U.S. Army Center for Health Promotion and Preventive Medicine

EPIDEMIOLOGIC CONSULTATION NO. 14-HK-OB1U-09
INVESTIGATION OF HOMICIDES
AT FORT CARSON, COLORADO
NOVEMBER 2008–MAY 2009
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EXECUTIVE SUMMARY
EPIDEMIOLOGIC CONSULTATION NO. 14-HK-OB1U-09
INVESTIGATION OF HOMICIDES AT
FORT CARSON, COLORADO
NOVEMBER 2008–MAY 2009

1. PURPOSE. The purpose of this multi-disciplinary behavioral health (BH) epidemiological consultation (EPICON) to Fort Carson was fourfold: (1) to examine rates and trends in violent deaths involving Soldiers within tenant organizations of Fort Carson vs. Army and FORSCOM comparison groups; (2) to identify risk factors associated with the violent deaths; (3) to assess the adequacy of behavioral health programs, resources, and social support; and (4) to recommend strategies to enhance current programs and reduce the installation's incidence of violent death.

2. BACKGROUND. Allegedly, 8 homicides in the previous 12 months were perpetrated by 6 Soldiers from units at Fort Carson. In response to this apparent clustering of violent behavior at Fort Carson, Colorado, Senior Mission Commander, MG Mark Graham, initiated a Task Force in October 2008 to investigate Soldiers currently or recently assigned to Fort Carson units alleged to have committed homicide, attempted homicide, or been accessories to a homicide since 2005. Based on broader concerns voiced by Army and Congressional Leadership, a wider review was initiated to assess the potential impact of Army waiver policies on the observed criminal activity and assess the adequacy of available BH resources.

3. METHODS. The US Army Center for Health Promotion and Preventive Medicine (USACHPPM) formed an EPICON team for this investigation, which initially deployed to Fort Carson on 3 November 2008. A 24-member team was led by the USACHPPM Behavioral and Social Health Outcomes Program Manager and supported by USACHPPM, the Office of The Surgeon General, and Great Plains Regional Medical Command staff. This team conducted an extensive epidemiologic and clinical analysis that included detailed examination of the individual crimes, interviews with key leaders and staff at Fort Carson, a comparison (cohort) study of over 20,000 Soldiers assigned to 2 Brigade Combat Teams (BCT), a survey of over 2,700 Soldiers, and focus groups with over 400 Soldiers. The EPICON-guiding questions are listed below. Other significant activities are discussed in the body of this report.

a. Are there common threads among alleged homicide perpetrators (hereafter referred to as index cases)?
b. Is increasing violent or criminal behavior unique to Fort Carson?
c. Are moral, BH, or educational waivers associated with the index cases and/or an increase in violence?

d. Are there unique characteristics in the BCT to which a majority of the index cases were assigned (hereafter referred to as the index BCT) that could account for an increase in aggressive behavior?

e. Is there a relationship between deployment and risk factors for aggressive behavior?

f. Does Fort Carson have adequate BH resources and social support programs to meet current and anticipated demands?

g. Are there barriers to seeking BH resources and social support programs?

4. LIMITATIONS. This EPICON was a field investigation that occurred under a compressed 90-day time schedule. The following limitations should be carefully considered when interpreting the results of this EPICON:

a. Risk factors identified in the 14 index cases may not be representative of all Army homicide perpetrators.

b. Results from the BCT comparison study, focus groups, and survey are based on characteristics of Soldiers in two units, one of which experienced a unique set of circumstances and an unexpected clustering of violent crime. Soldiers in these units are probably not representative of all Army Soldiers and results from these studies are probably not representative of the overall Army.

c. Criminal data was not available for the BCT comparison study. This limited the ability to fully assess potential relationships between risk factors of interest and the primary outcome of interest, criminal behavior.

d. Since every Army installation is unique, caution should be used in interpreting comparisons between installations.

e. In spite of these limitations, this EPICON represents the most in-depth examination to date of violent crimes in the Army in the context of community behavioral health risk factors and combat exposure.

5. CONCLUSIONS.

a. Soldiers allegedly involved in crimes related to homicide at Fort Carson from 2005–2008 were, in retrospect, at risk for engaging in violent behavior based on a clustering of known risk factors for violence, namely prior criminal behavior and psychopathology. The risk factors alone, however, do not entirely explain the apparent clustering of crime in this population. In addition, these crimes remain very rare events in a large population of Soldiers who, to varying degrees, share many of the same risk factors but did not participate in criminal behavior.

b. Alleged homicide perpetrators were clustered within one BCT and one infantry (IN) battalion (BN) at Fort Carson. No single demographic or risk factor characteristic of the populations accounts for the observed difference in criminal behavior. However, the BCT and IN BN of interest experienced significantly higher levels of combat intensity (as represented by combat death rates during Operation Iraqi Freedom deployments and post-deployment BH diagnosis rates) than the comparison BCT and the comparison IN BN. Survey data from this investigation suggest a possible association between increasing levels of combat exposure and risk for negative behavioral outcomes. The cross-sectional nature of the survey data does not allow for making causal inferences. However, these findings are consistent with recent research on combat exposure and subsequent behavioral outcomes among Soldiers. The combination of multiple pre-existing personal risk factors in given individuals, combat intensity/exposure, and other unmeasured unit factors may have increased the risk for violent behavior in some of the Index cases.

c. Stigma and lack of referral to the Army Substance Referral Program (ASAP) for required substance abuse screening were important barriers to Soldiers from the index BCT seeking/receiving treatment for BH problems that are risk factors for violent behavior. Stigma was multi-factorial and experienced differently across rank groups. Peer and personal factors were at least as important in perpetuating stigma as leadership issues.

d. Data from the BCTs analyzed in this study and Army overall demonstrate an increasing trend of moral waivers[1] from 2004-2007 with the highest increase in the serious non-traffic offense category. Three of 14 index cases received an enlistment Conduct or Drug & Alcohol waiver, but there was no difference in the proportion of Soldiers with these waivers across the two BCTs analyzed. Thus, waivers cannot account for the clustering of index cases. Since individual crime data was not available in time for inclusion in the comparison study, we were unable to determine if Conduct waivers were associated with an overall increase in crimes. However, the data available did show that Soldiers in the BCTs analyzed who were granted a waiver for alcohol/drugs were approximately 2 to 3 times more likely to test positive for illicit drugs and more likely to attrit from the Army due to misconduct/Uniform Code of Military Justice violations.

e. Once in the military, individuals are potentially exposed to environmental factors (such as, combat exposure and stigma) which may increase risk for development of mental health (MH) problems (such as post-traumatic stress disorder, depression) and substance abuse. The

[1] Moral waivers were reclassified as Conduct and Drug & Alcohol waivers in 2008 per DOD Memorandum, Under Secretary of Defense, Personnel and Readiness, 27 June 2008, subject: Directive-Type Memorandum (DTM) 08-018 – "Enlistment Waivers". Data obtained for this investigation predated the reclassification, so the term "moral waivers" is used throughout the report.

combination of multiple co-morbid risk factors may increase the potential for expression of violent behavior in some individuals.

f. The findings from this EPICON suggest a combination of individual, unit, and environmental factors converged to increase the population risk in the index BCT which made clustering of negative outcomes more likely. Accumulating BH risk based on individual predisposing factors such as prior criminal behavior, drug and/or alcohol abuse, and behavioral health disorders; unit factors such as combat exposure/intensity, leadership, and barriers to seeking care; and environmental factors such as OPTEMPO and installation/community level factors and trends, may increase overall population-level risk for negative outcomes. This potential risk could be balanced by mitigating strategies which decrease both individual and population-level risk such as improved screening and case management to identify and follow up high risk Soldiers/units, measures to enhance unit cohesion and Soldier resilience, elimination of barriers to substance abuse and BH treatment, enhanced resources and training for small unit leaders, expedited processes for providing treatment and/or military discharge as appropriate, and improved social support programs for Soldiers and Families. More comprehensive studies of the potential impact of deployment, combat exposure, and the relative weights of various individual, unit, and environmental factors on violent behavior and criminal outcomes in Army populations are required in order to understand the impact on the Army overall.

6. KEY CONSIDERATIONS.

a. Identify highly combat-exposed Soldiers/units prior to redeployment and provide enhanced reintegration support.

b. Ensure that there is no humiliation or belittling of Soldiers who seek or receive BH or ASAP assistance.

c. Ensure Commanders comply with regulatory referral requirements to ASAP (according to new Army Regulation, *The Army Substance Abuse Program*, 2 February 2009), and establish a confidential ASAP self-referral process.

d. Fully staff Modification Table of Organization and Equipment Behavioral Science Officer (BSO) positions. The BSO positions should be filled no later than 180 days prior to deployment and be stabilized for at least 180 days post-deployment.

e. Evaluate current anti-stigma programs, and modify as needed to deliver more targeted messages.

f. Develop training to equip noncommissioned officers and junior officers to better manage Soldiers with BH problems.

g. Develop methods and programs for the identification and follow-up of high risk individuals.

h. Conduct an Army-wide study to assess a possible link between deployment, combat intensity, and aggressive behavior.

i. Conduct an Army-wide study to assess the impact of changes in waiver policy on level of attrition, crimes, and other adverse outcomes.

j. See the main report for additional considerations.

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1. REFERENCES. Appendix A contains the references used in this report.

2. PURPOSE. The purpose of this epidemiological consultation (EPICON) was to respond to a request from the Fort Carson Senior Mission Commander, MG Mark Graham, to examine an increase in violent deaths within tenant organizations of Fort Carson. Allegedly, 8 homicides in the previous 12 months were perpetrated by 6 Soldiers from units at Fort Carson. The EPICON team was asked to conduct a multi-disciplinary investigation to examine rates and trends in violent deaths vs. Army and US Forces Command (FORSCOM) comparison groups, identify risk factors associated with the violent deaths, and assess the adequacy of behavioral health (BH) programs, resources, and social support in order to recommend strategies to reduce the installation's incidence of violent death.

3. AUTHORITY. In response to the apparent clustering of violent behavior at Fort Carson, Colorado, MG Graham initiated a Task Force in October 2008 to investigate Soldiers currently or recently assigned to Fort Carson units alleged to have committed homicide, attempted homicide, or been accessories to homicide since 2005. In response to a request initiated by Senator Kenneth Salazar to the Secretary of the Army, the Honorable Pete Geren, a broader review was initiated to assess the potential impact of Army waiver policies on the observed criminal activity and assess the adequacy of available BH resources. MG Graham subsequently coordinated with the Office of The Surgeon General (OTSG) and the US Army Center for Health Promotion and Preventive Medicine (USACHPPM) to conduct a detailed investigation in coordination with the existing Task Force. The USACHPPM Directorate of Epidemiology and Disease Surveillance sponsored a multi-disciplinary EPICON team, led by the Behavioral and Social Health Outcomes Program (BSHOP), to identify factors contributing to violent behavior among Soldiers assigned to Fort Carson.

4. BACKGROUND.

a. Fort Carson is located in eastern Colorado at the base of the Rocky Mountains. It is just southwest of Colorado Springs in El Paso County and is 60 miles south of Denver. Also called the Mountain Post, the main installation and down-range training areas comprise 138,523 acres. An additional training area, named the Pinion Canyon Maneuver Site, comprises of another 235,000 acres. The housing area on Fort Carson boasts 13 neighborhoods with over 2,800 homes. Housing is provided for officers, enlisted Soldiers, and their Families. The installation has four schools, a 78-bed hospital, childcare facilities, chapels, banks, restaurants, post exchanges, two swimming pools, six physical fitness centers, a catering and conference center, an outdoor recreation complex, and other community facilities.

Use of trademarked names does not imply endorsement by the U.S. Army but is intended only to assist in the identification of a specific product.

b. Fort Carson's mission is to train, mobilize, deploy, and sustain the Enhanced Separate Brigades of the 4th Infantry Division (ID) and other combat-ready forces assigned to the Mountain Post. It accomplishes this mission by operating as a Post-Mobilization Maneuver Training Center and power-projection platform. Fort Carson maintains 43 different training areas with 2 impact areas, which support artillery tank, Bradley, and other gunnery ranges.

c. During the in-brief from the Fort Carson leadership to the EPICON team on 4 November 2008, MG Graham presented the Task Force findings summarizing data on alleged homicide perpetrators from 2005–2008. This data described the alleged crimes, prior criminal history, current and pending Uniform Code of Military Justice (UCMJ) actions, and relevant demographic characteristics, such as educational levels, Armed Services Vocational Aptitude Battery (AFQT) scores, and deployment history. MG Graham discussed his concerns about the apparent clustering of violent behavior at Fort Carson and the tragedies associated with the events. He requested that the existing Task Force and the EPICON team work collaboratively to identify any common threads between the index cases, which might explain the homicides. In concert with the request from Senator Salazar, MG Graham requested a full evaluation of any factors which may have impacted the occurrence of violent behavior among Soldiers assigned to Fort Carson.

5. METHODS AND DATA SOURCES.

a. Team Composition.

(1) The EPICON team consisted of the following individuals/positions:

(a) Four Physician Epidemiologists.
(b) The OTSG Psychology Consultant.
(c) The Great Plains Regional Medical Command Social Work Consultant.
(d) One PhD Psychiatric Epidemiologist.
(e) Two PhD Social Epidemiologists.
(f) Three PhD Social Workers.
(g) One Forensic Psychologist.
(h) One Forensic Psychiatrist.
(i) One Army Public Health Nurse.
(j) One PhD Qualitative Researcher.
(k) One Chaplain.
(l) One Headquarters, Department of the Army G1 Representative.
(m) One Headquarters, Installation Management Command Representative.
(n) One Headquarters, Criminal Investigation Division (CID) Representative.
(o) One Fort Carson Staff Judge Advocate (SJA) Representative.
(p) One Fort Carson Hospital Liaison.

(q) One Health Risk Communication Specialist.
(r) Two Data Entry Technicians.
(s) One Operations Officer.
(t) One Senior Non Commissioned Officer (Psych Tech)

(2) The team liaison to the Command was Division West (First Army) and Fort Carson Secretary of the General Staff.

b. Dates of Team Activities.

(1) Phase I: Initial data gathering and interviews at Fort Carson (3–6 Nov 08).
(2) Phase II: Focus Group and Survey development at USACHPPM (17–21 Nov 08).
(3) Phase III: Focus Group (1-5 Dec 08) and Survey Implementation (2–19 Dec 08).
(4) Phase IV: Data Analysis at USACHPPM (8 Dec 08–30 Jan 09).
(5) Phase V: Synthesis of findings and Outbrief generation at USACHPPM (2–6 Feb 09).
(6) Phase VI: Out-brief to Fort Carson Leadership (9–10 Feb 09).
(7) Final report generation and staffing (11 Feb 09–23 Mar 09).
(8) Final report delivered to MG Graham (24 Mar 09)
(9) Briefings on report findings to key Army Leaders and Congress (25 Mar 09-14 Jul 09)

c. The EPICON Analytic Approach.

(1) The EPICON team identified seven guiding questions to answer in order to address the concerns raised by MG Graham, Senator Salazar, and Army Leadership—

(a) Are there common threads among homicide index cases?
(b) Is increasing violent or criminal behavior unique to Fort Carson?
(c) Are moral, BH, or educational waivers associated with the index cases and/or an increase in violence?
(d) Are there characteristics unique to the index BCT that could account for an increase in aggressive behavior?
(e) Is there a relationship between deployment and risk factors for aggressive behavior?
(f) Does Fort Carson have adequate BH resources and social support programs to meet current and anticipated demands?
(g) Are there barriers to seeking BH resources and social support programs?

(2) Six primary taskings were designed to aid in answering the guiding questions. Brief descriptions of each analysis follow, with more detail provided in the appendices to this report.

(a) Index Case Analysis (see Appendix B).
(b) Confinee Interviews (see Appendix B).

(c) Analysis of Installation Level Trends (see Appendix C).
(d) Cohort Analysis of Index BCT and Comparison BCT (see Appendix D).
(e) Soldier Focus Groups and Leadership Interviews (see Appendix E).
(f) Aggression Risk Factors Survey of current index BCT Soldiers (see Appendix F).

d. Index Case Analysis.

(1) Index cases were defined as any Soldier assigned to Fort Carson (or recently discharged from Service after having served at Fort Carson) charged with the crime of homicide, attempted homicide, or accessory to homicide from 2005–2008. Fourteen Soldiers were identified as index cases for the analysis. Formal charges were not filed in one instance because the perpetrator committed suicide immediately following the homicide.

(2) Demographic, medical, administrative, and legal information on the index cases was obtained from Fort Carson, the Armed Forces Health Surveillance Center (AFHSC), the US Transportation Command (TRANSCOM) Regulating and Command and Control Evacuation System (TRACES2), and the Defense Civilian Intelligence Personnel System as detailed below and further described in Appendix B—

(a) The CID reports.
(b) Medical and BH records.
(c) Amy Substance Abuse Program (ASAP) records.
(d) Family Advocacy Program (FAP) records.
(e) Enlistment records (including medical and moral waiver information[2]).
(f) Outpatient and inpatient medical encounter data.
(g) Deployment dates and locations.
(h) Air-evacuation data.
(i) Combat injury data.

e. Confinee Interviews.

(1) Interviews were conducted with 9 of the 14 index cases who were incarcerated and consented to be interviewed during the period of the EPICON. Since many of the confinees were still involved in the judicial process or pending an appeal, the following measures were taken to ensure both confidentiality and ethical treatment (see Appendix B for full details):

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[2] Moral waivers were reclassified as Conduct and Drug & Alcohol waivers in 2008 per DOD Memorandum, Under Secretary of Defense, Personnel and Readiness, 27 June 2008, subject: Directive-Type Memorandum (DTM) 08-018 – "Enlistment Waivers". Data obtained from this investigation predated the reclassification, so the term "moral waivers" is used throughout the report.

(a) The interview team was limited to two individuals (a forensic psychiatrist and a social worker); the larger EPICON team only saw consolidated, de-identified data.

(b) Questions were drafted in such a way so as to NOT ask about specific alleged crimes.

(c) At the beginning of each interview, the interviewers identified themselves, the purpose for the interview, and emphasized that they did NOT want to know anything about their alleged crime(s). They explained that the interview was voluntary and that the individual being interviewed retained the right to refuse to participate, to refuse to answer any particular question, or to terminate the interview at any time.

(2) All interviews were carried out in private, with one or both interviewers and the confinee. In two instances (one who consented to an interview and one who declined to be interviewed), the confinee's legal counsel was present in the interview. Most interviews were 60–90 minutes in duration.

(3) A standardized script and series of questions were developed and used during the interviews (Appendix B).

f. Analysis of Installation-Level Trends.

(1) Installation-level data were analyzed from Fort Carson from 2005–2008 where available. Analyzing population-level data may reveal trends in the community that reflect changing levels of population stress and/or distribution of risk factors related to negative behavioral outcomes such as aggression and violence. While these trends may or may not be directly applicable to any given criminal case, they provide context for understanding the population from which the cases arose. Where possible, data from Fort Carson were compared to data from a comparison group of FORSCOM installations and/or overall Army. Full details are provided in Appendix C.

(2) Crime rate data from CID for major crime charges and/or arrests (such as, murder, rape, aggravated assault, aggravated sexual assault, and arson); suicide data from Army G-1 for 2001–2008; Risk Reduction Program (RRP) data from the Fort Carson RRP coordinators for the previous three quarters (data not collected during earlier periods); the Reintegration Unit Risk Inventory (R-URI) data from the Army Center for Substance Abuse Programs (ACSAP); BH diagnosis rates from the Defense Medical Surveillance System (DMSS); and BH services utilization (on post and network care) from the Outcomes Management Division, Evans Army Community Hospital (ACH), Fort Carson were obtained.

g. Cohort Analysis of Index BCT and Comparison BCT.

(1) A cohort analysis was conducted to assess differences in exposures and BH outcomes between the index BCT and another Fort Carson BCT with similar OIF deployment experiences.

(2) In order to assess the potential cumulative effect of operational tempo (OPTEMPO) and deployments on the outcomes of interest (such as, criminal events, domestic violence, BH diagnosis, and illicit drug-test positives) as well as the effect of moral, medical, and educational waivers, records were obtained for all Soldiers assigned to the two BCTs from the beginning of the 1st outside continental United States assignment during 2003 through the date of the most recent homicide (n = 20,737). Overall Army waiver data was obtained for comparison from Army G-1.

(3) Using administrative and personnel information collected for all Soldiers throughout the Army, the EPICON team conducted two types of cohort comparison analyses: (1a) Comparative study between all Soldiers in the index BCT vs. the comparison BCT, (1b) Comparative study between all Soldiers in each of the BCTs within each battalion (BN); and (2) Comparative study of deployment cycles for index BCT vs. the comparison BCT.

h. Soldier Focus Groups and Leader Interviews.

(1) Focus groups were conducted with Soldiers from every rank and every BN in the index BCT in order to obtain a detailed understanding of the BCT. The E1–E4 Soldiers were over-sampled as there are more Soldiers at this level and the perpetrators were all junior enlisted Soldiers. Soldiers from Infantry (IN) BN A (the index IN BN) were also over-sampled, as a high percentage of the homicide index cases were from this BN. There were 402 Soldiers in total. Nearly 15 percent of available Soldiers in the index BCT participated in focus group discussions.

(2) A total of 59 focus groups were conducted, consisting of approximately 8–10 Soldiers per group. Soldiers in each group were of similar rank, so they could speak more freely and honestly without a superior present. Each group was asked the same questions, with only slight variations based upon rank. The following questions were asked:

(a) Awareness and utilization of BH resources.
(b) Command climate.
(c) Discipline standards.
(d) Quality of Soldiers.
(e) Responses to the increase in homicides and suicides.
(f) Considerations for change.

(3) Battalion commanders and BH service providers were either interviewed individually or participated in a single group interview.

i. The Aggression Risk Factors Survey.

(1) A survey was developed to assess the experiences, attitudes, and climate of the Army population with whom many of the perpetrators served. The survey instrument was developed by a multi-disciplinary group of EPICON team members that included military and civilian epidemiologists, social workers, nurses, physicians, and psychologists. Full methods and the survey instrument are available in Appendix F.

(2) Domains for the questionnaire items were initially based on a list of the main contributory factors of criminal behavior provided by the team forensic psychologist. These factors include mental illness, criminal history/past history of violence, substance abuse, and antisocial attitudes (Stea et al., 2002). Antisocial attitudes were eliminated due to lack of an instrument that could be administered in the time and manner available. Instead, attitudes towards noncombatants and improper behaviors during deployment that could indicate antisocial/social attitudes were measured using a scale drawn from the Mental Health Advisory Team (MHAT)-IV report (*http://www.globalpolicy.org/security/issues/iraq/attack/consequences/2006/1117mhatreport.pdf.*)

(3) Additional domains included gender, age, race/ethnicity, level of education, and current marital status (Karch et al., 2008). General military information added included years in the military, grade and rank, and if the individual was given any type of waiver for enlistment in the Army.

