members make prevention a top priority. Maintaining momentum to achieve prevention aims over time and across inevitable personnel changes becomes especially vexing.

NORTH STAR was designed to be sustainable outside the context of the research project, as the project worked with existing infrastructure (the IDS) and did not provide financial or personnel resources to accomplish the communities' goals. We reasoned that because AF communities are required to have an IDS and a regularly updated community action plan, NORTH STAR's empirically guided framework would reduce the burden on IDSs while improving their performances. To the extent that NORTH STAR worked and was especially important in communities that faced adverse conditions, these assumptions were true. To the extent that we believed that AF requirements would provide us, at each community, with a functioning prevention infrastructure on which to build, our assumptions did not match the situation on the ground.

Military communities differ from civilian communities in that readiness – the ability to carry out the military mission effectively – is the paramount concern, and thus the employer and service agencies all work for the same entity and have the same goals. However, because no one “owns” secretive problems (i.e., they impact readiness and often cut across several functional areas), no one functional area feels responsible to commit their extremely limited resources to targets other than their primary ones to achieve prevention. This is the classic “diffusion of responsibility” problem that social psychologists have described. Although an IDS approach could accomplish the goals of its designers, it is unlikely to without dedicated financial and personnel resources to plan, train, and enact the community action plan. Further, the IDS (and its component groups) is unlikely to make the action plan a priority without being inspected on its actions and expected, by all levels of the chain of command, to carry out its action plans.

In conclusion, leaders at all levels of military services are interested in “taking care of their own” and reducing the degradation of readiness that family maltreatment, substance problems, and suicidality produce. However, actions must be taken to mitigate diffusion of responsibility if effective approaches to preventing these problems are ever to take root.

## Author Notes

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## Appendix: Triple P (Ages birth-12)

Intervention targets			
Community	Organization	Family	Individual
		Child externalizing behavior problems (Levels 1–5)	Depressive symptoms (Levels 4 and 5 only)
		Parents' sense of competence (Levels 1–5)	Personal coping Anxiety (Levels 4 and 5 only)
		Parent–child relationships (Levels 1–5)	
		Relationship satisfaction	
		Family coping	
		Child internalizing behavior problems (Levels 4 and 5 only)	

## Description

Triple P (“Positive Parenting Program”) is a multi-level family support strategy that aims to prevent severe behavioral, emotional, and developmental problems in children by enhancing the knowledge, skills, and confidence of parents.

Originally developed in Australia, Triple P was designed around the idea that parents have differing needs and desires regarding the type, intensity and mode of assistance that they may require. The Triple P system is designed to maximize efficiency, contain costs, and ensure that the program has wide reach in the community. Thus, Triple P consists of five possible levels of intervention for parents of children from birth to age 12. The five levels are of increasing intensity, as described below. Families can enter the Triple P system of intervention at any level. The system does not require families to progress from the least to most intensive level of intervention, although this may occur. Having completed one level of Triple P does not mean a particular family cannot complete another, and some families should certainly be encouraged to do so.

*Level 1:* A community-wide, multimedia parent information campaign. Goals include promoting awareness of parenting issues and normalizing participation in parenting programs such as Triple P.

*Level 2:* A very brief, 1- or 2-session primary care intervention for parents of children with mild behavior problems. Parents receive specific advice on how to solve common child developmental issues (e.g., potty training) and minor child behavior problems (e.g., bedtime problems).

*Level 3:* A brief primary care program for parents of children with mild to moderate behavior difficulties. The program combines advice with active skills training as required to teach parents to manage a discrete child problem behavior (e.g., tantrums, fighting with siblings).

*Level 4:* A broadly focused parenting program for parents who want or need intensive training in positive parenting skills (often, these are parents of children with more severe behavior problems). Parenting skills are taught and practiced across a range of target behaviors, settings, and children.

*Level 5:* An intensive, individually tailored program for families where parenting difficulties are complicated by other sources of family distress (e.g., relationship conflict, parental depression, and/or high levels of stress). Possible program elements include practice sessions to enhance parenting skills, mood management and stress coping skills, and partner support skills.

## Minimal Implementation

Bases implementing Triple P as part of NORTH STAR may choose to apply any one or any combination of the five levels. Implementation by level involves the following:

*Level 1:* Community-wide use of print and electronic media and other health promotion strategies. May include some contact with professional staff (e.g., via telephone).

*Level 2:* Guidance with the aid of user-friendly parenting tip sheets and videotapes that demonstrate specific parenting strategies. May involve either (a) about 20 minute (total over two sessions) of face-to-face or telephone contact with a primary care service provider or (b) a 60–90 minute seminar. Level 2 providers may come from maternal and child health services, family health care, childcare centers, kindergartens, preschools, schools, and/or other community agencies that offer parent support.

*Level 3:* About 80 min (total over four sessions) of either face-to-face or telephone contact with a primary care service provider. Same potential providers as Level 2.

*Level 4:* About 10 h (total over 8–10 sessions). Possible formats include individual, group (groups usually consist of 10–12 parents), or self-directed (with or without telephone assistance) options.

*Level 5:* Up to 11 face-to-face, individualized sessions lasting 40–90 minute each.

## **Documented Results (Empirical Evidence: Best)**

All five levels of Triple P are being rigorously validated (for reviews see Sanders, 1999; Sanders, Turner, & Markie-Dadds, 2002). In general, all five levels have been found to reduce child behavior problems, increase parents' sense of competence, and improve parent–child relationships. As might be expected, families who participated in more intense versions of the program generally tended to see more dramatic results. In addition, the two highest levels (i.e., 4 and 5) of Triple P have demonstrated the following effects:

- Reduced mothers' depression
- Reduced mothers' and children's anxiety
- Improved children's self-esteem
- Reduced parental stress
- Reduced marital conflict and increased marital satisfaction
- Improved parents' perceived ability to work together as a team

## **Resources Required**

Required resources will vary greatly depending on the level(s) to be implemented. However, the materials and training necessary for any and all of the five levels are available from Triple P International or Triple P America. Training courses are conducted either at Triple P America headquarters in South Carolina or on-site and are available for levels 2 and 3 (combined) and levels 4 and 5 (combined or separate). Each course is presented to up to 22 trainees and lasts 3–6 days total, with the final day of training scheduled 6–8 weeks following completion of the rest of the course. Training ranges in price from about \$500 to \$1,500 per participant, plus travel, lodging, and materials.

## Where to Find More Information

Triple P International  
 Email: [info@triplep.net](mailto:info@triplep.net)  
 URL: <http://www.triplep.net>

For training and materials in the United States, contact:

Triple P America  
 4840 Forest Drive #308  
 Columbia, SC 29206  
 Tel: (803) 787-9944  
 Email: [triplepa@bellsouth.net](mailto:triplepa@bellsouth.net)  
 URL: <http://www.triplep-america.com>

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