(4) Additional military information obtained included entry and duration of time in the index BCT, history of deployment, number of deployments, and location of deployments. Company of assignment was included to allow for comparisons between IN BN A and IN BN B within the index BCT.

(5) Physical aggression was quantified using the Revised Conflict Tactics Scale (CTS2©)[3] by assessing types of minor and severe aggression. We slightly modified the CTS2© to identify and quantify levels of physical aggression among both married and single Soldiers in the context of the larger environment, to include abuse outside a spousal relationship. (CTS2© was

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developed by Western Psychological Services (Strauss, Hamby, and Warren, 2003) and used according to strict licensing agreements.)

(6) Combat exposure was assessed using the Combat Exposure Scale used in previous military assessments and publications (Hoge, 2004).

(7) In an attempt to quantify resiliency related to deployments, we included the Post-Traumatic Growth Inventory (Tedeschi and Calhoun, 1996), a 21-item Likert-type scale, which assesses five components related to resiliency: (1) Relating to Others, (2) New Possibilities, (3) Personal Strength, (4) Spiritual Change and (5) Appreciation for Life.

6. THE EPICON TEAM FINDINGS AND RESULTS.

a. General Observations.

(1) Overall, most Soldiers are doing well.

(2) Fort Carson's openness and willingness to address these issues provides a unique opportunity to improve and benefit processes Army-wide.

(3) Fort Carson has already begun multiple initiatives to reduce population behavioral health risk and improve care.

b. Homicide Index Case Analysis.

(1) From 2005–2008, 13 Soldiers at Fort Carson were charged with homicide (n=10), attempted homicide (n=2), or accessory to homicide (n=1). One Soldier was included who committed homicide/suicide and, thus, was never charged.

(2) Several common threads were identified among the index cases. These included unit of assignment, deployment/combat exposure, military occupational specialty (MOS), and behavioral risk factors—

(a) Unit of Assignment: 71 percent (n=10) of index cases were assigned to the index BCT and 43 percent (n=6) were assigned to an IN BN of the index BCT.

(b) Deployment History/Combat Exposure: 86 percent (n=12) of index cases were deployed at least once to OIF. All 10 index cases in the index BCT deployed to OIF at least once (2 deployed twice), and 50 percent (n=5) deployed from Korea to Iraq in August 2004. This deployment experienced higher levels of combat intensity (based on casualty data) than

other deployments by units at Fort Carson and was also associated with significant disruptions in family/social support.

(c) Early Redeployment: 50 percent (n=6) of index cases who deployed, redeployed early (1 for combat injuries, 1 for a suicide attempt, 1 for suicidal ideation, 2 for misconduct, and 1 for family reasons) and, therefore, did not receive normal reintegration training.

(d) MOS: Just over half of the index cases (54 percent) were IN Soldiers (11b).

(e) Enlistment Waivers: Five of 14 index cases (36 percent) received an enlistment waiver—3 were for moral waivers relating to prior criminal or drug/alcohol related charges, and two were for medical conditions.

(f) Behavioral Risk Factors: Behavioral risk factors were highly prevalent among the index cases including a history of substance abuse (79 percent), BH diagnoses (71 percent), and criminal activity (UCMJ or civilian charges) while in the military (78 percent).

(3) There was no evidence that home of record, location of military training, or gang activity account for the apparent clustering of crime at Fort Carson or in the index BCT.

(4) Index cases were at very high risk for negative behavioral outcomes compared to the overall Fort Carson population and the index BCT based on three of the four main contributory factors of criminal behavior: mental illness, criminal history/past history of violence, and substance abuse (Stea et al., 2002). The fourth risk factor, antisocial attitudes, could not be assessed with available data. Fifty-seven percent (57%) (n=8) had documentation of all 3 major risk factors; 3 had at least 2, and 3 had at least 1 (see Figure 1).

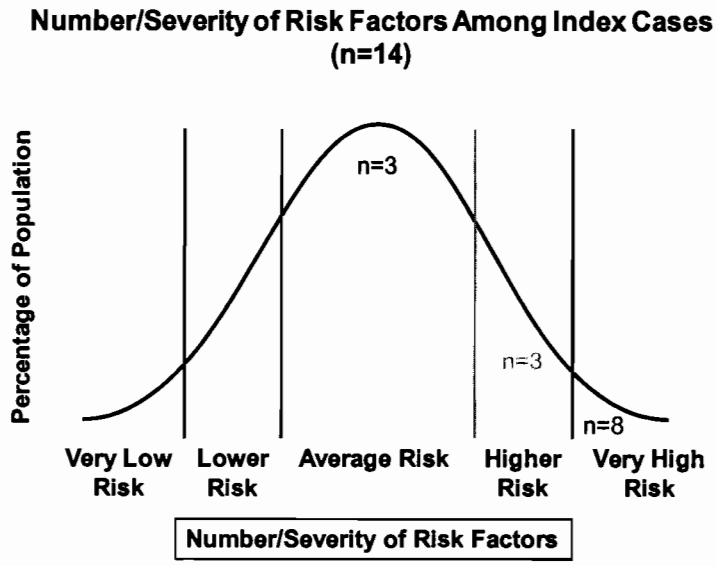

Figure 1. Distribution of Population and Index Case Risk for Violent Behavior

(5) Index cases were much more likely to exhibit criminal behavior and at least one other negative behavioral risk factor (such as, alcohol abuse, drug abuse, mental health (MH) disorder, domestic violence) than other Soldiers who deployed with the BCT (based on a comparison of index case data with self-reported criminal behavior and other risk factors among Soldiers who participated in the Aggression Risk Factors Survey).

(6) Suicides from the same time period did not cluster by BCT or BN.

c. Analysis of Installation Trends.

(1) Rates of arrests for major crimes (such as, murder, rape, aggravated assault, aggravated sexual assault, and arson) have increased across the Army and comparison FORSCOM installations since 2003, with the highest rate of increase from 2007–2008. (Note: These data represent arrests, not convictions.)

(2) Rates of arrests for major crimes were higher at Fort Carson than comparison installations in 2007 and 2008, and the murder rate doubled from 2003–2008. Murder remains a very rare event, however, with an average of 2 murders per year at Fort Carson from 2003-2006 and 4 per year in 2007 and 2008. Observed differences in rates based on small counts may reflect random variation rather than a statistically significant change.

(3) Rape arrests at Fort Carson have increased since 2006 with 7 per year from 2003-2006, 14 in 2007, and 20 in 2008. The rate per 10,000 Soldiers was over 2 times greater than comparison installations in 2008.

d. Deployment-Related Findings for the Index BCT.

(1) Based on combat death data provided by the BCTs, Soldiers who deployed with the index BCT most likely experienced greater combat intensity than Soldiers who deployed with the comparison BCT (see Figure 2).

(2) Based on data from the cohort analysis, Soldiers in the index BCT experienced higher levels of post-deployment BH problems, traumatic brain injury (TBI) (see Figure 3), and positive tests for illicit drugs than Soldiers in the comparison BCT. However, a focused study of TBI in the index BCT following their first deployment may have resulted in a disproportionate number of TBI diagnoses among those Soldiers. This potential ascertainment bias makes interpretation of observed differences in TBI rates difficult.

(3) Based on responses from the Aggression Risk Factors Survey, increasing levels of self-reported combat intensity were associated with increased risk for self-reported acts of aggression, problematic alcohol use, criminal conviction, BH problems, and engaging in physical altercations with a significant other (see Figure 4). The cross-sectional nature of the survey data does not allow for making causal inferences between combat intensity and negative behavioral outcomes.

	Index BCT	Comparison BCT	Rate Ratio
Battle Related Deaths			
Deployment A	23.2	0.1	>100
Deployment B	13.0	0.8	>16

*Data Source: Unit Casualty Rosters, Fort Carson
* $p<0.05$ for difference between BCTs for both deployments

Figure 2. Comparison of Combat Death Rates* (per 1,000) by Deployment for the Index BCT and a Comparison BCT

	Index BCT				Comparison BCT			
	Deployment A		Deployment B		Deployment A		Deployment B	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Any MH diagnosis	258.2	2515.0*	2009.5	4087.3	776.6	1380.2	2403.7	3739.4
Acute Stress	7.5	269.5*	95.0	187.0	3.8	115.3	92.9	218.5
PTSD	11.2	621.3*	118.7	780.6	19.2	176.9	202.1	718.4
Anxiety disorders, not PTSD	18.7	160.9*	65.3	374.0	46.1	69.2	150.2	284.1
Adjustment disorder	104.8	434.1*	270.1	875.6	103.8	157.6	458.9	715.7
Mood disorder	67.4	505.2*	270.1	572.9	130.7	238.4	401.5	680.1
Substance related disorders	44.9	632.5*	382.9	418.5	184.5	303.7	393.3	543.6
Traumatic Brain Injury	11.2	250.7*	95.0	1392.1	38.4	65.4	103.8	1526.9

*Indicates $p<0.01$ comparing diagnosis rates by Pre- and Post-Deployment periods between the two BCTs.
Notes: Post-Deployment data reflects diagnoses in the 6 months following redeployment. A focused study of TBI in the index BCT following their first deployment may have resulted in a disproportionate number of TBI diagnoses.

Figure 3. Description of Mental Health Diagnoses, Substance Related Disorders, and TBI for Soldiers by BCT and Deployment (Rates/10,000 Soldiers)

Adjusted* odds ratios (aOR) for the association between combat intensity[5] and behavioral outcomes among Soldiers who completed the Aggression Risk Factors Survey (n=2,775)

	Total	Minor Aggression[1]		Major Aggression[1]		Problematic Alcohol Use[2]		Criminal Conviction[3]		Self-Reported BH Problem[4]		Physical Altercation w/Sig Other[4]	
	n	%	aOR	%	aOR	%	aOR	%	aOR	%	aOR	%	aOR
Never Deployed	865	19.0	-	24.1	-	14.6	-	2.1	-	19.0	-	5.9	-
Low Intensity	571	19.3	1.29	18.0	1.07	13.7	1.25	3.9	1.79	26.8	1.57*	10.7	1.81*
Moderate Intensity	597	22.6	1.57*	22.8	1.39*	16.8	1.57*	4.0	1.81	33.3	2.14*	8.4	1.36
High Intensity	666	37.5	3.40*	39.2	3.07*	26.3	2.88*	6.8	3.01*	48.4	4.00*	13.1	2.30*

*p<0.05

Notes:
[1]CTS2, 2003, by Western Psychological Services, within past 12 months.
[2]RAPS4 2+.
[3]Any after joining Army.
[4]Any in lifetime.
[5]Deployment intensity based on number of events encountered on deployments (15-item scale).
Data Source: Aggression Risk Factors Survey.
*Odds Ratios (aOR) adjusted for race/ethnicity, grade/rank, education, marital status, and served in IN BN.

Figure 4. Comparison of Adjusted Odds Ratios for the Association between Self-Reported Combat Intensity and Behavioral Outcomes

e. Findings Related to Substance Abuse in Index BCT.

(1) Data from the focus groups revealed a strong theme of Soldiers using alcohol and drugs to "self-medicate"; Soldiers also perceived inconsistent discipline for substance abuse, positive drug tests, and misconduct.

(2) On the Aggression Risk Factors Survey, Soldiers who had deployed reported higher levels of problematic alcohol use than Soldiers who had never deployed.

(3) Many Soldiers in the two BCTs analyzed, who tested positive for illicit drugs, did not receive required ASAP screening (see Figure 5). The percent screened by ASAP within 30 days of testing positive for illicit drugs (date of sample collection, not commander notification) was 20 percent; by 180 days, nearly 60 percent had been screened. Screening rates were similar between the two BCTs.

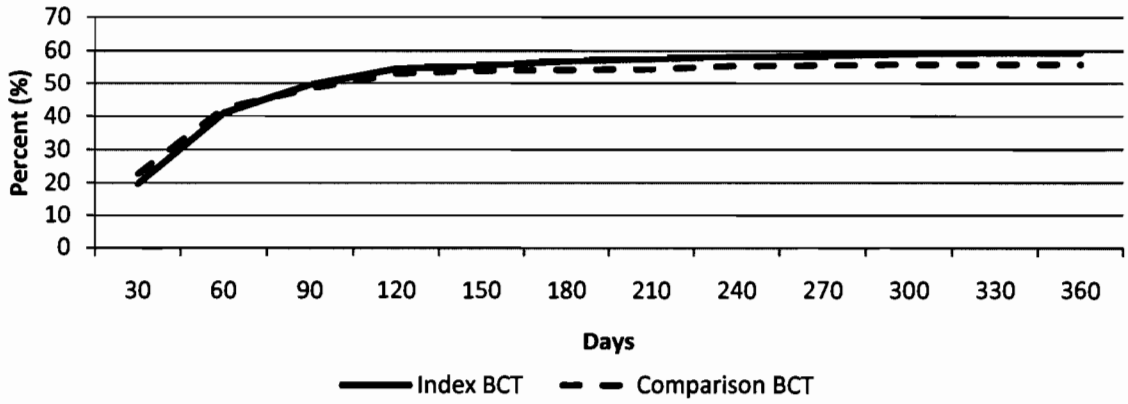

Figure 5. The ASAP Screening Rates for Soldiers Testing Positive for Illicit Drugs

(4) Of the illicit drug positive tests from Soldiers in the Index BCT, approximately 60 percent were for cocaine, amphetamines, methamphetamines, and ecstasy. Soldiers in the Comparison BCT were slightly more likely to test positive for marijuana and slightly less likely to test positive for other drugs.

f. Enlistment Waiver Analysis.

(1) The proportion of Soldiers receiving enlistment waivers of any type increased from 2003-2007 across the Army and among Soldiers who were assigned to the index BCT and comparison BCT. There was no difference, however, in the proportion of Soldiers with moral waivers across the two BCTs analyzed.

(2) 3/14 homicide index cases (21 percent) received an enlistment moral waiver. On average, 10.5% of all Soldiers enlisting in the Army between 2004 and 2008 were granted a moral waiver (range 6% to 15%).

(3) In the two BCTs analyzed, Soldiers granted a waiver for alcohol/drugs or serious non-traffic offenses were approximately 2 to 3 times more likely to test positive for illicit drugs and were significantly more likely to be discharged from the Army for misconduct and/or UCMJ violations (see Figure 6).

	Any Waiver	Alcohol/Drug Waiver	Serious Non-Traffic Waivers	Multiple Waivers
	RR	RR	RR	RR
Positive test for illicit substance	1.41*	3.31*	1.83*	2.17*
[redacted]				
Attrition for misconduct/UCMJ	1.61*	2.87*	1.36	2.00*

*p<0.05; Adjusted for sex, race/ethnicity, home of record, marital status, age, grade, time in service, BN, and brigade
RR: relative risk

Figure 6. Adjusted Relative Risks for Negative Outcome among Soldiers Receiving Waivers

g. Behavioral Health Resourcing.

(1) The Index BCT deployed to Iraq in 2004 without a Behavioral Science Officer (BSO). On its subsequent deployment, the position was filled with a Professional Filler System (PROFIS) Officer, instead of a provider assigned to the unit. (A PROFIS Officer is an officer assigned to the unit for the period of the deployment only.)

(2) Post-deployment utilization of BH resources by Active Duty Soldiers at Fort Carson has increased four-fold since 2004. This increase likely reflects a combination of: (1) increased burden of disease, (2) increased screening through PDHA and PDHRA, and (3) other efforts to decrease stigma related to BH.

(3) Overall staffing for BH resources at Evan's ACH from 2006–2008 was at 65 percent of authorized positions. For FY 2008, Psychiatry was 64 percent filled (9 of 14 authorized positions), Psychology was 56 percent filled (13 of 23 authorized positions), and Social Work was 78 percent filled (14 of 18 authorized positions).

(4) Approximately 50 percent of outpatient BH care received by Active Duty Soldiers has shifted from the military treatment facility to the purchased-care network since 2004, suggesting a need for increased emphasis on case management and continuity of care.

(5) Unit leaders requested additional feedback mechanisms from BH to help them better understand Soldier needs.

(6) Soldiers and unit leaders who participated in focus groups reported difficulty accessing BH services at Fort Carson and perceived an over-reliance on pharmacotherapy, particularly from on-post providers.

h. Barriers to Seeking Behavioral Health Care.

(1) Stigma remains a key barrier to seeking BH care and is experienced differently across rank groups. Junior-enlisted Soldiers from the Index BCT report being viewed as "weak" or labeled as "bad Soldiers" by their peers if they seek BH care or receive a BH diagnosis. Senior-enlisted Soldiers and officers reported concerns that seeking BH care would negatively impact their military career. Peer and personal factors were at least as important in perpetuating stigma as leadership issues.

(2) Junior Soldiers expressed fear of retaliation, such as being ridiculed or treated differently by unit Leaders and fellow Soldiers, for seeking BH services. They also perceive a lack of confidentiality when using on-post providers because of information shared with and by unit leaders (public announcement of BH appointments during formation, discussions about personal BH issues where other Soldiers can overhear).

(3) Senior enlisted Soldiers reported concerns that seeking BH care would reflect negatively on their leadership abilities.

(4) Soldiers feel that overuse of "No weapons profiles" contributes to stigma. They also report concerns that off-post providers lack an understanding of military culture and war.

(5) Concerns about delayed homecoming motivate Soldiers to minimize symptoms reported on the Post-Deployment Health Assessment (PDHA) screening.

(6) Competition between addressing the needs of the individual Soldier and the demands of the mission in an environment of constrained BH may contribute to stigma.

i. Fort Carson Initiatives.

(1) Prior to this EPICON, Fort Carson had already begun to address many of the issues identified.

(2) Ongoing/current actions include—

(a) During the fall of 2008, Evans ACH increased staffing and implemented BH outreach and mobilization teams to address these issues and provide dedicated BH assets at the BCT level. According to Leader interviews, feedback has been very positive.

(b) Enhanced reintegration training for redeploying Soldiers.

(c) Mental toughness training for the deploying units.

(d) Increased utilization of installation prevention team to help the Command identify trends, Soldier care issues, and treatment options.

(e) Innovative efforts to improve the Soldier Readiness Processing (SRP) process by using screening methods that overcome Soldier reluctance to truthfully answer the PDHA.

7. KEY FINDINGS: DISCUSSION/CONCLUSIONS.

a. Soldiers allegedly involved in crimes related to homicide at Fort Carson from 2005–2008 were, in retrospect, at risk for engaging in violent behavior based on a clustering of known risk factors for violence, namely prior criminal behavior and psychopathology. Psychopathology (particularly alcohol/drug disorders, mood disorders, and anxiety disorders) are clear risk factors for aggression individually and particularly in conjunction with one another (Elbogen and Johnson, 2009). Nearly 80 percent (11 of 14) of alleged homicide perpetrators in this analysis had documented alcohol or drug abuse problems, and less than half of those individuals had evidence of receiving alcohol and drug treatment from the ASAP. Over 80 percent (9 of 11) of those with alcohol and drug abuse problems were charged for criminal activity while in the military but prior to the alleged homicide, either by civilian law enforcement or the UCMJ. These individuals, therefore, were at particularly high risk for continued criminal and/or violent behavior. The index BCT, however, did not have a higher proportion of individuals with psychopathologic risk factors (such as, drug and alcohol abuse) over time than the comparison BCT, so the risk factors alone do not entirely explain the apparent clustering of crime in this population. In addition, these crimes remain very rare events in a large population of Soldiers who, to varying degrees, share many of the same risk factors but did not participate in criminal behavior.

b. Alleged homicide perpetrators were clustered within the index BCT compared to other BCTs at Fort Carson and clustered within an IN BN compared to other BNs in the index BCT. No demographic or risk-factor characteristics of the two BCTs or the IN BNs within the index BCT account for the observed difference in criminal behavior. However, the index BCT and the IN BNs, in particular, experienced significantly higher levels of combat intensity (as represented by combat death rates during OIF deployments and post-deployment BH diagnosis rates) than the comparison BCT and the comparison IN BNs.

c. Survey data from this investigation suggest a possible association between increasing levels of combat exposure and risk for negative behavioral outcomes. The cross-sectional nature of the survey data does not allow for making causal inferences. However, these findings are consistent with recent research on combat exposure and subsequent behavioral outcomes among Soldiers (Killgore, 2008; Dedert, 2009). The combination of multiple pre-existing personal risk factors in given individuals, combat intensity/exposure, and other unmeasured unit factors may have increased the risk for violent behavior in some of the Index cases.

d. Plutchik and van Praag's model of aggression (Plutchik and van Praag, 1989) suggests aggressive impulses are expressed as overt aggressive behaviors mitigated by the influence of "amplifiers" and "attenuators," which increase and decrease the probability of aggressive behavior, respectively. Examples of amplifiers in their model include distrust, access to weapons, and a tolerant attitude toward the expression of aggression. Examples of attenuators include timidity, close social relationships, and appeasement from others. Applying this framework to the present EPICON, additional amplifiers could include combat intensity and exposure to combat experiences such as being responsible for the death of an enemy combatant or engaging in hand-to-hand combat. Stigma associated with seeking help for BH problems may also have acted as an amplifier by promoting a climate of distrust and preventing some individuals from seeking needed care. However, the population analyzed during the EPICON also contains additional potential attenuators such as the close social structure of military units, the availability of comprehensive medical and BH care, and unit cohesion. Findings from the present EPICON, in the context of this framework, might suggest Soldiers in the index BCT and the index IN BN experienced more "amplifiers" and fewer "attenuators" than Soldiers in other units, perhaps driven by differences in deployment experience and combat intensity.

e. Although 3 of the index cases received an enlistment conduct waiver, there was no difference in the proportion of Soldiers with Conduct or Drug & Alcohol enlistment waivers across the two BCTs analyzed. Thus, waivers do not account for the clustering of homicides perpetrated by Soldiers in the index BCT. Since overall crime data was not available for all Soldiers in time for inclusion in the comparison study, we were unable to determine if Conduct waivers were associated with an increase in overall crimes. Data obtained for this investigation clearly demonstrate, however, that Soldiers from the index BCT or the comparison BCT, who received an enlistment waiver for alcohol/drugs or serious non-traffic offenses[4], were significantly more likely to test positive for illicit drugs while in the military. Soldiers who received enlistment waivers for alcohol/drugs were also more likely to be discharged from the

[4] Examples of serious non-traffic offenses include conviction or adverse disposition for carrying of weapon on school grounds; an act of violence including threats against any school faculty members; domestic battery/violence not resulting in a qualifying Lautenberg conviction (Public Law 104-208, 1996; 18 USC, Section 922, 1996); conviction or other adverse disposition for driving while intoxicated, driving under the influence or driving while impaired; and possession of marijuana or drug paraphernalia.

Army for misconduct and/or UCMJ violations. Data from the index BCT, the comparison BCT, and the Army overall demonstrate an increasing trend of Conduct waivers from 2003-2007 with the highest increase in the serious non-traffic offense category.

f. Scientific literature regarding developmental pathways leading to aggression against others (Loeber and Stouthamer-Loeber, 1998) suggests that three pathways exist from early childhood that can lead to aggression: the overt pathway, the early pathway, and the covert pathway.

(1) The overt pathway is characterized by an escalation of violent behavior beginning with bullying and leading to severe violence.

(2) The early pathway is characterized by stubbornness, followed by defiance and avoidance of authority.

(3) The covert pathway starts with minor disruptive behavior and property damage, leading to delinquency and severe crime (Hillbrand, 2001). An overlap may exist between the character traits in these overt early and covert pathways with the types of misconduct covered by the serious non-traffic offense waiver.

(a) If this is true, Soldiers with known criminal activity (either prior to or during enlistment) may represent a population with higher pre-existing risk factors for negative behavioral outcomes, including both substance abuse and propensity for rule-breaking behavior. Unit and environmental factors may play an important role in mitigating, or increasing, risk for subsequent misconduct.

(b) Prior research demonstrates that pre-existing risk factors play a much greater role than exposure to combat stress in the expression of antisocial behavior (Fontana and Rosenheck, 2005). However, once in the military, this population is potentially exposed to environmental factors (such as, combat exposure) which further increases risk for development of mental health (MH) problems (such as, post-traumatic stress disorder (PTSD)) and substance abuse (Prigerson, et al., 2002).

(c) The existence of multiple co-morbid risk factors in individuals poses the greatest risk for potential expression of violent behavior (Elbogen and Johnson, 2009; Swanson et al., 1990). An increase in the proportion of Soldiers with these risk factors, in conjunction with increased risk due to unit and/or environmental factors, may shift the overall population risk to the right, creating a population with higher risk for violent outcomes (see Figure 7). It is plausible that multiple factors converged to shift the population risk in the Index BCT to the right, putting

more Soldiers in the Very High Risk category and increasing the likelihood of clustering in this BCT.

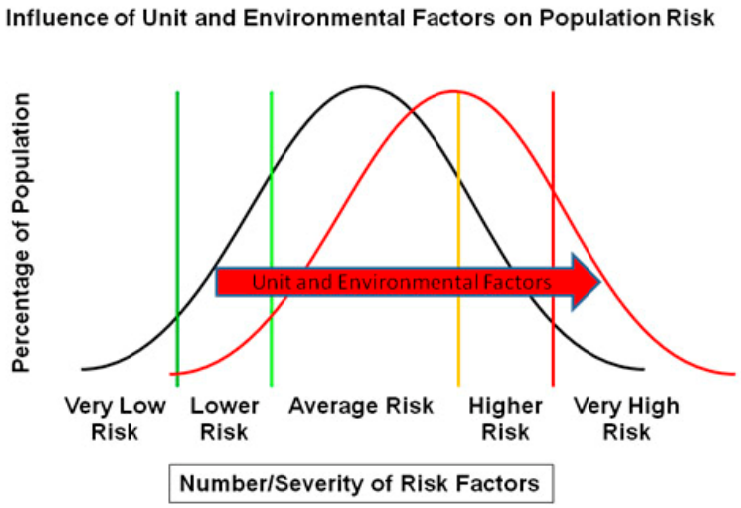

Figure 7. Affect of Unit and Environmental Factors on Population Risk

g. Although not conclusive, the findings from this EPICON suggest a combination of individual, unit, and environmental factors converged to increase the population risk in the index BCT which made clustering of negative outcomes more likely. Accumulating BH risk based on individual predisposing factors such as prior criminal behavior, drug and/or alcohol abuse, and behavioral health disorders; unit factors such as combat exposure/intensity, leadership, and barriers to seeking care; and environmental factors such as OPTEMPO and installation/community level factors and trends, may increase overall population-level risk for negative outcomes. While it is important to identify and treat individual Soldiers, significant impact may also come from programs that shift the overall population risk back to the left (see Figure 8). Effective medical treatment can prevent individuals from increasing in risk or decrease their risk, but it cannot shift overall population risk very much. This risk may be balanced by mitigating strategies which decrease both individual and population-level risk such as improved screening and case-management to identify, as well as follow-up, high risk Soldiers/units; elimination of barriers to substance abuse and BH treatment; expedited processes for providing treatment and/or military discharge as appropriate; enhanced resources and training for small unit leaders; and improved social support programs for Soldiers and Families. This analysis, however, is based only on data available for individuals assigned to two BCTs and may not be representative of all Army installations or all Army Soldiers. More comprehensive studies of the potential impact of deployment, combat exposure, and the relative weights of various individual, unit, and environmental factors on violent behavior and criminal outcomes in Army populations are required in order to understand the impact on the Army overall.

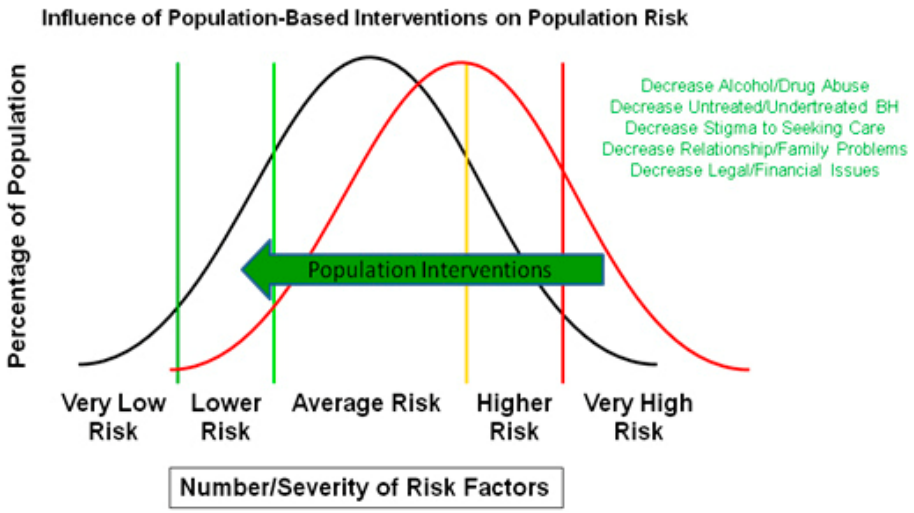

Figure 8. Affect of Population-Based Interventions on Population Risk

8. LIMITATIONS.

a. Factors Contributing to Limitations in Conclusions. This EPICON was a field investigation that occurred under a compressed 90- day time schedule. The following limitations should be carefully considered when interpreting the results of this EPICON:

(1) Risk factors identified in the 14 index cases may not be representative of all Army homicide perpetrators.

(2) Results from the BCT comparison study, focus groups, and survey are based on characteristics of Soldiers in two units, one of which experienced a unique set of circumstances and an unexpected clustering of violent crime. Soldiers in these units are probably not representative of all Army Soldiers and results from these studies are probably not representative of the overall Army.

(3) Criminal data was not available for the BCT comparison study. This limited the ability to fully assess potential relationships between risk factors of interest and the primary outcome of interest, criminal behavior.

(4) Since every Army installation is unique, caution should be used in interpreting comparisons between installations.

(5) In spite of these limitations, this EPICON represents the most in-depth examination to date of violent crimes in the Army in the context of community BH risk factors and combat exposure.

9. CONSIDERATIONS.

a. Command Issues.

(1) Ensure that there is no humiliation or belittling of Soldiers who seek or receive BH or ASAP assistance.

(2) Identify highly combat-exposed Soldiers/units prior to redeployment and provide enhanced reintegration support

(3) Review reintegration processes to ensure that Soldiers who redeploy early receive the appropriate screening, referral, and training.

(4) Adopt optimal reintegration strategies that integrate theater as well as post-deployment screening and care.

(5) Review Army Force Generation policies in terms of their impact on unit cohesion in the transition period following deployment.

(6) Review consistency of disciplinary actions for substance abuse/misconduct.

(7) Reinforce Army permanent change of station policies that require an SRP as part of individual out-processing the unit.

b. Considerations: ASAP.

(1) Ensure Commanders comply with regulatory referral requirements to ASAP (according to Army Regulation (AR) 600-85, 2009).

(2) Establish a confidential ASAP self-referral process.

(3) Ensure capacity of ASAP will meet demand.

c. Considerations: BH Issues.

(1) Improve communication interchanges between the hospital, TRICARE BH Network, and Commanders.

(2) Fully staff Modification Table of Organization and Equipment (MTOE) BSO positions. The BSO positions should be filled no later than 180 days prior to deployment and be stabilized for at least 180 days post-deployment.

(a) The US Army Medical Command (MEDCOM) recognizes these needs, but there is a shortage of uniformed providers.

(b) The expansion of training programs for psychologists and social workers should mitigate this problem in 1 to 2 years.

(3) Formalize/expand monitoring of BH treatment and referral patterns as part of the peer-review process to ensure that patients are offered the range of treatment options that are clinically appropriate to their situation

(4) Fully implement and optimize Evans Mobile BH Team concept as a demonstration project at Fort Carson.

d. Considerations: Training.

(1) Evaluate current anti-stigma training and modify as needed to deliver more targeted messages.

(2) Evaluate current reintegration training, and augment as needed for high risk units/groups.

(3) Develop specialized BSO training that includes large-system assessment and intervention.

(4) Develop training to equip noncommissioned officers (NCOs) and junior officers to better manage Soldiers with BH problems.

(5) Incorporate training on leading Soldiers with BH problems into leader development curricula.

e. Considerations: Future Studies.

(1) Conduct an Army-wide study to assess a possible link between deployment, combat intensity, and aggressive behavior.

(2) Conduct an Army-wide study to assess the impact of changes in waiver policy on level of attrition, crimes, and other adverse outcomes.

(3) Conduct a pilot screening/referral program for high-risk individuals involved in misconduct.

(4) Approve EPICON team follow-up to conduct focus groups and administer Aggression Risk Factors Survey on the comparison BCT approximately 6 months post-deployment.

(5) Consider a study of rape/sexual assault on and around Fort Carson.

10. POINT OF CONTACT. Direct inquiries regarding this report to (b)(6)
(b)(6)

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Behavioral Health Epidemiologist
Directorate of Health Promotion and Wellness

Approved:

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(b)(6) MD, MPH
LTC, MC
Manager, Behavioral and Social Health
Outcomes Program

APPENDIX A

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APPENDIX B

INDEX CASE ANALYSIS
CONFINEE INTERVIEWS

B–1. INDEX CASE ANALYSIS.

One of the guiding questions for the EPICON was, "What are the commonalities in the index cases?" To answer this question, the EPICON team developed a list of homicide suspects who would be considered index cases. Index cases were defined as any Soldier assigned to Fort Carson (or departed from Fort Carson or discharged from service within 90 days of the event) charged with the crime of homicide, attempted homicide, or accessory to homicide during the time period of 1 January 2005 through 30 October 2008. During the initial visit to Fort Carson, the EPICON team worked with Fort Caron personnel to develop a list. Using this initial list, the EPICON team obtained additional data from multiple sources to develop a fuller picture of the index cases, incidents, and victims. Data sources included—

a. The CID, Fort Carson. Provided a list of suspected crimes and access to their case files.

b. The Office of the SJA, Fort Carson. Provided information of the legal situations of each index case and helped to coordinate access to other data sources.

c. Army Community Service (ACS), Fort Carson. Provided information on any contact they had had with an individual or Family connected to an index case incident. Contacts included financial assistance, sexual assault or victim assistance, attendance in marital, parenting or other preventive classes, and so forth.

d. Evans ACH, Fort Carson. Provided access to four distinct sets of patient records—medical, mental health, alcohol/drug, and family maltreatment.

e. The DMSS administered by the AFHSC. Provided demographic, deployment, and inpatient and outpatient medical data for each of the index cases.

f. Accession Medical Standards Analysis and Research Activity (AMSARA), Walter Reed Army Institute of Research (WRAIR). Provided enlistment and enlistment waiver data for each individual associated with an index case.

g. The TRACES2 administered by the US Air Force. Provided air-evacuation data on those index-case individuals who had deployed to a combat zone and were then evacuated from theater for medical or MH reasons.

h. "Confinee" Interviews. Although gathering data on the index case, suspects themselves were not the purpose of the confinee interviews; in a few cases, self-reported data from the interviews helped fill missing holes in the database.

i. Investigative Reports by Civilian Journalists. Investigative reports were published by reputable local and national newspaper chains on some of the index case events, suspects, and victims. These reports often contained interviews with the Family members and/or friends of those involved in the index case events which revealed background information that could not to be found in other available sources.

Data from these various sources were merged together into a single database for summary analysis. Where there was a discrepancy and no confirmatory information was available from a third source, the data source most likely to be correct, based on the judgment of the reviewer, was used to resolve the discrepancy. One limitation was that data were not available from all sources for all index cases.

Medical records were shipped to Aberdeen Proving Grounds where they were scanned. Scanned copies were made available to EPICON team members in various locations so that these records could be reviewed and abstracted by a multi-disciplinary team.

Data were first used to examine the demographics of the index cases (Table B-1). Demographics for the index cases were compared to demographics for the current Fort Carson population (Table B-2). These data were also used to determine the number of deployments for each index case along with which index BCT deployments the case was on and the specific unit that they deployed with (Table B–3). Education levels and AFQT scores for the index cases were compared to the Army (Table B-4). The EPICON database created above was reviewed to summarize how many of the index cases had certain characteristics potentially associated with violence (Table B-5). Finally, the team reviewed the database along with administrative records to create a listing of risk factors for each index case (Table B-6). Even though information was gathered about victims, the information available was so limited in most cases that not much analysis was conducted. Victim information was examined to ensure that there was no connection or commonality among the victims. Available information on victims is shown in Table B-7.

The team social worker conducted interviews with as many of the suspects as possible. Methodology used for the interviews is summarized in Section B–2, paragraph a. The interview script is shown in Section B–2, paragraph b. Results of the interview are summarized in Section B–2, paragraph c and Table B-7.

All of the tables created were reviewed to determine what commonalities existed among the index cases. Observed commonalities included criminal history, mental health issues, domestic violence, substance abuse, and deployments.

B–2. INTERVIEWS OF CONFINEES.

a. Methodology.

(1) In order to interview "confinees" (thus labeled to avoid the implication of guilt among the index cases involved individually at various points in the judicial and/or corrections systems), we initially made contact with both prosecutors and defense attorneys through the Fort Carson Office of the SJA.

(2) Some of the defense counsels advised us to contact the local District Attorney and ask for a letter of immunity, thus, granting us permission to interview the confinees with the assurance that the prosecuting attorneys would exclude any testimony given to us by the confinees from discoverability in court. We did approach the local District Attorney, but the confines were denied a letter of immunity.

(3) Our interactions with the defense counsels were mixed. Some were difficult to contact and/or were hostile to our cause. Most were affable, saw the importance of our task and wanted to cooperate, even when they had to refuse for the sake of their clients' best interests.

(4) Due to time constraints on our part, our inability to obtain a blanket letter of immunity and the fact that it was neither illegal nor unethical (in our role as public health officials) to directly approach each confinee without the consent of his attorney, we decided to take the direct approach.

(5) Since we were directly approaching the confinees, and many of them were still involved in the judicial process or pending an appeal, we decided to take the following measures to ensure both confidentiality and ethical treatment:

(a) We limited the interview team to two individuals; the larger EPICON team only saw consolidated, de-identified data.

(b) We specifically drafted the questions in such a way so as to NOT ask about their specific alleged crimes—our interests lying primarily with deficits in the Army and ways that those could be improved.

(c) At the beginning of every interview, we identified ourselves, our purpose for asking for the interview, and pointed out that we did NOT want to know anything about their alleged crime(s). We explained that the interview was voluntary, that they could refuse to participate

out-right, that they could refuse to answer any particular question, or that they could ask to terminate the interview at any time. Furthermore, in cases which we knew that their defense counsel had specifically declined permission for us to interview their client, we told the confinee that and left the final decision to participate to each confinee.

(d) During the interviews, if a confinee got close to discussing an alleged crime, we would steer him away or stop him. In our note-taking, we purposefully did not record any information that we thought could be incriminating to the confinee personally.

(e) In questioning the confinees about things that occurred in Iraq, we carefully instructed each confinee not to use names or to directly incriminate themselves as being active participants in any battlefield misconduct.

(6) The Fort Carson Office of the SJA was very helpful in contacting the local county jail and the state corrections system to obtain their permission for us to access the confinees. We traveled throughout Colorado to the various confinement facilities to perform the interviews.

(7) All interviews (save for one telephone interview with a confinee in a different state) were carried out in private, with both interviewers and the confinee present. In two cases (one who consented to an interview, and one who declined to be interviewed), the confinee's legal counsel was present in the interview. Most interviews took 60–90 minutes, not including the time to clear the confinement facility's security and to get the confinee(s) from their cells into the interview rooms (all of which took significant amounts of time).

b. Confinee Interview Schedule (with standardized introduction).

"Hello, my name is _____. I am part of a team from the Army Medical Command looking into why there has been an increase in the number of homicides and suicides at Fort Carson. We will NOT be asking (nor do we want you to tell us) about any crime in which you are being/were charged. The purpose of this interview is to understand your experiences and general thoughts regarding Soldier support, deployment experience, and command climate in order to improve things in the Army. All of your responses will be edited and combined with others' responses so that what you tell us will not point to you. This interview is completely voluntary on your part; if you desire, we can stop at any time, and if you are uncomfortable with any question, we can skip it. Having said that, we would greatly appreciate your help and honesty.

1. Regardless of what happened, you are now in jail. Are there areas in which you believe the Army could have provided more assistance to avoid this situation?

2. How could unit leaders have provided more assistance to avoid this situation?

3. How could your buddies have provided more assistance to avoid this situation?

4. As you know, the Army offers a number of services to help Soldiers and Families. Did you ever take advantage of any of these programs? If so, what was it and was it helpful? If not, then looking back, what prevented you from doing so?

5. Have you ever deployed to a combat zone? YES NO **(If NO, SKIP to #8).**
   5a. Did you deploy with the [index BCT]? YES NO **(If NO, SKIP to #5c).**
   5b. Did you deploy from Korea to Iraq with the [index BCT]? YES NO
   5c. How has your deployment to a combat zone impacted your current situation?

6. How have you and your family been affected by the deployments and moves?

7. I don't want you to incriminate yourself or anyone by name, but while deployed, did you at anytime observe or hear about incidents that bothered you or that would be considered war crimes under the Geneva Conventions (i.e., purposeful torture, killing of civilians or non-combatants, willful destruction of property, etc.)? YES NO
   7a. If you experienced such things, how could the situation have been prevented?
   7b. What could the Army do to reach out to those who have experienced such things?

8. Is there anything else you would like to add?"

c. Results.

(1) Of the thirteen (13) index case confinees, we approached all of them—in two cases telephonically. Three declined interviews, and one agreed but then broke off contact; we were unable to interview him in the time allotted for gathering data. In sum, nine (9) were interviewed.

(2) Using thematic analysis, the results of the interviews are "quantitized" in the Table B–6. Also included are the more salient quotes related to particular themes.

d. Discussion.

(1) Setting aside the personal backgrounds and potential underlying sociopathy of the individuals interviewed, most of these men experienced significant combat exposure, and more than half of the interviewed confinees reported they had witnessed unethical conduct while in Iraq. Upon returning home, they found themselves struggling with the consequences of what had occurred in Iraq—both psychologically and morally. In particular, they—

(a) Felt "naked"/unsafe without a weapon, and consequently carried weapons around with them—potentially making the commission of crimes easier.

(b) Suffered from various BH problems—PTSD, depression, anxiety, interpersonal, family, or other problems.

(c) Used drinking, taking illegal drugs, or misuse of prescription medications as a common coping mechanism. However, many of the confinees reported that their efforts to self-medicate only complicated their problems and, in some cases, numbed their minds and made getting "real" help more difficult.

(d) Didn't transition well from combat to home—particularly when it came to shifting roles and conventions. This was particularly true for those who had witnessed or participated in ethical violations in Iraq. As one confinee put it, "There [in Iraq] we were the law; here the cops are the law."

(2) The confines reported mixed support of command and peers for getting help, but on the whole, command and peers did not promote help-seeking. In some cases, leadership verbally supported help-seeking, but their subsequent actions contradicted their message and ultimately discouraged help-seeking in others who witnessed the treatment of those "test cases." Leaders seemed to particularly overlook cases of alcohol and drug use, a problem behavior often identified by the confinees as a sign that Leaders should have recognized and acted upon. Indeed, a number of the confinees stated that they wished their leaders would have mandated treatment—psychological, family, and/or alcohol and drug—rather than to have looked the other way.

(3) The perception of the confinees, on the whole, came home to a BH system that was overwhelmed, severely short-staffed, fragmented, and poorly organized. To the confinees who did engage the BH system, the system seemed chaotic, sporadic, and uncaring.

(4) Finally, one confinee asked if he could make a videotaped message to other Soldiers telling them to get help. We relayed that idea to several other confinees, several of whom were

(5)

likewise interested in participating in such a project to help prevent other service members from getting into trouble and to persuade them to get help before things spiral out of control.

Table B-1. Homicide Index Cases

Suspect	Sex	Age	Marital Status	Race	Crime	Date of Crime	Method
1	M	(b)(6)			Murder/Suicide	(b)(6)	
2	M				Involuntary Manslaughter		
3	M				Attempted Murder		
4	M				Murder		
5	M				Murder & Robbery		
6	M				Murder & Robbery		
7	M				Murder		
8	M				Murder		
9	M				Murder		
10	M				Attempted Murder, Murder		
11	M				Accessory Murder		
12	M				Attempted Murder/Aggravated Assault		
13	M				Murder		
14	M				Murder		

Table B-2. Index Suspect Demographic Characteristics and Soldiers at Fort Carson (2006–2007)

Characteristic	Suspects (N=14)	Fort Carson (N=16,156)
Gender		
Male	14 (100%)	14,502 (89.8%)
Female	0 (0%)	1,654 (10.2%)
Age		
(b)(6)		
Race/Ethnicity		
(b)(6)		
Marital Status (at time of event)*		
(b)(6)		
Rank (at time of event or discharge/retirement)		
Junior Enlisted (E1-E4)	14 (100%)	7,386 (45.7%)
Non-Commissioned Officer (E5-E9)	0 (0%)	6,943 (43.0%)
Officers (WO1-O8)	0 (0%)	1,827 (11.3%)

*Missing records so percents will not add to 100

Table B-3. Homicide Index Case Deployments and Unit Assignments

Suspect	NUM	Dates	Operation	Months Deployed	Redeployed Early
1	1	(b)(6)	OIF	(b)(6)	
7	2		OIF		
			OIF		Y (b)(6)
8	2		OIF		
					Y (b)(6)
9	1		OIF		Y (b)(6)
10	1		OIF		Y (b)(6)
11	1		OIF		
14	1		OIF		
13	1		OIF		Y (b)(6)
5	1		OIF		Y (b)(6)
3	1		OIF		
12	*0*				
6	*1*		OIF		
2	*0*				
4	1		OIF		

Table B–4. Index Suspect Education and Aptitude Characteristics

Characteristic	Suspects (N=14)	Army
Educational Tier		Of 69,357 new recruits in 2008[1]
Tier 1 (HS Diploma or College)	8 (62%)	57,425 (82.8%)
Tier 2 (GED or Graduate of Alternative School)	5 (38%)	Not Available
Tier 3 (No Credential)	0 (0%)	Not Available
[Unknown]	[1]	
AFQT Category		Of 76,176 recruits in 2001[2]
Cat I (93-99)	0 (0%)	3,276 (4.3%)
Cat II (65-92)	4 (29%)	25,138 (33.0%)
Cat IIIA (50-64)	5 (36%)	22,396 (29.4%)
Cat IIIB (31-49)	4 (29%)	23,995 (31.5%)
Cat IV (10-30)	1 (7%)	1,371 (1.8%)
Cat V (1-9)	0 (0%)	0 (0%)

[1] Department of the Army, Deputy Chief of Staff of Personnel, Office of Army Demographics (2008)
[2] Department of Defense (2003)

Table B-5. Composite Index Case Suspect Characteristics Based on Record Review

Dysfunctional Background	Suspects (N=14)
Dysfunctional Family History	6 (43%)
Family alcohol/drug problems	3 (21%)
Family mental health problems	1 (7%)
Other family problems (abandonment, etc.)	4 (29%)
Victim of Childhood Abuse	3 (21%)
Physical Abuse	3 (21%)
Emotional Abuse	2 (14%)
Pre-Enlistment Problems	**Suspects (N=14)**
Alcohol/Drug Problems	6 (43%)
Criminal History/Convictions	6 (43%)
Behavioral Health Problems	3 (21%)
Inpatient/Partial-Day Hospitalization for Behavioral Health Problem	2 (14%)
Post-Enlistment Legal Problems	**Suspects (N=14)**
Any UCMJ	6 (43%)
Military Status Offense (e.g., AWOL, etc.)	1 (7%)
Assault/Fighting	3 (21%)
Alcohol/Drug Offense	3 (21%)
Any Civilian Law Enforcement Contact (prior to first index event)	9 (64%)
Domestic Violence/Family Maltreatment	6 (43%)
Alcohol/Drug	2 (14%)
Assault (non-family member)	4 (29%)
Forcible Entry/Detainer	2 (14%)
Illegal Gun Possession	1 (7%)

Table B-5. Composite Index Case Suspect Characteristics Based on Record Review (continued)

Contact with Army Community Service (ACS)	Suspects (N=14)
Any Contact with ACS	7 (50%)
Family Violence	4 (29%)
Financial Services	2 (14%)
Employment Services	1 (7%)
Problems with ACS Standard of Care *(of seven cases seen)*	1 (14%)
Closed DV Victim Asst case without contacting victim	1 (14%)
Medical Problems & Medical Services	**Suspects (N=14)**
Major Medical Problems	6 (43%)
Combat Injury	5 (36%)
mTBI Diagnosis or Symptoms	4 (29%)
Prescribed pain medication(s)	4 (29%)
Received Behavioral Healthcare From Primary Care Provider	3 (21%)
Diagnosed with Mental Disorder	2 (14%)
Post-Concussive Syndrome (mTBI)	1 (7%)
Adjustment Disorder w/Depressed Mood	1 (7%)
Placed on Psychotropic Medication	2 (14%)
Problems with Primary Care's Standard of Behavioral Healthcare	0 (0%)
Contact with Behavioral/Mental Health	**Suspects (N=14)**
Any Contact with Behavioral/Mental Health (Specialty Clinic)	10 (71%)
Hospitalized for Behavioral/Mental Illness	2 (14%)
Hospitalized Once	1 (7%)
Hospitalized Twice	1 (7%)
Diagnosed with a Mental Disorder	10 (71%)
Affective Disorder (Depression)	5 (36%)
Anxiety Disorder/PTSD/Acute Stress Reaction	6 (43%)
Adjustment Disorder	3 (21%)
Sleep Disorder	3 (21%)
Personality Disorder	2 (14%)
Antisocial Personality Disorder	1 (7%)
Schizotypal Personality Disorder	1 (7%)
Psychotic Disorder	0 (0%)
Prescribed Psychotropic Medication	9 (64%)
Antidepressant	8 (57%)
Sleep Aid	7 (50%)
Mood Stabilizer	3 (21%)
Anti-Anxiety	3 (21%)

(b)(3):10 USC 1102

Table B-5. Composite Index Case Suspect Characteristics Based on Record Review

(continued)

Contact with Family Advocacy Program (FAP)	Suspects (N=14)
Any Referral to Family Advocacy Program (Family Maltreatment)	5 (36%)
Evaluated by Family Advocacy Program [One discharged prior to Eval]	4 (29%)
Families with one case	2 (14%)
Substantiated Spouse Maltreatment	1 (7%)
Unsubstantiated Child Maltreatment	1 (7%)
Families with two cases	2 (14%)
Substantiated Spouse Maltreatment	2 (14%)
Substantiated Child Maltreatment	1 (7%)
Unsubstantiated Spouse Maltreatment	1 (7%)
Police involved in two DV calls – no referral to FAP	1 (7%)
Command did not mandate treatment *(of four families seen)*	1 (25%)
Problems with FAP Standard of Care *(of four families seen)*	0 (0%)
Contact with Army Substance Abuse Program (ASAP)	**Suspects (N=14)**
Total with Alcohol/Drug Problems that should have been Referred	9 (64%)
Clear problems with Alcohol/Drugs; Not Referred to ASAP	4 (29%)
by Command	1 (7%)
by Primary Care Provider	3 (21%)
Number Evaluated by ASAP	4 (36%)
Referred to ASAP, but not Evaluated (Lost Referral?)	1 (7%)
Hospitalized for Alcohol/Drug Problem	1 (7%)
Diagnosed with an Alcohol/Drug Problem (including Primary Care Provider)	7 (50%)
Alcohol Problem	6 (43%)
Drug Problem	1 (7%)

(b)(3):10 USC 1102

* Some columns do not total due to multiple responses

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Table B-6. Risk Factor Characteristics by Index Case Based on Record Review and Administrative Databases

Suspect	Behavioral Health	Alcohol / drug	Crimes during	Crimes prior	ASAP	Conduct waiver	UCMJ	Family Advocacy Program
1								A
2	B	B				C ©		
3	A	A	A		A			
4	D	D					A (e)	
5	A	A (b)	A	A			A	
6	D	A (a)	A					A
7	A	A		A	A		A	
8	A	A	A	A	A	A	A	A
9	A	A	A	A	A	A	A	A
10		B	A					C
11		B						
12			E					
13	A	A	A	A (d)	A		A	
14	A		A					
Total	10	11	9	5	5	3	6	5

A=in Record Review database
B=in CID abstraction
C=in AMSARA data
D=in AFHSC data
E=Fort Carson criminal report

(a) only evidence of alcohol use is a DUI
(b) only evidence of use is stealing drugs from someone
© Non-lawful violation involving a positive test for alcohol or drugs
(d) had two speeding tickets prior to enlistment
(e) on ACS sheet of databases mentions MP and DV violations

Table B–7. Results of Victim Analysis

Victim	Gender	Race	Status	Rank	Fatal?	Known to Suspect?	Manner of Attack
1	Female	Hispanic	(b)(6)		Y	No	(b)(6)
2	Male	Unknown			Y	No	
3	Female	African-Am			N	No	
4	Male	Other			Y	No	
5	Female	African-Am			Y	Yes	
6	Female	Caucasian			Y	Yes	
7	Male	Caucasian			N	No	
8	Male	Hispanic			Y	No	
9	Female	Caucasian			Y	Yes	
10	Male	Caucasian			Y	Yes	
11	Male	Caucasian			Y	Yes	
12	Male	Unknown			N	No	
13	Male	Caucasian			Y	No	
14	Male	Unknown			N	No	
15	Male	Unknown			N	No	
16	Female	African-Am			Y	No	

Table B–8. Summary of Confinee Interviews

Issue	Yes	No
Had Deployed to Combat Zone?	8	0
TBI?	3	1
Stigma and Barriers to Care		
Experienced difficulty getting BH care because he didn't have time?	2	
Experienced difficulty getting BH care because he didn't have transport?	2	
Experienced difficulty getting BH care because BH providers didn't provide the right type of or enough BH care (in confinee's opinion)?	5	
Experienced difficulty getting BH care because he didn't feel he needed it at the time?	3	
Experienced difficulty getting BH care because it would have meant admitting to weakness." (Internal Stigma)	4	
Experienced difficulty getting BH care because he would have been treated poorly by others in his unit. (External Stigma)	5	
Experienced difficulty getting BH care because he/command didn't know how to get him help?	4	2
Experienced difficulty getting BH care because he didn't trust or was afraid of going to on-post BH services?	3	1
Experienced difficulty getting BH care because his unit leadership treated Soldiers with BH problems like "shitbags."	4	1
Leadership was helpful in getting SMs into BH care	2	4
Leadership inhibited or prevented SMs seeking/receiving BH care?	3	
Friends/Buddies were helpful in getting SM into BH care	0	3
Witnessed Problems		
Many SMs turned to drugs/Extremely trashed or hammered (alcohol) to cope.	6	
Saw friends harm themselves (cutting, suicidal behaviors)	2	
Personal MH Problems		
Described psychotic symptoms (hearing voices, etc.)	1	
Did you use BH services?	7	1
Given psychotropic meds?	6	1
Psychotropics were effective?	3	3
Given psychological counseling/therapy?	3	4
Psychological counseling/therapy was effective?	0	3
Hospitalized for BH reasons?	1	6
Drugs and Alcohol Use		
Used alcohol to self-medicate	6	1
Used prescription meds to self-medicate	3	
Used illegal drugs to self-medicate	5	

Table B–8. Summary of Confinee Interviews (continued)

Issue	Yes	No
Was referred to ASAP?	5	4
Went to ASAP?	2	3
Family Problems		
Experienced family problems?	5	
Family needed help but couldn't get it (access to care)	2	
Was referred to FAP?	4	2
Went to FAP?	3	1
Difficulty talking to family/friends about his combat experiences?	3	
Experienced feeling isolated and withdrawn from family/friends?	2	
War Crimes		
Heard of / Witnessed illegal activities in Iraq?	5	
Detainee abuse	3	
Rape	0	2
Looting/Stealing	3	
Murdering/Killing non-combatants	5	
Fabricating evidence to justify attacks or criminal acts	2	
Thinks the command/leadership can change things?	1	3
Redeployment & Reintegration		
Noticed that coming back was "weird"; Didn't feel like he fit in?	6	
Family/Friends noticed a change in him?	4	
Readjustment time from combat zone to home was too short	2	
Leaders failed to assist their SMs after their redeployment?	4	1
Unit needed more cohesion and camaraderie?	4	
Believe more should be done to educate leaders, SMs and Families on how to get help?	4	
Feels that the leaders should have kept him busier. Idleness caused problems?	2	1
Miscellaneous		
Feels that too many of the SMs who had problems should never have been in the Army in the first place (Standards are too low).	3	

APPENDIX C

INSTALLATION LEVEL TRENDS

C–1. BACKGROUND.

In addition to the data presented in the main EPICON report, the EPICON team analyzed trends in suicides, BH hospitalizations, ASAP screening and responses on the R-URI, a post-deployment screening conducted at the unit level. Comparisons were made among Fort Carson, a group of comparable FORSCOM installations, and the Army. Comparison installations were chosen based on their similarity to Fort Carson on demographic characteristics, mission, and OPTEMPO comparability, or by specific request from Leadership at Fort Carson. All comparison installations are de-identified in this analysis and presented in aggregate, except where direct comparisons were necessary based on the data.

Suicide count data were obtained from the Office of the Army G-1 and are current as of 9 February 2009. Rates were calculated for Fort Carson, the group of comparison installations, and the Army minus the Fort Carson and comparison populations using denominator data from the DMSS and the AFHSC. The official overall Army rates for the time period are also included; these rates are based on total Army strength numbers provided from the Defense Manpower Data Center.

Behavioral health hospitalization rates of first visits for selected diagnoses including post-traumatic stress disorder (PTSD), anxiety, and recurrent depression were also obtained from DMSS. Again, data for Fort Carson and the comparison installations were removed from the overall Army data for these comparisons.

The number of Soldiers who were tested for illicit drugs (urinalysis assessments) and subsequently tested positive, were screened by ASAP and were enrolled in an ASAP treatment program between 2004 and 2008 was obtained from Fort Carson Alcohol and Drug Control Officer (ADCO). An assessment was conducted to determine whether the percent of illicit positives and treatment have changed. The urinalysis assessments do not test for and cannot provide an indication of alcohol abuse.

The R-URI data from surveys administered during an approximately 18-month period from May 2007–October 2008 were obtained from the RRP, ACSAP. Data from all units surveyed at each installation were provided in a summary report of percent responders by question. A summary report of overall Army responses was also provided. These percentages were compared between Fort Carson, the aggregated comparison installations, and US Army.

C–2. FINDINGS.

Suicide rates at Fort Carson have increased since 2003 and are similar to rate increases in the Army and in comparison FORSCOM installations. The highest rate of increase for Fort Carson was observed from 2006–2008.

Hospitalization rates for selected mental diagnoses (Recurrent Depression, International Statistical Classification of Diseases (ICD)-9 Code 296.3; Anxiety States, ICD-9 Code 300.00-; and PTSD, ICD-9 Code 309.81) remain low but have increased since 2003 and are significantly higher at Fort Carson compared to other FORSCOM Installations and the Army (see Figures C-1, C-2, and C-3).

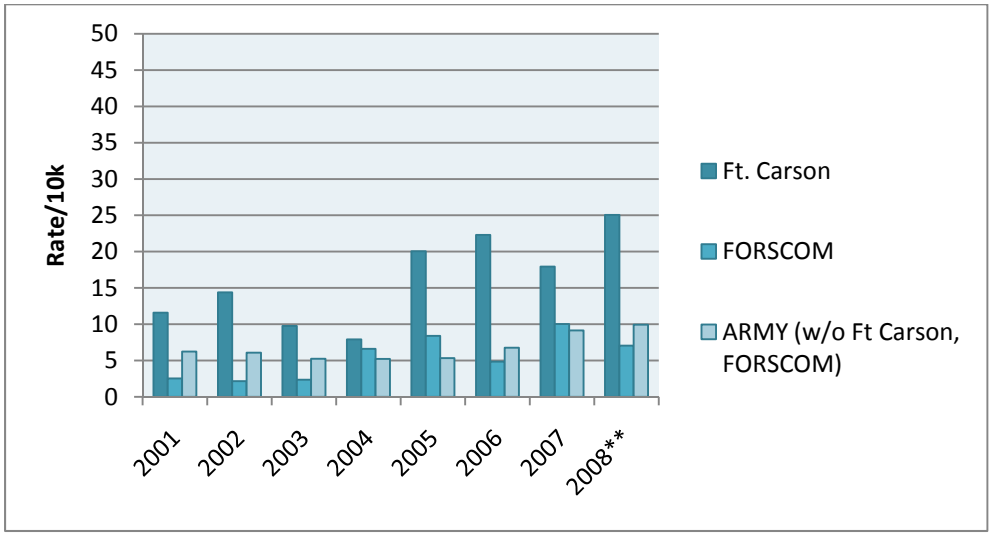
On average since October 2003, only 35 percent of the Soldiers who screened positive for illicit substances (such as, marijuana, cocaine, heroin, and so forth) were sent by Command to the ASAP staff for an evaluation. Of those evaluated by ASAP, 38 percent were not enrolled for treatment. In sum, 78 percent of those who failed urinalysis were not provided treatment (Table C-1).

Soldiers at Fort Carson were more likely to endorse alcohol/drug abuse, verbal/physical abuse, suicidal thoughts, and criminal activity on the R-URI since their last deployment than Soldiers at the comparison installations, with the exception of one installation. Installation "B" data was pulled from the comparison group because their responses were significantly more negative than the other installations in the comparison group. Fort Carson Soldiers were also more likely than the aggregated comparison installations to respond negatively about the Army environment, their combat deployment, unit cohesions, self-perception/relationships, and to report financial problems.

Table C-1. Results from Fort Carson Urinalysis Testing (FY04–08)

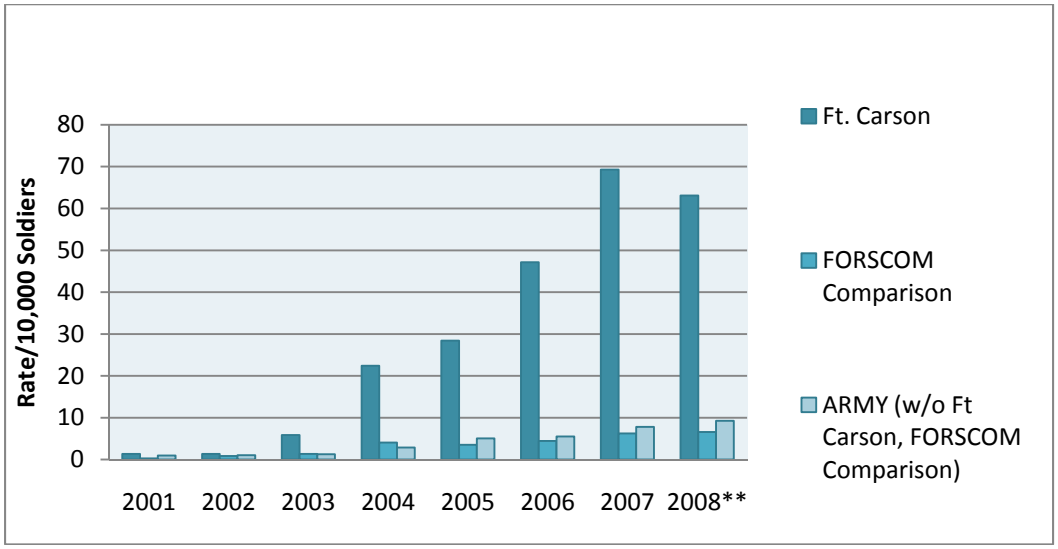
	FY04	**FY05**	**FY06**	**FY07**	**FY08**	**TOTAL**
Soldiers Tested	1940	1268	4007	925	3053	**11193**
Soldiers Testing Positive	7	39	236	14	114	**410**
Soldiers Screened by ASAP	1	11	88	2	42	**144**
Soldiers Enrolled in ASAP	0	8	47	2	33	**90**
% Pos that are Screened by ASAP	14%	28%	37%	14%	37%	**35%**
% Screened that are Treated	0%	73%	53%	100%	79%	**63%**
% Pos that are Treated	**0%**	**21%**	**20%**	**14%**	**29%**	**22%**

Data Source: Fort Carson ADCO



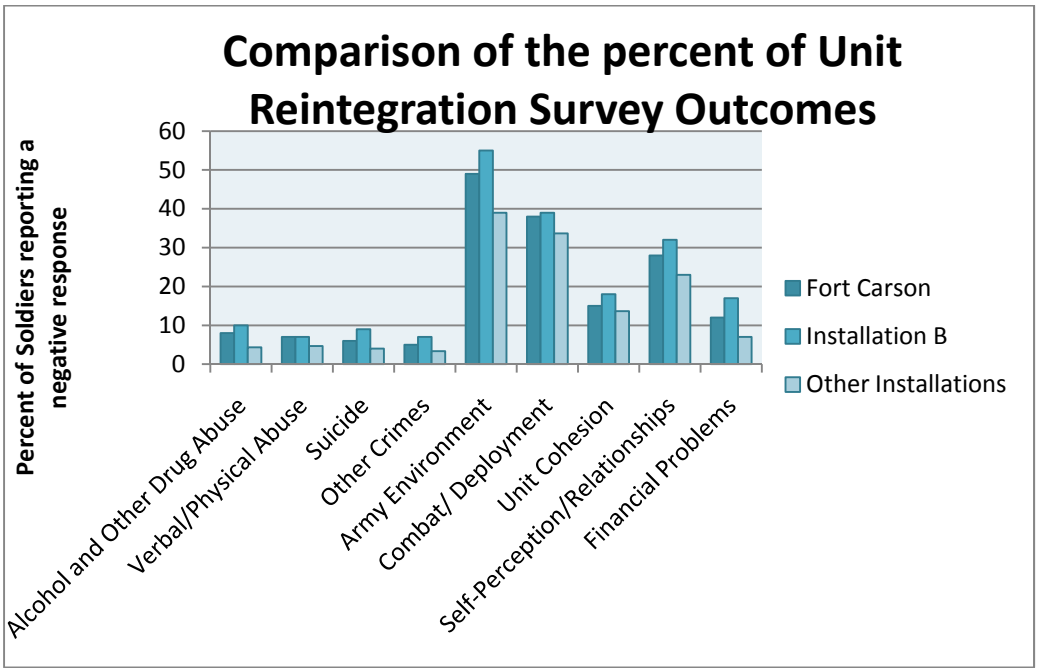
* Data Source: DMSS AFHCS.
** Data through September 2008.

Figure C-1. Rate of 1st Hospitalization for Recurrent Depression, Fort Carson, FORSCOM Comparison Installations, and Army, 2001–2008*



*Data Source: DMSS, AFHSC.
** Data through September 2008.

Figure C-2. Rate of 1st Hospitalization for PTSD, Fort Carson, FORSCOM Comparison Installations, and Army, 2001–2008*



* Data source: RRP, ACSAP

Figure C-3. Unit Risk Inventory Data for Fort Carson and Comparison FORSCOM Installations, 2007–2008*

APPENDIX D

COHORT ANALYSIS OF INDEX BRIGADE COMBAT TEAM AND COMPARISON BRIGADE COMBAT TEAM

D–1. COHORT COMPARISON.

Using administrative and personnel information collected for all Soldiers throughout the Army, we conducted two types of cohort comparison studies: (1a) Comparative study between all Soldiers in the index BCT vs. comparison BCT, (1b) Comparative study between all Soldiers in each of the BCTs within each IN BN, (2) Comparative study of deployment cycles for index BCT vs. comparison BCT.

All Soldiers were identified who had served within either the index BCT or comparison between August 2003 and August 2008. Brigade membership (index BCT or comparison BCT) was defined using unit identification codes (UIC) and was mutually exclusive (i.e., Soldiers serving in both brigades were excluded from initial analyses). Because it was common for Soldiers to have UICs for more than one BN within a single brigade, it was necessary to utilize both UICs and time served within each BN. After defining the time served in each BN for all Soldiers, we classified Soldiers into mutually exclusive BN categories based on the BN in which they served longest. The number of Soldiers in each BCT and each BN that were assessed by our BCT comparative study (1a) and our BN comparative study (1b) are shown in Figure D-1.

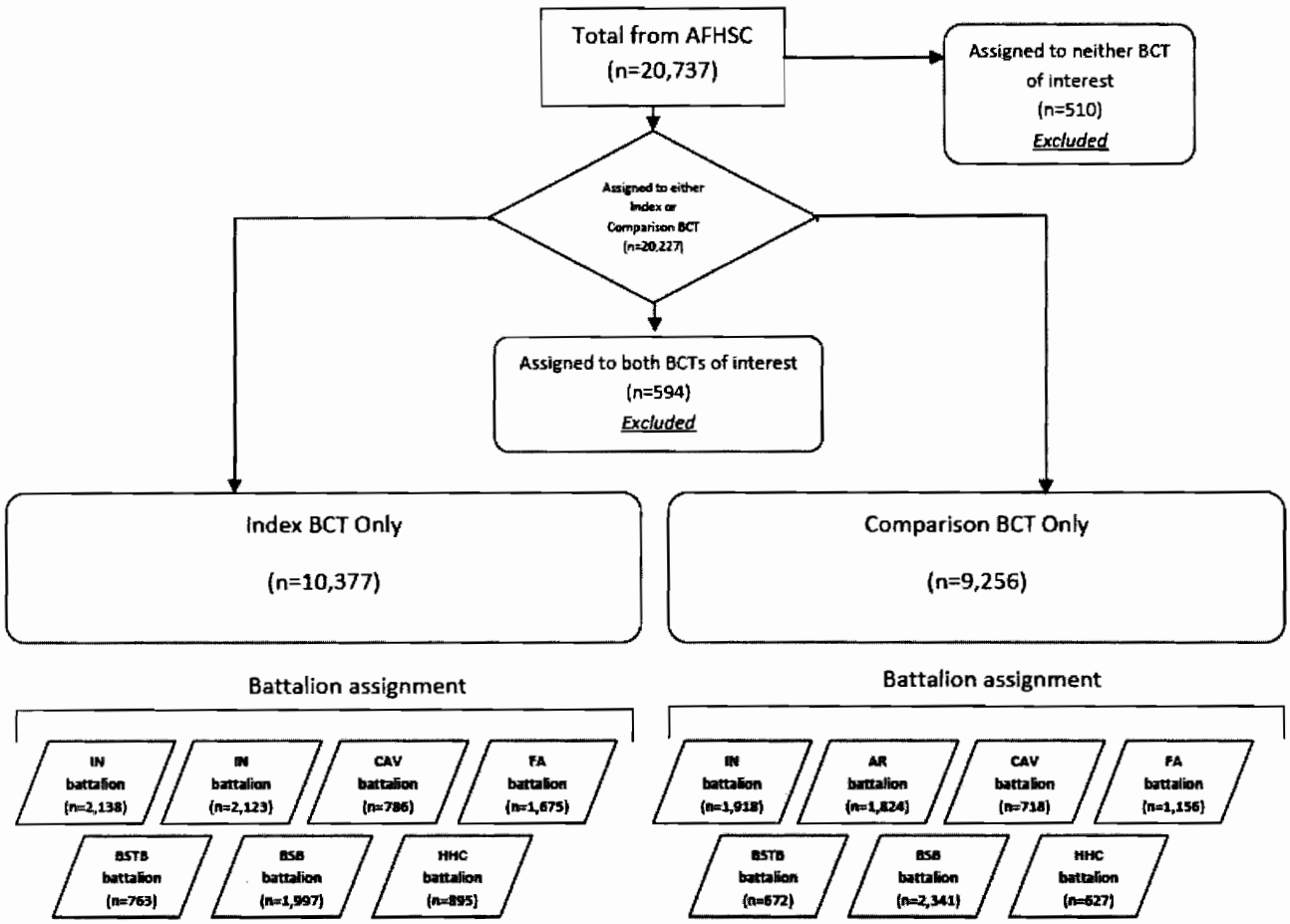
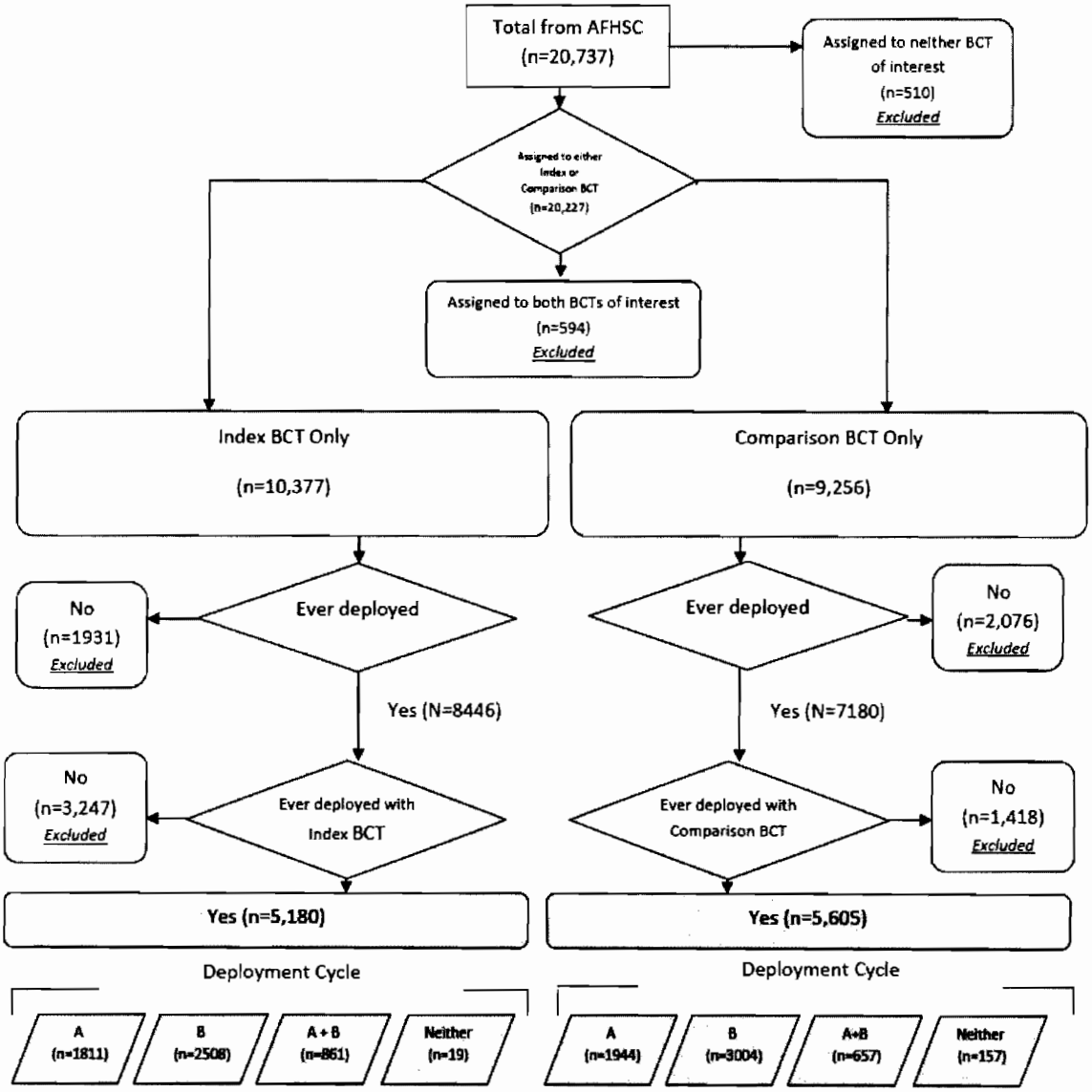


Figure D–1. Distribution of Soldiers Identified by AFHSC

The two most recent deployment periods were identified for the index BCT (deployment A: August 1, 2004 to August 31, 2005; deployment B: September 1, 2006 to December 31, 2007) and comparison BCT (deployment C: April 1, 2003 to March 31, 2004; deployment D: November 1, 2005 to November 30, 2006) (Figure D-2). The number of Soldiers in each BCT for the two most recent deployments that were assessed in our deployment comparative study (2) is shown in Figure D-2.



Index BCT Deployments

A: August 1, 2004 – August 31, 2005
B: September 1, 2006 – December 31, 2007

Comparison BCT Deployments

C: April 1, 2003 – March 31, 2004
D: November 1, 2005 – November 30, 2006

Figure D–2. Distribution of Soldiers' Deployment History with Index BCT and Comparison BCTs

For all Soldiers who served in either the index BCT or comparison BCT, we requested relevant administrative information throughout their military career, including prior to joining BCT (if applicable), while serving in BCT and after serving in BCT (if applicable). Information was specifically requested from: the AFHSC pertaining to demographics and military background, deployment history, and medical history; Army AMSARA Command pertaining to medical and moral enlistment waivers and AFQT scores (ARMY personnel); ASAP pertaining to positive urinalysis results and screening for alcohol and substance use; and Army FAP pertaining to domestic violence and various domestic issues. All data sources were sent directly to AFHSC where social security numbers (SSNs) were systematically replaced with a non-identifying study identification number. Upon completion of de-identification, all data sources were sent to USACHPPM, BSHOP on a password protected confidential CD-ROM. All data was imported into SAS v9.1 (Cary, North Carolina) and were linkable using the non-identifying identification numbers.

D–2. EXPOSURE AND OUTCOME DEFINITIONS.

Using the large administrative databases previously described, we identified outcomes which might potentially be correlated with homicidal tendencies (ASAP screening for alcohol/drugs and positive urinalysis results, FAP domestic violence and other domestic issues, and mental health diagnoses). We also identified exposures which might be considered predictors of the homicidal related outcomes. A description of variables of interest either created or used, a brief description, and the source of data and assumptions made in creating the variables are described in Table D: Table D-1a through D-1c. Description of variables of interest, source of data derived from and assumptions made during derivation shown below.

Table D-1a. Variables Used in Both BCT Comparison and Deployment Studies

Variable	Description	Assumptions	Source of Data
Gender			AFHSC demog
Race/Ethnicity			AFHSC demog
Home of record	Region from which the soldier enlisted	The home or record states were classified according to DoD Recruiting Battalion region divisions.	AMSARA
AFQT %	Percentile categories (Enlisted only)	AFQT percentile scores were categorized as specified in DOD Instruction 1145.01, *Qualitative Distribution of Military Manpower*, September 20, 2005	AMSARA
Age	Age of Soldier in 2003		AFHSC demog

Table D-1a. Variables Used in Both BCT Comparison and Deployment Studies (continued)

Variable	Description	Assumptions	Source of Data
Moral waivers	Moral waivers specifically given for a number of specific conditions		AMSARA

Table D-1b. Variables Unique to the BCT Comparison Study

Variable	Description	Assumptions	Source of Data
Grade	Enlisted/Officer/ Warrant	Any soldiers with more than one grade classification were classified into the higher grade (i.e., (1) Officer (2) Warrant (3) Enlisted)	AFHSC demog
Grade at start of BCT	Grade of Soldier when first entering BCT		AFHSC demog
Grade at end of BCT	Grade of Soldier when last in BCT		AFHSC demog
Marital Status	Marital Status (and any changes to marital status) while in BCT	If a Soldier had the same marital status throughout their time in the BCT, they were classified as single, married or other ONLY. If a soldier had a change in marital status any time while in BCT, they were classified as 'divorced while in BCT, 'married while in BCT' or 'other while in BCT'	AFHSC demog
Attrition	Attrition from the Army classified for a number of specific conditions		AFHSC attrition
Attrition (BCT)	Attrition from the Army and from the BCT	The Soldier's last assignment was identified as being the BCT of interest	AFHSC attrition
Time in BCT	The total amount of time spent within the BCT was categorized		AFHSC demog
# of BNs	The total number of battalions the Soldier served in while in the BCT	All battalions for which the Soldier had a UIC	AFHSC demog
Total deployments	The total number of deployments for each soldier (also specifically-prior to BCT, with BCT, after BCT)	Every deployment file was counted as a deployment, regardless of the length or location	AFHSC deploy
Cumulative months deployed	The total number of months deployed	Duration of all deployments was added, regardless of the length or location; Excluding multiple deployments occurring within 2 weeks of each other	AFHSC deploy

Table D-1b. Variables Unique to the BCT Comparison Study (continued)

Variable	Description	Assumptions	Source of Data
MH diagnoses	MH diagnoses for each Soldiers (also specifically-prior to BCT, with BCT, after BCT)	The ICD-9-CM codes in positions 1 to 3 were used to derive a mental health diagnosis. The ICD-9-CM to mental health diagnosis mapping used is shown in Table D-2.	AFHSC med records
Positive urinalysis	Positive urinalysis assessment for an illicit drug (also specifically-prior to BCT, with BCT, after BCT)	Positive urinalysis assessments deemed to be for medical use were excluded	ASAP
ASAP screen	Any screening at ASAP for alcohol or drugs (also specifically-prior to BCT, with BCT, after BCT)		ASAP
Positive urinalysis+ ASAP screening	Positive urinalysis followed by screening at ASAP (also specifically-prior to BCT, with BCT, after BCT)	Only included if Soldier was screened at ASAP within 30, 60 and 90 days of a positive urinalysis	ASAP
Abuse	Any record of substantiated abuse where the Soldier was the perpetrator	Only includes incidents reported through Army FAP program	FAP

Table D-1c. Variables Unique to Deployment Study

Variable	Description	Assumptions	Source of Data
Marital status	Marital status at beginning of each deployment	This is the marital status of the soldier on the date that he/she first served on the deployment.	
Grade Deployment	Grade of Soldier at beginning of each deployment	This is the grade of the Soldier on the date that he/she first served on the deployment.	AFHSC deploy and AFHSC demog
MH diagnoses	MH diagnoses for each Soldier prior to and after each deployment	The ICD-9-CM codes in positions 1 to 3 were used to derive a mental health diagnosis. The ICD-9-CM to mental health diagnosis mapping used is shown in Appendix A. The number of diagnoses were derived for each BCT 6 months prior to and 6 months after each deployment.	AFHSC med records AFHSC deploy
TBI	TBI diagnoses for each Soldier prior to and after each deployment.	The ICD-9-CM codes in positions 1 to 3 were used to derive a traumatic brain injury diagnosis based on the mapping shown in Table D-2..	AFHSC med records. AFHSC deploy

Table D-1c. Variables Unique to Deployment Study (continued)

Variable	Description	Assumptions	Source of Data
Positive urinalysis deployment	Positive urinalysis for an illicit drug prior to, during and after each deployment	Positive urinalysis assessments deemed to be for medical use were excluded 6 months before or after deployment	ASAP AFHSC deploy
Abuse	Any record of abuse where the Soldier was the perpetrator	Only includes incidents reported through Army FAP program that occurred either 6 months prior to or 6 months after deployment.	FAP
Combat-related death (combat intensity)	Attrition for death, specifically combat-related death	The attrition records noted to be due to battle-related deaths were identified for all Soldiers who were on either deployments of interest (validated through use of Significant Activity reports)	AFHSC attrition

D–3. ANALYSIS.

a. BCT Comparison Analysis.

For all Soldiers who were assigned to either of the BCTs between 2003 and 2008, we obtained data over the course of their entire military career. An initial assessment was conducted to determine whether there were any significant differences between the index BCT and comparison BCT with respect to demographics, enlistment waivers, and AFQT scores. Enlistment waivers approved for Soldiers entering the Army in 2003 or later in either BCT were examined to see if there was an increasing trend over time. We also evaluated whether Soldiers provided waivers for specific reasons were associated with a higher risk of negative behavioral outcomes. Subsequently, we calculated the attributable risks for behavioral outcomes associated with specific types of enlistment waivers. The attributable risk estimates the absolute excess risk associated with a given exposure. Assuming we could completely remove the exposure, the attributable risk approximates the potential for reduction of a BH outcome (i.e., problematic alcohol/drug use, attrition for misconduct).

We then conducted similar comparisons between the two BCTs with respect to grade/rank when joining and leaving the BCT, time in BCT, deployment history (number of deployments and cumulative time deployed while in BCT) and attrition (overall and for specific causes). Lastly, we assessed the rates prior to joining for all of the variables described above. Prevalence ratios were calculated and tested for significance at the 95 percent confidence level. A similar assessment was then conducted to determine whether there were any significant differences between the IN BNs and other battalions in the index BCT.

All demographic and personnel information was assessed at a single point in time, with the exception of marital status and grade/rank, which change continuously over time. Marital status was defined by examining changes over time from single to married and vice versa in an attempt to account for marriages and divorces that occurred while the Soldier was in the BCT. We examined the grade/rank upon joining the BCT, and then at the time they left the BCT. Unfortunately, according to AFHSC this data is not accurate enough to assess promotion and demotions over time.

For time-dependent BH related variables, it is possible being assigned to the BCT may influence how randomly they occur. Thus, we felt it was important to assess them at three points in time: (1) prior to joining BCT, (2) while in BCT, and (3) after leaving BCT. The denominator for rates "after leaving BCT" excluded Soldiers who attrited from the Army while in the BCT. These BH-related outcomes included: mental health diagnoses, illicit drug positives, alcohol/drug screening at ASAP, and substantiated case of domestic abuse.

The MH diagnosis categories included: adjustment disorder, PTSD, anxiety disorders excluding PTSD, mood disorders, substance-related disorders, personality disorders, and psychotic disorders. We also examined diagnoses of TBI. These MH categories were defined by utilizing the first three ICD-9 codes designated for each inpatient and outpatient visit (as shown in Tables D-2 and D-3).

The illicit drug positives were examined, and any deemed to be for medical use were excluded. The specific drugs for which Soldiers tested positive while in the BCT were examined to determine whether the distribution of these differed between the two BCTs. Because all Soldiers who test positive for an illicit drug are required to be referred and subsequently screened by ASAP, we examined the proportion of all Soldiers who tested positive for an illicit drug while in the BCT, and then were screened at ASAP. Utilizing the date of "specimen collection" (i.e., urinalysis assessment test) and the date for initial screening at ASAP, we assessed whether or not a Soldier was screened within 30, 60, and 90 days. To demonstrate clearly the proportion of Soldiers who were screened at ASAP following an illicit positive, we also extrapolated this on a timeline over the course of an entire year.

Types of substantiated domestic abuse included types related to physical, sexual, emotional, and neglect. All abuse which was not substantiated was excluded. Further, we identified any type of substantiated domestic abuse by severity level (mild, moderate, or severe). Prevalence rates were calculated utilizing only married Soldiers, and included only events reported to FAP.

Based on concerns raised during the Focus Groups that mandatory NCO promotions result in younger, less mature leaders, an ad hoc analysis was undertaken to determine whether the average age of NCOs (E5 and E6) decreased between 2001 and 2008. Using year of birth the age of each Soldier was calculated for each year during the years of interest. The average age of

E5 and E6 NCOs was then calculated for each year over time. This was done separately for Soldiers within each BCT and then also separately for each BN within each BCT. Finally, we examined all infantry Soldiers in either BCT to see specifically if the average age of NCOs within IN BNs has decreased over time.

b. Deployment Analysis.

First, demographic variables for Soldiers on deployments A and B for the comparison and the index BCT were compared to see if there were any significant differences between the four groups. Two analyses were conducted. The first analysis assessed differences between the comparison and index BCT Soldiers previous to and after the first deployment, as well as previous to and after the second deployment. The second analysis assessed differences between Soldiers who served on one deployment versus those who served on both deployments for the comparison BCT and the index BCT.

For both analyses, MH categories and TBI were compared for the 6 months prior to and the 6 months after each deployment. Personality disorders and psychotic disorders were examined, but the number of occurrences was too small to report. Rates were calculated for mental health and TBI. The numerator of the rate was a count of the number of Soldiers who had received inpatient or outpatient care for the disorder in the time period of interest (either 6 months pre-deployment or 6 months post-deployment). The denominator of the rate was the number of Soldiers in that BCT who had been on the deployment.

Analyses of positive illicit drug tests and reported abuse where the Soldier was the perpetrator were also conducted. However, the numbers were too small to be reliable when examined by 6-month periods.

In an attempt to quantify combat intensity between the two the BCTs, we examined attrition rates for deaths (combat related and non-combat related) which occurred among only those Soldiers on deployments A and B. We compared the rates of combat-related deaths (per 1,000) between the index BCT and comparison BCT. In an attempt to validate death-related attrition, we examined the rate of combat-related deaths as noted in Significant Activity reports provided by Fort Carson personnel. Death-related attrition was found to be an underestimate of casualties reported in the Significant Activity reports. We also compared the rates of attrition for reasons related to behavioral reasons (UCMJ/Misconduct) between the BCTs.

Table D-2. Mental Health Categories Defined Using the First Three ICD-9 Codes for Each Inpatient and Outpatient Visit

Diagnostic Categories*	ICD-9 Codes	Mental Health Categories
All mental disorders	290-319	
Attention deficit disorder	314	
Substance related disorders		Substance
Alcohol	291, 303, 305.0	
Drugs	292 (except .2), 304, 305.2-.7, .9 , 305.8	
Tobacco	305.1	
Adjustment disorder	309.0, .21, .22, .23, .24, .28,.29, .3, .4, .82, .83, .89, .9,	Adjustment
Personality disorders	301.0, .10, .11,.12, 301.2, .3, .4, .50, .51, .59, .6, .7, .81-.84, .89, .9, 298.1, 298.2, 300.5	Personality
Mood disorders		Mood
Major depression	296.2, .3	
Bipolar dx	296.0, .4-.7, .80, .89	
Dysthymia	300.4	
Depression Not Otherwise Specified (NOS)	311	
Other mood disorder	296, 296.1, 296.81, 296.82, 296.90,,296.99, 301.13	
Psychotic disorders		Psychotic
Schizophrenia	295.1-.3,.50, .55, .58, .6, .7, .9	
Schizopreniform	295.4	
Brief psychotic dx	298.8	
Psychosis NOS	298.9	
Delusional or shared psychosis	297.1, .3	
Other psychoses	298.0, 298.1, 298.2, 300.5	
Anxiety disorders		
Panic	300.01, .21	Anxiety, not PTSD
Generalized Anxiety Disorder (GAD)	300.02	
Obsessive Compulsive Disorder (OCD)	300.3	
Other Anxiety	300.10, 300.09	
Social Phobia	300.23	
Phobias	300.20, 300.22, .29	
Anxiety NOS	300.00	
Acute Stress disorder	308	Acute Stress
PTSD	309.81	PTSD
Somatoform/ Dissociative/ Factitious		Somatoform
Dissociative	300.12-.15, .6	
Factitious	300.16, .19	
Conversion	300.11	
Somataform	300.7, .81, ,.82, .89, 307.80, 307.89	

Table D-2. Mental Health Categories Defined Using the First Three ICD-9 Codes for Each Inpatient and Outpatient Visit (continued)

Diagnostic Categories*	ICD-9 Codes	Mental Health Categories
Conduct/Emotional disorders	312, 313	
Paranoia	297.0, 297.2, 297.8, 297.9, 298.3, 298.4	
Other mental disorders		
Organic	290.0-.4, 293, 294, 310.1	
Eating	307.1, .50, .51	
Psychiatric disorder NOS	300.9	
Attention deficit disorder	314.0	
Psychological factors, physical conditions	316	
All other	299, 302, 306, 310, 315, 317, 318, 319, 290.8, 290.9, 292.2, 293.1, 307 (except 307.1,307.50,307.51,307.80, 307.89)	

Table D-3. TBI Defined Using the First Three ICD-9 Codes for Each Inpatient and Outpatient Visit

Diagnostic Categories*	ICD-9 Codes
TBI	310.2, 800-801, 803-804, 850-854, 950.1-950.3, 959.01, V15.5_1-9, V15.5_A-F

D–4. RESULTS.

a. BCT Comparison Analysis.

Soldiers assigned to the index BCT and comparison BCTs between 2003 and 2008 were not significantly different with respect to demographics (Table D–4).

D-4. Demographic Characteristics of Soldiers Assigned to Either the Index BCT or Comparison BCT (2001–2008)

Demographics		Index BCT		Comparison BCT	
		n	%	n	%
Gender	Male	9561	92.1	8452	91.3
	Female	816	7.9	804	8.7
Age (2003)	<21 years	4511	43.5	3948	42.7
	22-25	2026	19.5	1832	19.8
	26-29	1811	17.5	1763	19.0
	30-34	1095	10.6	974	10.5
	35-39	643	6.2	520	5.6
	40+	291	2.8	218	2.4
	Missing	0	0.0	1	0.0
Grade	Enlisted	9363	90.2	8342	90.1
	Officer	946	9.1	852	9.2
	Warrant	68	0.7	62	0.7
Race/Ethnicity	White*	6543	63.1	6278	67.8
	Black*	1772	17.1	1287	13.9
	Hispanic	1150	11.1	1056	11.4
	Other	677	6.5	482	5.2
	Missing	235	2.3	153	1.7
Home of Record	Midwest	2037	19.6	1919	20.7
	Northeast	1337	12.9	1135	12.3
	South, atl*	1974	19.0	1548	16.7
	South, cent*	2140	20.6	1721	18.6
	West	2430	23.4	2664	28.8
	Other	459	4.4	269	2.9
Marital status while in BCT	Single only*	5032	48.5	3657	39.5
	Married only*	3595	34.6	3646	39.4
	Other only*	249	2.4	149	1.6
	Divorced while in BCT*	271	2.6	356	3.8
	Married while in BCT*	1222	11.8	1436	15.5
	Other while in BCT*	4	0.0	10	0.1
	Missing	4	0.0	2	0.0

*p<0.01

There was not a significant difference between the two BCTs with respect to enlistment waivers and AFQT scores (Table D-5a through D-5b). There has been a significant increase in the trend of enlistment waivers provided for Soldiers in the two BCTs who entered the Army since 2003 (Figure D-3). We found this trend to be predominantly driven by a specific type of moral waiver: serious non-traffic violations (Figure D-4). Soldiers provided enlistment waivers for specific types of moral waivers were found to be associated with a higher risk for some negative BH outcomes and attrition for behavioral-related reasons (Tables D-6 and D-7). Soldiers granted moral waivers were significantly more likely to be problematic alcohol/drug users and to attrit from the Army for reasons related to misconduct. In this population, if all Soldiers granted moral waivers specifically for prior alcohol/drug use were denied entry into the Army there would have been a 22 percent reduction in the number of problematic alcohol/drug users.

Table D–5a. Enlistment Characteristics: Moral and Medical Waivers

		Index BCT		Comparison BCT	
		n	%	n	%
All Waivers		1612	15.5	1376	14.9
Medical	All Medical	502	4.8	435	4.7
	Mental Health	28	0.3	36	0.4
Moral	All Moral	1129	10.8	960	10.5
	Felony (all felonies)	118	1.1	114	1.2
	Felony as Juvenile	51	0.5	40	0.4
	Felony as adult	67	0.6	74	0.8
	Alc/Drug non-lawful violation*	153	1.5	94	1.0
	Alc/Drug non-lawful use	11	0.1	12	0.1
	Alcohol/Drug test*	143	1.4	84	0.9
	Major non-Traffic	467	4.5	427	4.6
	Minor non-Traffic	23	0.2	24	0.3
	Minor/Serious Traffic	74	0.7	57	0.6

*p<0.01

Table D–5b. Enlistment Characteristics: ASVAB Scores

		Index BCT		Comparison BCT	
		n	%	n	%
AFQT % (enlisted)	93-99	284	3.6	292	3.9
	65-92	2277	28.7	2201	29.7
	50-64	2142	27.0	2030	27.4
	31-49	2828	35.6	2584	34.9
	10-30*	415	5.2	295	4.0
	Missing/NA	1417	-	940	-

*p<0.01

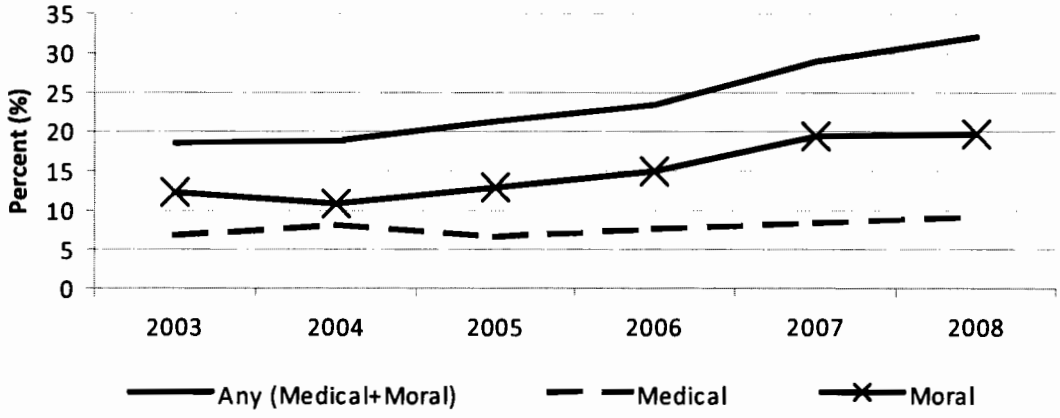


Figure D-3. Comparison of All Enlistment Waivers (Medical + Moral) Granted to All Soldiers in Either Index BCT or Comparison BCT Who Enlisted in 2003 to 2008

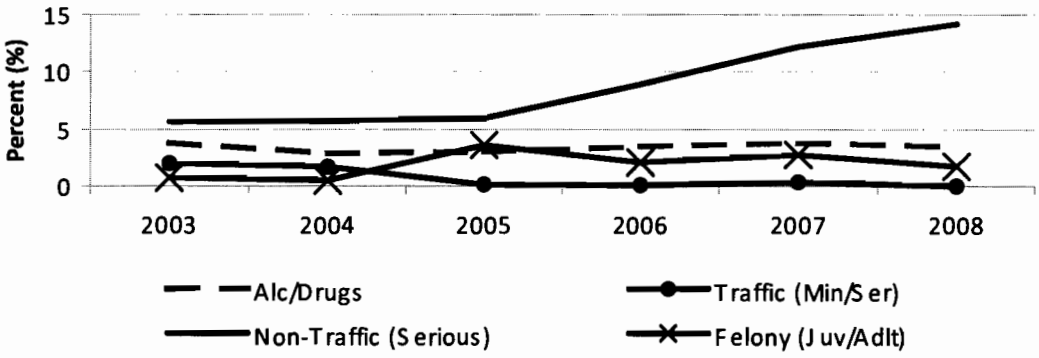


Figure D-4. Comparison of Specific Moral Enlistment Waivers Granted to All Soldiers in Either Index BCT or Comparison BCT Who Enlisted in 2003 to 2008

Table D-6. The Risk for Specific Behavioral Health Outcomes among Soldiers Provided Specific Types of Enlistment Waivers (Adjusted Relative Risk)

	Waiver Variable					
Behavioral Health Outcome	**Any Waiver**	**Drug/Alcohol**	**Felony**	**Mental**	**Serious Non-Traffic Lawful Violation**	**Multiple Waivers**
	RR	RR	RR	RR	RR	RR
ASAP screening	1.48*	2.94*	1.31	1.05	1.62*	2.16*
Illicit drug positive	1.41*	3.31*	0.85	0.36	1.83*	2.17*
Either above	1.42*	2.72*	1.19	1.07	1.60*	2.04*
Any FAP abuse	0.79	0.38	0.79	1.01	1.00	0.42
Any Attrition	0.96	1.22	0.55*	0.82	0.83*	0.89
Misconduct Attrition	1.61*	2.87*	1.36	0.74	1.29	2.00*

*$p<0.05$

Table D-7. Unadjusted Relative Risk and Attributable Risk for BH Outcomes Associated with Specific Types Enlistment Waivers among Soldiers between 2003–2008

	Problematic Alcohol/Drug Use		**Attrition for Misconduct**	
	RR	**AR**	**RR**	**AR**
Any Waiver	1.37	0.06	1.43	0.00
Any Moral Waiver	1.76	0.12	2.17	0.01
Any Alcohol/Drug Waivers	2.35	0.22	2.23	0.01
Any Serious Non-Traffic Waivers	1.60	0.09	1.55	0.01

RR: Relative Risk
AR: Attributable Risk
*compared to Soldiers without waivers

Soldiers in these two BCTs also did not have significantly different grade/rank when joining and leaving the BCT, time in BCT. The Index BCT Soldiers were deployed for a significantly longer cumulative time while in the BCT and were significantly more likely to attrit from the BCT (Tables D-8 and D-9).

Table D-8. Mean Cumulative Time Deployed (Months) Prior to and While in the BCT

		Index BCT	**Comparison BCT**
		Mean	**Mean**
Mean cumulative Months Deployed	Prior to BCT	10.6	9.9
	While in BCT*	14.3	11.6

*$p<0.01$

Table D-9. Percent of Attrition for Specific Reasons from Army and Any Attrition from BCT

		Index BCT		Comparison BCT	
		n	%	n	%
Attrition from Army	Any (except death)*	3669	35.4	2779	30.0
	Misconduct/UCMJ	419	4.0	340	3.7
	Death*	101	1.0	43	0.5
	Disability	538	5.2	541	5.8
	Family*	117	1.1	181	2.0
	Medical	149	1.4	109	1.2
	Mental*	57	0.5	80	0.9
	Performance	24	0.2	12	0.1
Attrition directly from BCT and Army	Any (including death)*	1394	13.4	1035	11.2
	Any (excluding death)*	1318	12.7	1004	10.8

*p<0.01

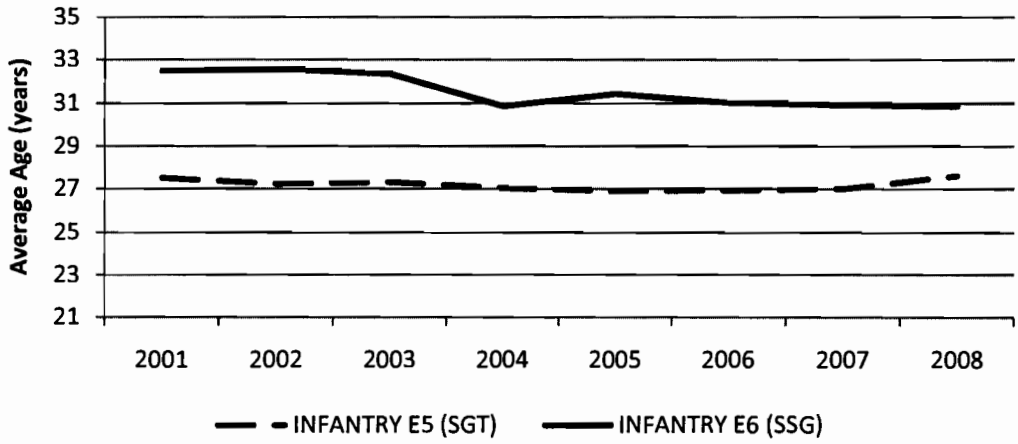


Figure D-5. Average Age of Infantry NCOs between 2001 and 2008

The index BCT Soldiers were significantly less likely to be diagnosed with anxiety disorders (excluding PTSD), mood disorders, substance-related disorders, and personality disorders while in the BCT but were significantly more likely to be diagnosed with substance-related disorders, adjustment disorders, psychotic disorders, and acute stress after leaving the BCT (Table B-10).

Table D-10. Description of Mental Health Diagnoses for Soldiers within Either the Index BCT or Comparison BCT

		Index BCT		Comparison BCT	
		n	%	N	%
Prior to joining BCT	Substance-related disorders	512	4.9	415	4.5
	Adjustment disorder	538	5.2	432	4.7
	Personality disorder*	64	0.6	91	1.0
	Mood disorder	377	3.6	333	3.6
	Psychotic disorders	15	0.1	10	0.1
	Anxiety disorders, not PTSD	199	1.9	163	1.8
	Acute stress	111	1.1	90	1.0
	PTSD	88	0.8	77	0.8
While in BCT	Substance-related disorders*	701	6.8	824	8.9
	Adjustment disorder	921	8.9	917	9.9
	Personality disorder*	233	2.2	299	3.2
	Mood disorder*	816	7.9	932	10.1
	Psychotic disorders	39	0.4	48	0.5
	Anxiety disorders, not PTSD*	559	5.4	656	7.1
	Acute stress	328	3.2	251	2.7
	PTSD	685	6.6	581	6.3
After leaving BCT†	Substance-related disorders*	615	6.8	400	4.9
	Adjustment disorder	788	8.8	590	7.2
	Personality disorder	185	2.1	185	2.3
	Mood disorder	765	8.5	734	8.9
	Psychotic disorders*	37	0.4	47	0.6
	Anxiety disorders, not PTSD	516	5.7	529	6.4
	Acute stress*	169	1.9	128	1.6
	PTSD	680	7.6	703	8.6

* $p<0.01$;
† Denominator includes only those with military records after leaving BCT (index BCT n = 8982), comparison BCT N = 8094)

The index BCT Soldiers were significantly less likely to test positive for an illicit drug while in the BCT but significantly more likely to test positive for an illicit drug positive after leaving the BCT. The proportion of Soldiers who tested positive for an illicit drug and were then subsequently screened at ASAP within 90 days was approximately 50 percent for both BCTs (Tables D-11 and D-12). The proportion of Soldiers who tested positive for an illicit drug and were then subsequently screened at ASAP within 1 year was approximately 60 percent for both BCTs, well below the 100 percent required (Figure D-6). Soldiers in the index BCT were significantly more likely to test positive for cocaine and ecstasy; whereas, Soldiers in the comparison BCT were significantly more likely to test positive for amphetamines and methamphetamines (Table D-13).

Table D-11. Description of ASAP Usage for Soldiers within the Index BCT or

Comparison BCT

		Index BCT		Comparison BCT	
		n	%	n	%
Soldiers testing positive for illicit drug use	Prior to BCT	177	1.7	171	1.9
	While in BCT*	301	2.9	412	4.5
	After leaving BCT*†	270	3.0	144	1.8
Soldiers seen at ASAP for alcohol/substance use	Prior to BCT	773	7.5	681	7.4
	While in BCT	768	7.4	716	7.7
	After leaving BCT*†	512	5.7	259	3.2

* $p<0.01$;
† Denominator includes only those with military records after leaving BCT (index BCT n = 8982), comparison BCT N = 8094)

Table D-12. Time to ASAP Screening for Soldiers Screening Positive for Illicit Drug Use

		Index BCT		Comparison BCT	
Soldiers screening positive for illicit drug use and screened at ASAP for alcohol/substance use:		n	%	n	%
Within 60 Days	Prior to BCT	74	41.8	63	36.8
	While in BCT	123	40.9	174	42.2
	After leaving BCT*	101	37.4	32	22.2

† Denominator includes only those with military records after leaving BCT (index BCT n=8982, comparison BCT n = 8094)

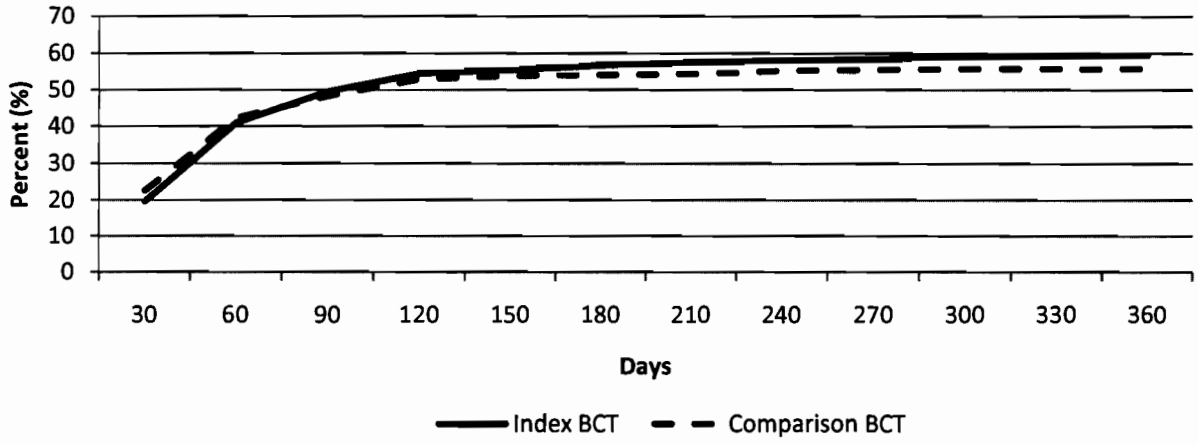


Figure D-6. Percentage of Soldiers Who Screened Positive for an Illicit Substance and Were Subsequently Screened by ASAP

Table D-13. The Percentage of All Positive Tests among Soldiers While Assigned to Either the Index BCT or Comparison BCT

	Index BCT (n=678)	**Comparison BCT (n=1049)**
Amphetamines*	10.2	13.9
Methamphetamines*	11.2	14.4
Cocaine*	33.8	25.8
Ecstasy*	7.4	2.8
Marijuana	36.2	39.9
Other*	1.2	3.2

*(i.e., Of all of the positive illicit drug tests among index BCT Soldiers (n=678), 33.8 % were illicit drug positives for cocaine)

Substantiated types of domestic abuse were not significantly different between the two BCTs (Table D-14). One caveat to these data is that the threshold for substantiating a report of abuse was raised in 2006 making it less likely that reports will be substantiated. If many of the Soldiers in these BCTs have joined since 2006, this could result in a downward skew for events "while" in BCT and "after leaving."

Table D-14. Description of FAP Usage for Soldiers within Either the Index BCT or Comparison BCT

		Index BCT		Comparison BCT	
		n	%	n	%
Soldiers w/substantiated FAP events:	Prior to BCT	200	1.9	167	1.8
	While in BCT	79	1.5	111	2.0
	After leaving BCT*	76	1.6	60	1.2

*Denominator includes only those with military records after leaving BCT (index BCT n=8982, comparison BCT n = 8094)

D–5. DEPLOYMENT ANALYSIS.

The Soldiers who were on deployments A and B were similar with respect to demographics. The index BCT Soldiers were significantly more likely to be diagnosed with MH disorders and TBI in the first 6 months following deployment A. It should be noted the index BCT were the focus of a TBI assessment study at Fort Carson at the time they returned from deployment A, which may have partially attributed to the higher rate of diagnosis. There was not a significant difference in the number of MH disorders and TBI following deployment B (Tables D-15 through D-16b).

Table D-15. Description of Mental Health Diagnoses and TBI for Soldiers by BCT and Deployment (Rates/10,000 Soldiers)

	Index BCT				Comparison BCT			
	Deployment A		Deployment B		Deployment A		Deployment B	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Any MH diagnosis	258.2	2515.0*	2009.5	4087.3	776.6	1380.2	2403.7	3739.4
Acute Stress	7.5	269.5*	95.0	187.0	3.8	115.3	92.9	218.5
PTSD	11.2	621.3*	118.7	780.6	19.2	176.9	202.1	718.4
Anxiety disorders, not PTSD	18.7	160.9*	65.3	374.0	46.1	69.2	150.2	284.1
Adjustment disorder	104.8	434.1*	270.1	875.6	103.8	157.6	458.9	715.7
Mood disorder	67.4	505.2*	270.1	572.9	130.7	238.4	401.5	680.1
Substance related disorders	44.9	632.5*	382.9	418.5	184.5	303.7	393.3	543.6
Traumatic Brain Injury	11.2	250.7*	95.0	1392.1	38.4	65.4	103.8	1526.9

* Indicates $p<0.01$ comparing diagnosis rates by Pre- and Post-Deployment periods between the two BCTs.
Notes: Post-Deployment data reflects diagnoses in the 6 months following redeployment. A focused study of TBI in the index BCT following their first deployment may have resulted in a disproportionate number of TBI diagnoses.

Table D-16a. Rates of Mental Health Diagnoses for Soldiers by BCT Who Were on Deployment A (Rates/10,000 Soldiers)

	Comparison BCT Deployment A								Index BCT Deployment A							
	Only in Deployment A				In Deployment A & B				Only in Deployment A				In Deployment A & B			
DEPLOYMENT A	Pre		Post		Pre		Post		Pre		Post		Pre		Post	
	n	Rate	n	Rate	n	Rate	n	Rate	n	Rate	n	Rate	n	Rate	n	Rate
Acute Stress	0	0.0	26	133.7	1	15.2	4	60.9	1	5.5	69	381.0	1	11.6	9	104.5
Adjustment disorder	22	113.2	29	149.2	6	91.3	12	182.6	19	104.9	91	502.5	9	104.5	25	290.4
Anxiety disorders, not PTSD	9	46.3	13	66.9	3	45.7	5	76.1	5	27.6	35	193.3	0	0.0	8	92.9
Mood disorder	34	174.9	53	272.6	6	91.3	9	137.0	11	60.7	111	612.9	7	81.3	24	278.7
PTSD	1	5.1	36	185.2	1	15.2	10	152.2	3	16.6	145	800.7	0	0.0	21	243.9
Personality disorder	11	56.6	11	56.6	0	0.0	9	137.0	0	0.0	39	215.4	1	11.6	6	69.7
Psychotic disorders	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	4	22.1	0	0.0	0	0.0
Substance related disorders	49	252.1	66	339.5	14	213.1	13	197.9	9	49.7	131	723.4	3	34.8	38	441.3
Any mental health diagnosis	189	972.2	265	1363.2	49	745.8	94	1430.7	49	270.6	484	2672.6	20	232.3	188	2183.5
Total population	1944		1944		657		657		1811		1811		861		861	

Table D-16b. Rates of Mental Health Diagnoses for Soldiers by BCT Who Were on Deployment B (Rates/10,000 Soldiers)

	Comparison BCT Deployment B								Index BCT Deployment B							
	Only in Deployment B				In Deployment A & B				Only in Deployment B				In Deployment A & B			
DEPLOYMENT B	Pre		Post		Pre		Post		Pre		Post		Pre		Post	
	n	Rate	n	Rate	N	Rate	n	Rate	n	Rate	N	Rate	N	Rate	N	Rate
Acute Stress	23	76.6	70	233.0	11	167.4	10	152.2	14	55.8	45	179.4	18	209.1	18	209.1
Adjustment disorder	133	442.7	229	762.3	35	532.7	33	502.3	65	259.2	222	885.2	26	302.0	73	847.9
Anxiety disorders, not PTSD	40	133.2	91	302.9	15	228.3	13	197.9	15	59.8	92	366.8	7	81.3	34	394.9
Mood disorder	117	389.5	206	685.8	30	456.6	43	654.5	61	243.2	151	602.1	30	348.4	42	487.8
PTSD	47	156.5	211	702.4	27	411.0	52	791.5	22	87.7	191	761.6	18	209.1	72	836.2
Personality disorder	39	129.8	52	173.1	8	121.8	2	30.4	14	55.8	19	75.8	7	81.3	4	46.5
Psychotic disorders	5	16.6	7	23.3	0	0.0	1	15.2	1	4.0	5	19.9	1	11.6	1	11.6
Substance related disorders	117	389.5	165	549.3	27	411.0	34	517.5	80	319.0	105	418.7	49	569.1	36	418.1
Any mental health diagnosis	680	2263.6	1149	3824.9	200	3044.1	220	3348.6	469	1870.0	1017	4055.0	208	2415.8	360	4181.2
Total population	3004		3004		657		657		2508		2508		861		861	

Combat intensity was significantly higher among the index BCT as compared with the comparison BCT for both deployments A and B. The significantly increased trend was observed utilizing both attrition data and Significant Activities data. There were significantly more Soldiers who attrited from the index BCT for behavioral-related reasons (UCMJ/Misconduct) (Table D–17).

Table D-17. Conduct and Battle Death Attrition Rates per 1,000 Soldiers by BCT and Deployment Period

	Index BCT	**Comparison BCT**	**RR**
Conduct (all Soldiers)			
During Deployment A	18.5	12.3	0.82
Between A & B	24.7	16.2	1.50
During Deployment B	26.4	10.1	1.50*
Post B	13.4	29.1	0.46*
Battle Deaths (only on A or B)			
Deployment A	8.9	0.4	25.5*
Deployment B	9.6	2.1	6.3*

*p<0.01; Note: Within the Index BCT, 49 percent of Soldiers who attrited out for conduct while on deployment B and 16 percent of Soldiers who attrited out following deployment B were assigned to the Index BCT on deployment A.
Date Source: Attrition Records, U.S. Army Accessions Command

APPENDIX E

SOLDIER FOCUS GROUPS AND LEADERSHIP INTERVIEWS

E–1. PURPOSE OF THE FOCUS GROUPS.

Qualitative data is often used to supplement quantitative data. It provides a more in-depth understanding of participants' experiences and perceptions. The goal is to discover underlying meanings and patterns of relationships and to develop a richer observation of the human experience. Focus groups are commonly used in qualitative research. It allows the researcher to interview a group of individuals at one time, using open-ended questions. The use of focus groups for the Fort Carson EPICON allowed us to obtain in-depth information about the Soldiers' experiences and perceptions, particularly related to command climate and utilization of BH services. The process was anonymous to enable Soldiers to speak freely. Focus groups were conducted to supplement and enrich the data gathered through the survey instrument and comparison study.

E–2. STRENGTHS AND LIMITATIONS OF FOCUS GROUP DATA.

One of the strengths of qualitative data is that you gain a wealth of information that cannot be obtained in a survey instrument or comparison study. However, qualitative research, by its very nature, involves fewer participants than quantitative research. In order to mitigate this limitation, the EPICON team obtained an unusually large sample size for focus group research. Over 10 percent of the brigade was involved in the focus groups. Soldiers from every rank and every battalion were included in order to be as representative as possible. Still, focus group findings should be interpreted with caution and cannot be generalized to the entire brigade or the Army. Additionally, given the fact that the focus groups are based on participant experiences and perceptions, individual quotes taken out of context may not be representative of the overall sample.

E–3. SAMPLE.

Soldiers from every rank and every BN in the index BCT participated in the focus groups. There were 402 Soldiers in total (E1–E4=167, E5–E6=63, E7–E8=67, 01-03=59, CO1SG=46). Soldiers at the E1–E4 rank were double-sampled as there are more Soldiers at this level, and the homicide index cases were all junior enlisted Soldiers. Soldiers from the IN BN were also double-sampled, as a high percentage of the index cases were from this BN. The number of Soldiers who participated exceeded the requested rate (10 percent of those surveyed). In addition to the above, senior leaders were either interviewed individually or participated in a single focus group.

Fifty-nine focus groups were conducted, consisting of approximately 8–10 Soldiers per group (although it ranged from 2 to 15). Soldiers in each group were of similar rank so they could speak more freely and honestly without a superior present. Each group was asked the same questions, with only slight variations based upon rank. Questions explored the following: awareness and utilization of BH resources, command climate, discipline standards, quality of Soldiers, responses to the increase in homicides and suicides, and considerations for change.

Each focus group was facilitated by two professionals. One person primarily asked the questions, and the other person recorded the responses on a computer, which were later copied to discs and downloaded by the analyst. Facilitators included social workers, psychologists, clinical nurses, public health physicians, BH specialists, and a chaplain. At least one member of each team was a Soldier. Each focus group team primarily facilitated groups of similar ranks (i.e., Team #1 primarily interviewed E1–E4s from different battalions).

E–4. METHOD OF ANALYSIS.

The method of analysis is illustrated in Figure E-1.

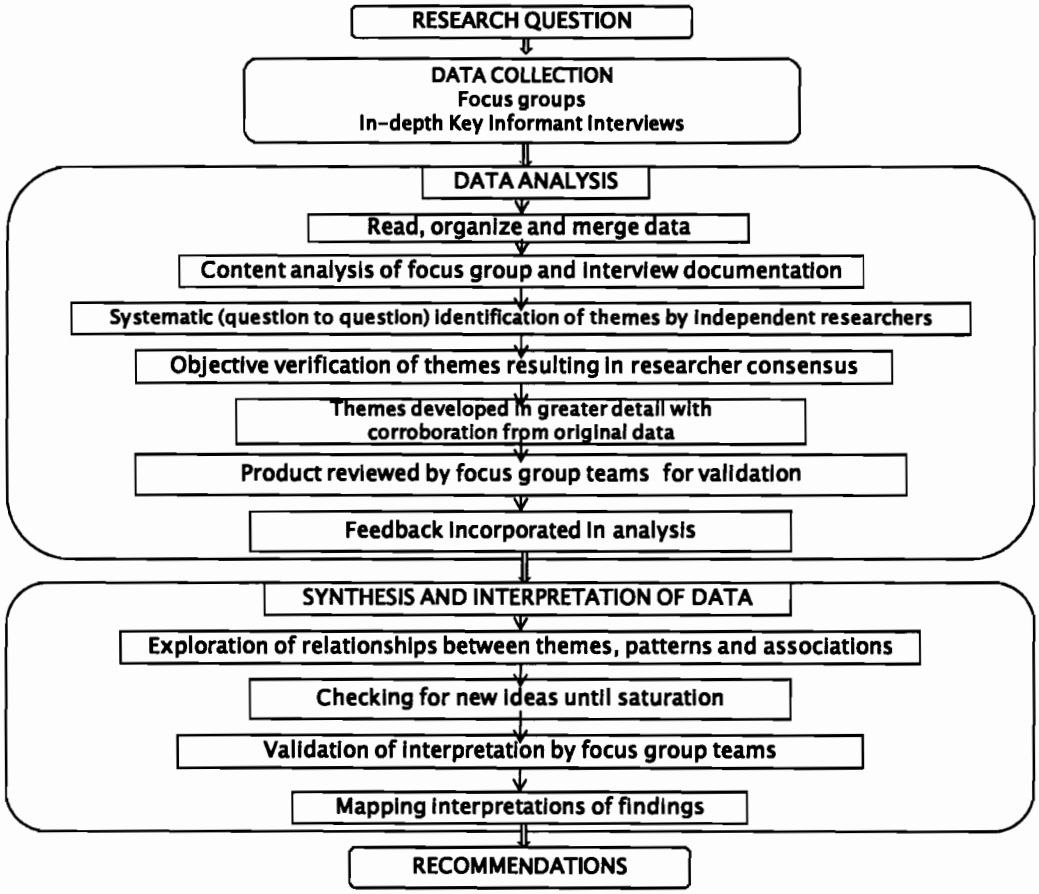


Figure E-1. Soldier Focus Groups
Method of Analysis

Data was read and organized by a primary analyst. Responses to each question were merged into individual files (i.e., all the responses to question #1 from each BN and each rank were put together in one file). This made it possible to analyze responses to each question by rank and BN to determine similarities and differences. The primary analyst did a systematic (question by question) identification of themes. The data was then given to a second analyst to identify themes, in order to eliminate any potential bias in the identification of salient issues. The analysts then consulted with one another to reach consensus. There was very little difference in the independent identification of themes.

Identified themes were similar BN to BN, but there were some differences by rank. The primary analyst drafted a theme summary for each rank, supported by quotes from the data. The theme summaries were then sent to focus group facilitators who interviewed that

particular rank of Soldiers. Focus group facilitators were asked to read the summaries, determine if the themes accurately reflected what the Soldiers said in the focus group interviews, and identify any pertinent information that was missing or misinterpreted. There was consensus on identified themes. Additional feedback from facilitators was incorporated into the theme summaries. Having three sources (two independent researchers and focus group facilitators) verify the analysis is referred to as triangulation in qualitative research. It strengthens the validity of a study.

E–5. FINDINGS—IDENTIFIED THEMES.

Figure E–2 depicts the key themes identified by the focus groups sorted by the rank of the participants. An "X" in a block indicates that the theme was present for that particular focus group. Items marked with an X** were felt to be "extremely important" by the focus group. Items marked with an X* were "very important." The color coding is provided in order to make it easy to identify themes across groups with red representing themes that were common across all groups. A white box indicates that the theme was not present in that group. Details regarding the themes are provided below the figure.

	1-E4 (IN BN)	E1-4	E5-6	E7-8	O1-3	CO-1SG	O4 and above/CSM	Groups
Stigma	X**	X**	X**	X*	X*	X	X	(Stated by All Groups)
Malingering	X*	X**	X*	X**	X**	X**	X	(Stated by All Groups)
Confidentiality	X**	X**	X	X	X	X		(Stated by 6 out of 7)
Knowledge of Resources	X	X	X	X	X	X		(Stated by 6 out of 7)
Recruitment Standards	X*	X*	X*	X*	X*	X*	X	(Stated by All Groups)
Issue with MH service providers	X**	X**	X**	X**	X*	X**	X	(Stated by All Groups)
Soft Army-lax discipline/ consequences/basic training	X*	X	X**	X**	X**	X*	X	(Stated by All Groups)
SRP process	X*	X*	X*	X*		X*	X	(Stated by 6 out of 7)
Chaptering out				X*	X	X*	X	(Stated by 4 out of 7)
Mission readiness vs mental health				X	X		X	(Stated by 3 or less)
Family/relationship/work stress (long hours)	X**	X**	X*	X*	X*	X	X	(Stated by All Groups)
Substance abuse	X*	X*	X	X*	X	X	X	(Stated by All Groups)
Low morale/few activities/living conditions/BOSS prgm		X*	X	X				(Stated by 3 or less)
Mandatory promotion - NCO	X	X	X*	X*	X*	X*	X	(Stated by All Groups)
Concern About Gang activity				X*	X	X		(Stated by 3 or less)
Deployment cycle	X*	X*	X	X*	X	X*	X	(Stated by All Groups)
Develop/improve training	X*		X*	X	X		X	(Stated by 5 out of 7)
Financial situation		X		X	X			(Stated by 3 or less)
Command issues				X	X		X	(Stated by 3 or less)
No correlation with Army					X	X		(Stated by 3 or less)
Command is supportive		X	X	X	Depe nds	X		(Stated by 4 out of 7)

Stated by all groups
Stated by 6 out of 7
Stated by 5 out of 7
Stated by 4 out of 7
Stated by 3 or less

**stated as extremely important.
* stated as very important.

Figure E–2. Themes Identified by Rank

a. Stigma.

This can be broken down into four types—

Personal: negative feelings about self (i.e., feel weak, worthless, embarrassed and isolated, "emasculates them", don't want to be judged or viewed as bad soldier, deny problem because of pride, concerned others think they are faking it, profile leads to feeling worthless, and so forth).

Peer: negative reaction from peers (i.e., ridiculed, treated differently, labeled, gossiped about, perceive you are faking it).

Leadership: negative reaction from leaders, especially at squad or platoon level (referred to as "shitbags", treated differently, seeking help not supported, made to pull extra duties, doubt abilities, ridicule those with a no weapons profile). ***Level of support and degree of stigma varies by leadership.

Negative Career Consequences: perception that seeking help will result in lack of promotion, end career, label in permanent record will affect future jobs, lose security clearance, boarded out rather than rehabilitated ("If you go see someone, you're committing [career] suicide", "mentality here is that you deal with it."

The following were noted by some Soldiers: there is more stigma for those who have never deployed; senior NCOs were the main ones who create stigma; lower enlisted use BH services more—senior enlisted were too afraid it would affect retirement; peer stigma is the worst; "If the Army is source of stress, you don't want to go to them for help;" "Seeking help is even more difficult for senior enlisted because others think they can't lead."

b. Malingering.

Soldiers who fake a mental health diagnosis for personal gain (i.e., to get out of job tasks, deployment or the Army). Related issue is the good vs. bad Soldier.

Good Soldier: defined by the focus groups as the Soldier who effectively performs job tasks and stays out of trouble (i.e., has no discipline or substance abuse issues). This Soldier is generally supported in seeking BH.

Bad Soldier: defined by the focus groups as the Soldier who does not effectively perform job tasks, has discipline problems or substance abuse problems. This Soldier is generally

not supported in seeking BH. Instead, he/she is ridiculed, treated differently, and referred to as a "shitbag."

A problem with this distinction is that Soldiers with real BH issues may display the same symptomology as the malingerer or "bad Soldier" (inability to perform task, discipline problems, substance abuse problems).

Another problem with this distinction is that many "good Soldiers" and Soldiers identified as "bad Soldiers" who actually have real BH issues aren't seeking help because of these categorizations and the stigma attached.

c. Confidentiality.

The problem in this area was viewed very differently between ranks. Those in the lower ranks felt leadership did not honor their confidentiality related to BH issues (i.e., publicly announcing BH appointments in formation, discussing personal BH issues within earshot of others). They felt this contributed to the stigma and not wanting to seek help. Those in the upper ranks also felt confidentiality was not honored. However, they also had an issue with BH providers not sharing enough information about the Soldier's BH issue. They stated that lack of information affects their ability to assist the Soldier and impacts the unit as a whole.

d. Knowledge of Resources.

Although most Soldiers seemed knowledgeable about many of the services available, lack of specific knowledge about resources was cited as an issue of concern from E1–CO1SG.

e. Recruitment of Standards.

Throughout the ranks, Soldiers believe that recruitment standards have been lowered. They believe this contributes to many of the problems the Army is currently experiencing. Individuals who would not have been allowed in the Army previously (those with mental health issues, criminal backgrounds, substance abuse issues) are being recruited. Waivers have increased significantly. Most believe that this is related to the need for numbers/ additional bodies. Many stated they would prefer quality to quantity and that the "bad Soldier" takes up a significant amount of time and energy and uses up the resources that could be spent on good Soldiers.

f. Issues with Service Providers—E1–E6.

Soldier Concerns Regarding the Effectiveness of Services: There was a strong theme among the E1–E6 focus groups that on-post treatment is over reliant on pharmacotherapy. The E1–E6 Soldiers tended to prefer off-post treatment because their

perception was that it was more likely to include counseling/psychotherapy. This was somewhat difficult to interpret since there was also a theme that counseling is unlikely to help. One of the main concerns with medications was that side effects are detrimental to job performance and can result in non-deployable profiles, which are perceived as being detrimental to a Soldier's career. The E1–E6 Soldiers also felt off-post providers were more likely to be non-judgmental and cared more about the individual rather than deployment/readiness. Soldiers also expressed that they wanted more individual/less group counseling in order to improve the anonymity of services. Soldiers felt that a diagnosis of PTSD was easy to get if you said the right thing and that it might be over-diagnosed.

Lack Information about Resources: Soldiers stated that they would like more information about the resources that are available, especially "what they (resources) can do for you."

Providers Don't Understand the Army: A relatively strong theme emerged that civilian providers lack an understanding of military culture and war—what is normal in war, the strains that war puts on an individual and relationships, and what is important in Army culture. In spite of that Soldiers in this group preferred off-post services.

g. Issues with Service Providers E7-E8/01-03/CO-1SG.

Question the Effectiveness of Services: This group had similar concerns to the E1-E6 with respect to over prescribing meds and not enough counseling, mixed beliefs about the effectiveness of counseling, and that PTSD is over diagnosed. They were very concerned about profiles being detrimental to their career and ability to maintain a security clearance.

Problems with Process: These groups were concerned about long wait times for services, both from a personal standpoint (for their own needs) and the impact on the mission. From a management standpoint, they were concerned that it is difficult to distinguish who is malingering and that Soldiers get lost in the system. They would like to see a reduction in paperwork, a set process for issuing no weapons profiles, a process for supervisors to confirm/track appointments, and a collaborative process to "weed out malingerers."

Lack Information about Resources: While most individuals in these groups knew about the resources that are available in general, they did not feel that they had enough to link Soldiers and Family members with the appropriate programs.

Providers Don't Understand the Army: The concern at this level was that mental health appointments impact work/unit/mission readiness, and so forth. When providers don't understand this, it creates problems for the unit. There were major concerns that providers did not understand the impacts of a BH diagnosis and the potential for manipulation by Soldiers in order to avoid negative consequences. Examples given included that diagnosis leads to dropped charges or stops legal action (can't chapter out), diagnosis makes Soldiers non-deployable, no-weapon profiles have a negative effect on the Soldier (career, peer) and the unit (workload); civilians can't effectively treat Soldiers, and they easily buy into malingering because they don't understand army/war.

Prefer On-Post Providers (From a management perspective. From a personal perspective, the general consensus was reluctance to seek care either on- or off-post): These groups have a negative perception of off-post providers because it is more difficult to obtain information from off-post providers, referrals are more difficult, there are limited tracking mechanisms, and less Army control. There was also a perception of different diagnostic criteria and that off-post providers are more likely to make inappropriate statements regarding deployment suitability

Poor Communication: Leaders were concerned that Health Insurance Portability and Accountability Act (HIPAA) restricts communication and that lack of communication/ conflictual communication between various mental health professionals, prevents them from facilitating their Soldiers to get care. They were also concerned that they are not kept in the loop on follow-up considerations and that there is no clear feedback process on what to do or how to help the Soldier. They would like to have a better mechanism for leader input and for resolving disputes when civilian/military have two different considerations. They feel that no-weapon profiles are overused and don't have the necessary information to accurately assess the risk of Soldiers.

h. "Soft Army".

This was discussed in terms of discipline, consequences, and lowered standards for basic training. Problems related to discipline and consequences were noted by all ranks. Most Soldiers stated that discipline is not as harsh or strict as it used to be and that consequences for poor behavior are not being enforced. They believe Soldiers are given too much latitude and too many chances. They stated that this has decreased respect for leadership. They also believe this change has not served the Soldier well in preparing them for their job tasks, especially during a time of war. There also seemed to be a difference in relation to discipline and consequences for those who had deployed vs. those who had not. There was much more leniency given to those who had deployed. Basic training—most believe that basic training is too soft and that it does not prepare the Soldier the way it used to. Many come out of basic

training unable to pass basic fitness tests and without mental toughness. This made extra work for leaders as they try to prepare Soldiers for deployment.

i. SRP Process.

While Command views the process as robust, Soldiers at every rank (except 01-03) feel this process is broken and in need of revamping. Most stated that Soldiers lie about BH issues because they know that admitting to a problem at this point in time will prolong their ability to reunite with their families. Some in leadership positions have informed lower enlisted about the long wait for an assessment; thus, encouraging them to lie (some Soldiers actually stated that leadership told them to lie). Most do not devalue the process but want certain elements to change in order to more effectively serve those with BH needs (i.e., do SRP 30 days out to receive more honest responses, have individual sessions with BH—not group sessions, be given a resource card with phone numbers and points of contact, have more BH staff available during SRP, have mandatory post-deployment counseling for everyone to reduce stigma, and so forth).

j. Chaptering Out (Administrative Separations)

This was a significant issue for Soldiers in the upper ranks (E7-above). Most believe the process takes too long ("it takes an act of Congress to get someone out of the Army"). They believe this is related to the need for numbers and the concept of a softer Army (giving a Soldier too many chances). They talked about the importance of streamlining the process. Having it take as long as it does burdens the unit, takes time and energy away from others, utilizes resources that could be better spent, and has an impact on mission readiness and deployment. Another related concern was that a MH diagnosis could stop or significantly slow down the ability to chapter out.

k. Mission Readiness vs. BH Concerns.

This was stated as having to make a difficult choice between mission readiness and BH treatment. In general, mission readiness took precedence over BH treatment.

l. Family and Work Stress.

The stress of deployment cycles and long work hours was stated as having a significant impact on Families. Soldiers were frustrated with the long hours spent at work while in garrison. They believe these extra hours are unnecessary and take away from Family time. Soldiers discussed the importance of allowing them to be released at the end of the day when the work was done, rather than having them wait around until leadership completed their

meetings. Lower leadership noted the importance of allowing them to decide when to release soldiers from duty at the end of the day.

m. Substance Abuse.

This problem was noted across all ranks. It was stated that there was easy access to drugs in the Colorado Springs area (especially meth). It was also noted that consequences were not being enforced for substance-related issues.

n. Low Morale.

Boredom/Living Conditions/No Support for Single Soldiers: E1-E8s noted the lack of activities on base and poor living conditions. They believe this leads to boredom and low morale and ultimately poor behaviors and discipline problems. BOSS Program—Soldiers at the E5-E8 level—discussed the importance of improving the BOSS program for single Soldiers to reduce isolation and boredom.

o. Mandatory Promotion of NCOs.

This was a concern noted by Soldiers across all ranks. They discussed that the NCOs were inexperienced and not mature enough for the job responsibilities. They also noted the lack of training (leadership, mental health recognition, boundaries between ranks, communication, and so forth). They discussed the importance of rotating Soldiers out when they have been promoted.

p. Gang Activities.

A significant amount of gang activity was noted by E7-CO1SG. They discussed the extensive existence of Hispanic gang activity in the Colorado Springs area. They believed that at least one of the homicides was gang related and that there appeared to be an increase in gang membership and "want to be" gang members in the Army.

q. Deployment Cycle.

Soldiers across every rank noted problems related to the rapid deployment cycle/OPTEMPO, most particularly the stress it creates for the individual Soldier and their Families.

r. Develop and/or Improve Training Programs.

Soldiers at various levels noted the need for certain types of training/programs and improvement of already existing training/programs (i.e., decrease frequency and improve quality of suicide prevention training).

s. Financial Situation of Lower Enlisted.

Soldiers at the E7-03 level discussed the importance of training/assisting lower enlisted with financial issues. They stated that a good number of Soldiers make poor financial decisions, which in turn increases their stress level.

t. Command Issues.

Soldiers at the upper ranks discussed a problem with communication between ranks, leaders not allocating appropriate responsibility and decision making to lower leaders, as well as problems due to having no division headquarters.

u. No Correlation to the Army.

Most Soldiers at the 01-CO1SG felt there was no correlation between the Army and the high number of homicides/suicides at Fort Carson. They felt it was an anomaly and that there are criminal elements everywhere.

v. Command Support.

From E1–CO1SG most Soldiers felt the Command was supportive of seeking help for BH issues, with the exception of E1–E4s from index IN BN. Soldiers at the 01–03 level noted that it depends on the Soldier and mission timeline.

E–6. FOCUS GROUP QUESTIONNAIRES.

FOCUS GROUP QUESTIONNAIRES

E1 to E4: Soldier Focus Group Questions: VERIFY GROUP COMPOSITION

Battalion:

Date: Time: Location: # of Members

[INSTRUCTIONS]
Hello, my name is [insert name here], I am part of the team from MEDCOM. We are here because of the recent increase in the number of homicides/suicides. Over the next few days we are conducting focus groups with nearly 400 Soldiers from your brigade combat team. The information you provide will be recorded by [insert name] but **WILL NOT** be tied specifically to you. The purpose of these groups is to ascertain your experiences and general thoughts regarding Soldier support, command climate, and recent events. We would greatly appreciate your honesty and straight forward thoughts.

[QUESTIONS]

1. What resources are available for Soldiers and Families with behavioral, psychological or relationship problems (on-post/off-post, online, faith, etc.)?

2. We know Soldiers and Families may not always utilize behavioral health resources, why do you think this might be the case?

3. How do members of your unit view Soldiers who seek help for behavioral or psychological problems?

4. How does Command respond to Soldiers who seek help for behavioral or psychological problems?

5. Are there specific negative consequences for Soldiers who seek help for behavioral or psychological problems?

6. Have discipline standards remained consistent following deployments (changed, lower, modified)?

7. What do you think has been going on in relation to the increased number of homicides or suicides at Fort Carson?

8. What do you think could be done about what's been going on?

E5 to E6: Soldier Focus Group Questions: VERIFY GROUP COMPOSITION

Battalion:

Date: Time: Location: # of Members

[INSTRUCTIONS]
Hello, my name is [insert name here], I am part of the team from MEDCOM. We are here because of the recent increase in the number of homicides/suicides. Over the next few days we are conducting focus groups with nearly 400 Soldiers from your brigade combat team. The information you provide will be recorded by [insert name] but **WILL NOT** be tied specifically to you. The purpose of these groups is to ascertain your experiences and general thoughts regarding Soldier support, command climate, and recent events. We would greatly appreciate your honesty and straight forward thoughts.

[QUESTIONS]

1. What resources are available for Soldiers and Families with behavioral, psychological or relationship problems (on-post/off-post, online, faith, etc.)?

2. We know Soldiers and Families may not always utilize behavioral health resources, why do you think this might be the case?

3. How do members of your unit view Soldiers who seek help for behavioral or psychological problems?

4. How does Command respond to Soldiers who seek help for behavioral or psychological problems?

5. Are there specific negative consequences for Soldiers who seek help for behavioral or psychological problems?

6. Has it been more difficult to maintain consistent discipline standards following deployments (changed, lower, modified)?

7. Do you think the quality of new Soldiers has changed in the past few years? If so, how?

8. Have discipline standards remained consistent following deployments (changed, lower, modified)?

9. What do you think has been going on in relation to the increased number of homicides or suicides at Fort Carson?

10. What do you think could be done about what's been going on?

E7 to E8/O1 to O3: Sr Enlisted/Co Grade Officers Focus Group questions:
VERIFY GROUP

Battalion:

Date: Time: Location: # of Members

[INSTRUCTIONS]
Hello, my name is [insert name here], I am part of the team from MEDCOM. We are here because of the recent increase in the number of homicides/suicides. Over the next few days we are conducting focus groups with nearly 400 Soldiers from your brigade combat team. The information you provide will be recorded by [insert name] but **WILL NOT** be tied specifically to you. The purpose of these groups is to ascertain your experiences and general thoughts regarding Soldier support, command climate and recent events. We would greatly appreciate your honesty and straight forward thoughts.

[QUESTIONS]

1. We know Soldiers and Families may not always utilize behavioral health resources, why do you think this might be the case?

2. How do members of your unit view Soldiers who seek help for behavioral or psychological problems?

3. How does command respond to Soldiers who seek help for behavioral or psychological problems?

4. How do subordinate leaders respond to Soldiers who seek help for behavioral or psychological problems?

5. Are there specific negative consequences for Soldiers who seek help for behavioral or psychological problems?

6. Has it been more difficult to maintain consistent discipline standards following deployments (changed, lower, modified)?

7. Do you think the quality of new Soldiers has changed in the past few years? If so, how?

8. What do you think has been going on in relation to the increased number of homicides or suicides at fort Carson?

9. What do you think could be done about what's been going on?

COCDR/1st SGT: Focus Group Questions: VERIFY GROUP

Battalion:

Date: Time: Location: # of Members

[INSTRUCTIONS]
Hello, my name is [insert name here], I am part of the team from MEDCOM. We are here because of the recent increase in the number of homicides/suicides. Over the next few days we are conducting focus groups with nearly 400 Soldiers and Commanders from your brigade combat team. The information you provide will be recorded by [insert name] but **WILL NOT** be tied specifically to you. The purpose of these groups is to ascertain your experiences and general thoughts regarding Soldier support, Command climate, and recent events. We would greatly appreciate your honesty and straight forward thoughts.

[QUESTIONS]

1. We know Soldiers and Families may not always utilize behavioral health resources, why do you think this might be the case?

2. How do members of your unit view Soldiers who seek help for behavioral or psychological problems?

3. How do subordinate leaders respond to Soldiers who seek help for behavioral or psychological problems?

4. How do those above you in the chain of command respond to Soldiers who seek help for behavioral or psychological problems?

5. Are there specific negative consequences for Soldiers who seek help for behavioral or psychological problems?

6. Has it been more difficult to maintain consistent discipline standards following deployments (changed, lower, modified)?

7. Do you think the quality of new Soldiers has changed in the past few years? If so, how?

8. What do you think has been going on in relation to the increased number of homicides or suicides at Fort Carson?

9. What do you think could be done about what's been going on?

BN CDR/BDE CDR/CSM: Interview Questions:

Battalion:

Date: Time: Location: # of Members

[INSTRUCTIONS]
Hello, my name is [insert name here], I am part of the team from MEDCOM. We are here because of the recent increase in the number of homicides/suicides. Over the next few days we are conducting focus groups with nearly 400 Soldiers and Commanders from your brigade combat team. The information you provide **WILL NOT** be tied specifically to you. The purpose of these interviews is to ascertain your experiences and general thoughts regarding Soldier support, Command climate, and recent events. We would greatly appreciate your honesty and straight forward thoughts.

[QUESTIONS]

1. We know Soldiers and Families may not always utilize behavioral health resources, why do you think this might be the case?

2. How do members of your unit view Soldiers who seek help for behavioral or psychological problems?

3. How do subordinate leaders respond to Soldiers who seek help for behavioral or psychological problems?

4. How do those above you in the chain of command respond to Soldiers who seek help for behavioral or psychological problems?

5. Are there specific negative consequences for Soldiers who seek help for behavioral or psychological problems?

6. Has it been more difficult to maintain consistent discipline standards following deployments (changed, lower, modified)?

7. Do you think the quality of new Soldiers has changed in the past few years? If so, how?

8. What do you think has been going on in relation to the increased number of homicides or suicides at Fort Carson?

9. What do you think could be done about what's been going on?

Spouses: Focus Group Questions:

Battalion:

Date: Time: Location: # of Members

[INSTRUCTIONS]
Hello, my name is [insert name here], I am part of the team from MEDCOM. We are here because of the recent increase in the number of homicides/suicides. Over the next few days we are conducting focus groups with nearly 400 Soldiers from this brigade combat team, as well as a number of spouses. The information you provide will be recorded by [insert name] but **WILL NOT** be tied specifically to you. The purpose of these groups is to ascertain your experiences and general thoughts regarding Soldier and Family support and recent events. We would greatly appreciate your honesty and straight forward thoughts.

[QUESTIONS]

1. What resources are available for Soldiers and Families with behavioral, psychological or relationship problems (on-post/off-post, online, faith, etc.)?

2. We know Soldiers and Families may not always utilize behavioral health resources, why do you think this might be the case?

3. How do your Family and friends view those persons who seek help for behavioral or psychological problems?

4. Are you aware of specific examples of negative outcomes among Soldiers who sought help? (labeled as "weak", etc.)

5. How have you and your Family been affected by the deployments and moves?

6. What do you think has been going on in relation to the increased number of homicides or suicides at Fort Carson?

7. What do you think could be done about what's been going on?

Type of Spouse:

Medical Professionals Focus Group Questions: List Agency:

Date: Time: Location: # of Members

[INSTRUCTIONS]
Hello, my name is [insert name here], I am part of the team from MEDCOM. We are here because of the recent increase in the number of homicides/suicides. Over the next few days we are conducting focus groups with nearly 400 Soldiers and various service providers. The information you provide will be recorded by [insert name] but **WILL NOT** be tied specifically to you. The purpose of these groups is to ascertain your experiences and general thoughts regarding Soldier support, service provision and recent events. We would greatly appreciate your honesty and straight forward thoughts.

[QUESTIONS]

1. What do you think has been going on in relation to the increased number of homicides or suicides at Fort Carson?

2. What do you think could be done about what's been going on?

3. What type of barriers are there to successfully accomplishing your mission? (space/equip/personnel; policies/regulations/SOPs/procedures; training you receive, adequacy of prevention training you provide).

4. What type of support is there from garrison/Command for your programs?

5. How much time do you spend in garrison and operational units?

6. What recommendations would you make for your service provision?

7. How would you describe communication between your agency and other agencies (on-post/off-post)?

8. Over the past few years, in terms of structure/volume/processes, what changes have been made to address behavioral health needs? Have any of these changes been successful? Failed?

Chaplains: Focus Group Interviews Questions:

Date: Time: Location: # of Members

[INSTRUCTIONS]
Hello, my name is [insert name here], I am part of the team from MEDCOM. We are here because of the recent increase in the number of homicides/suicides. Over the next few days we are conducting focus groups with nearly 400 Soldiers and various service providers. The information you provide will be recorded by [insert name] but **WILL NOT** be tied specifically to you. The purpose of these groups is to ascertain your experiences and general thoughts regarding Soldier support, service provision and recent events. We would greatly appreciate your honesty and straight forward thoughts.

[QUESTIONS]

1. What do you think has been going on in relation to the increased number of homicides or suicides at Fort Carson?

2. What do you think could be done about what's been going on?

3. What type of barriers are there to successfully accomplishing your mission? (space/equip/personnel; policies/regulations/SOPs/procedures; training you receive, adequacy of prevention training you provide).

4. How well prepared do you feel providing suicide prevention training?

5. What type of support is there from garrison/Command for your programs?

6. How much time do you spend in garrison and operational units?

7. How would you describe inter-agency communication between providers and other agencies (intra/inter-agencies, off-post)?

8. Over the past few years, in terms of structure/volume/processes, what changes have been made to address behavioral health needs? Have any of these changes been successful? Failed?

Perpetrator:

Interview Questions for Alleged Perpetrators:

[INSTRUCTIONS]
Hello, my name is [insert name here], I am part of the team from MEDCOM. We are looking into why there has been an increase in the number of homicides at Fort Carson. The purpose of this interview is to ascertain your experiences and general thoughts regarding Soldier support, deployment experience, and Command climate. We would greatly appreciate your honesty and straight forward thoughts.

[QUESTIONS]

1. Regardless of what happened, you are now in jail, are there areas in which you believe the Army could have provided more assistance to avoid this situation?

2. Could unit leaders have provided more assistance to avoid this situation?

3. Could your buddies have prevented this from happening?

4. As you know, the Army offers a number of services to help Soldiers and Families. Did you ever take advantage of any of these programs? If so, what was it, and was it helpful? If not, then looking back, what prevented you from doing so?

5. Have you ever deployed to a combat zone? **(If NO, SKIP to #8.)** Did you deploy with the [index BCT]? Did you deploy with the [index BCT[when they deployed from Korea to Iraq? If deployed to combat zone, how has this impacted your current situation?

6. How have you and your Family been affected by the deployments and moves?

7. I don't want you to incriminate yourself or anyone by name, but while deployed, did you at anytime observe or hear about incidents that bothered you or that would be considered war crimes under the Geneva Conventions (i.e., purposeful torture or killing of civilians or noncombatants, willful destruction of property, etc.)? [YES, NO].

7a. If you experienced such things how could the situation have been prevented?

7b. What could the Army do to reach out to those who have experienced such things?

8. Is there anything else you would like to add?

APPENDIX F

AGGRESSION RISK FACTORS SURVEY OF CURRENT INDEX BRIGADE COMBAT TEAM SOLDIERS

F–1. SURVEY OF THE INDEX BATTALION COMBAT TEAM.

a. Background.

In an effort to better our understanding of the elevated rate of homicides at Fort Carson in the index BCT, a survey was developed to assess the experiences, attitudes, and climate of the Army population with whom the perpetrators have served. Initial plans included administering this survey to a comparison BCT; however, as the comparison BCT was deployed at the time of the EPICON, it was not possible to administer it in time for this report.

The survey instrument was developed by a multi-disciplinary group that included military and civilian social workers, nurses, physicians, psychologists, and epidemiologists. The initial questionnaire was developed at Aberdeen Proving Grounds under the auspices of the BSHOP, Directorate of Epidemiology and Disease Surveillance, USACHPPM.

Domains for the questionnaire items were initially based on a list of the main contributory factors of criminal behavior provided by the team's forensic psychologist. These factors include mental illness, criminal history/past history of violence, substance abuse, and antisocial attitudes (Stea et al., 2002). Antisocial attitudes were eliminated due to lack of an instrument that could be administered in the time and manner available. Instead, attitudes towards non-combatants and improper behaviors during deployment that could indicate antisocial/social attitudes were drawn from the MHAT-IV.

Two unique scales were incorporated into the survey to assess aggression and to assess post-traumatic growth. Physical aggression can be quantified using the Revised CTS2 (Strauss, Hamby, and Warren, 2003) and used according to strict licensing agreements) by assessing types of minor (i.e., throwing things, grabbed/slapped someone, and so forth) and severe (choked/beat up/kicked someone, and so forth) abuse among spouses. We slightly modified the CTS2 to identify and quantify levels of physical aggression among both married and single Soldiers in the context of their larger environment, to include abuse outside a spousal relationship. The Post-Traumatic Growth Inventory (Tedeschi and Calhoun, 1996) is a 21-item Likert-type scale, which was originally developed to assess the possibility that persons experiencing high stress or extreme trauma may perceive some positive impact resulting

from the event. The Post-Traumatic Growth Inventory was developed to assess five subcomponents related to resiliency: (1) Relating to Others, (2) New Possibilities, (3) Personal Strength, (4) Spiritual Change, and (5) Appreciation for Life. The introduction question for Soldiers asked Soldiers to, "Please indicate for each of the statements below the degree to which this change occurred in your life as a result of your deployment(s)". Soldiers then indicated, "did not experience," "very small degree," "small degree," "moderate degree," "great degree," or "very great degree."

Additional domains, from discussions with Fort Carson personnel on contributing factors, were added. Demographic information was added, including gender, age, race/ethnicity, level of education, and current marital status. General military information added included years in the military, grade and rank, and if the individual was given any type of waiver for enlistment in the Army. Specific military information was added regarding entry and duration of time in the index BCT, history of deployment, number of deployments, and location of deployments. Since many of the perpetrators had served specifically with the IN BN of the index BCT, company was included to allow for comparisons between the two IN BNs (IN BN A, index IN BN, and IN BN B, comparison IN BN).

Table F–1 shows the questions on the questionnaire along with the domain that the question was developed for and the source of the question. The first eight questions were only to be filled out if the Soldier had been deployed. There was an instruction after the first question "Have you ever deployed with the Army?" that sent the subject to page 5, which started with question 8 if he/she had not been deployed.

Table F–1. Fort Carson Questionnaire Design

Contributory Factor	Question	Source
Deployment	Have you ever deployed with the Army?	Group designed
Deployment	1. How many times did you deploy to any of the following?	Reintegration Survey. WRAIR.
Deployment	2. How many times have you been deployed with the 2-2/4-4 BCT?	Group designed
Deployment	3. Did you deploy with the 2-2 from Korea to Iraq in 2004?	Group designed
Combat Exposure	4. Combat Exposure—During any of your deployments did you experience any of the following?	Hoge et al., 2004
Positive growth	5. Post-Traumatic Growth Inventory	Tedeschi and Calhoun, 1996
Transition	6. Transition from combat to home	MHAT-IV questionnaire
Attitudes towards Non-Combatants (Antisocial)	7. Indicate your agreement with the following statement about your most recent deployment on a scale of strongly disagree to strongly agree.	MHAT-IV questionnaire

Table F–1. Fort Carson Questionnaire Design (continued)

Contributory	Question	Source

Factor		
Inappropriate Behaviors in Combat	8. For each of the following statements indicate agreement on a scale from Strongly Disagree to Strongly Agree.	MHAT-IV questionnaire
Suicidal intentions	9. In the previous four weeks, have you had thoughts of killing yourself?	Fort Campbell survey
Suicidal intentions	10. Do you know any active Service member who is thinking about or discussing suicide?	Fort Campbell survey
Suicidal intentions	11. Are you currently having thoughts of suicide?	Fort Campbell survey
Suicidal intentions	12. If yes, then have you sought help or discussed this problem with anyone?	Fort Campbell survey
History of violence	13. Answer each of the following statements based on personal experiences in the past year.	CTS2
Mental health	14. Have you ever sought help for a behavioral health problem?	Group designed
Mental health	15. Have you ever received counseling for a behavioral health problem?	Group designed
Mental health	16. Have you ever received medication for a behavioral health problem?	Group designed
Mental health	17. Has a medical professional ever told you that you have any of the following problems?	Group designed
Mental health	18. Has a behavioral health issue had a negative effect on your personal relationships?	Group designed
Mental health	19. Has a behavioral health issue had a negative effect on your ability to work?	Group designed
Substance abuse	20. Have you had feelings of guilt or remorse after drinking alcohol?	Rapid Alcohol Problems Screen (RAPS)–4 alcohol scale
Substance abuse	21. Has a friend or family member ever told you about things you said or did while you were drinking alcohol that you cannot remember?	RAPS–4 alcohol scale
Substance abuse	22. Have you failed to do what was normally expected of you because of drinking alcohol?	RAPS–4 alcohol scale
Substance abuse	23. Do you sometimes take a drink of alcohol when you first get up in the morning?	RAPS–4 alcohol scale
Substance abuse	24. Do you use alcohol to help you go to sleep?	Group designed
Substance abuse	25. Do you use alcohol to help you relax?	Group designed
Stigma/Barriers (Environmental)	26. Rate each of the following factors….	Reintegration survey. WRAIR
Unit climate (Environmental)	27. For each of the following statements indicate agreement…	Reintegration survey. WRAIR
Criminal history	28. Have you ever been arrested for a crime (excluding minor traffic violations)?	Group designed
Criminal history	28a. Which of the following crimes have you been arrested or charged for?	Group designed

Table F–1. Fort Carson Questionnaire Design (continued)

Contributory Factor	Question	Source
Criminal history	29. Have you ever been convicted of a crime (exclude minor traffic violations)?	Group designed
Criminal history	29a. Which of the following crimes have you been convicted for?	Group designed
Criminal history	30. Have you ever received an Article 15?	Group designed
Criminal history	31. Have you ever been court martialed?	Group designed
Criminal history	32. Are you currently a member of a street gang?	Group designed
Criminal history	33. Do you have friends who are members of a street gang?	Group designed
Domestic violence	34. Have you ever had a physical fight with your significant other?	Group designed
Domestic violence	35. Have you ever forced someone to have sex with you against their will?	Group designed
Domestic violence	36. Have you ever had a restraining order placed against you?	Group designed WRAIR
Information for programs	37. What military resource would you first turn to if you had a personal problem?	Group designed
Demographics	38. Age	Reintegration Survey. WRAIR
Demographics	39. Gender	Reintegration Survey. WRAIR
Military	40. Grade	Reintegration Survey. WRAIR
Military	41. Rank	Reintegration Survey. WRAIR WRAIR
Demographics	42. Race/ethnicity	Reintegration Survey. WRAIR
Demographics	43. Highest level of education	Reintegration Survey.
Demographics	44. Current marital status	Group designed
Military	45. Company	Group designed
Military	46. How many years have you been in the military?	Reintegration Survey.
Military : Mental illness/ Criminal history	47. Did you receive any of the following waivers/	Group designed
Military	48. In what month and year did you join the index BCT?	Group designed
	49. Comments	Group designed

We tested the questionnaire by administering it to a group of approximately 20 Soldiers. The purpose of the test was to determine if the Soldiers understood the questions and to determine how long it would take to fill out the questionnaire. For Soldiers who did not have a deployment, it took 10–15 minutes to complete; for Soldiers with a deployment it took 15–22 minutes to complete.

Overall, the test Soldiers found the questionnaire understandable. There were concerns with the anonymity of the questionnaire, most likely due to being tested in small groups with 3–5 members. Written and verbal instructions were modified to emphasize the anonymous nature of the questionnaire during actual administration. Once developed and tested, the questionnaire was put into a scanable form using Cardiff®, Teleform® v10.1 Designer and Form Processing software. (Cardiff® and Teleform® are registered trademarks of Methodex Systems Limited, New Delhi-110019.)

b. Survey Administration.

Survey administration was coordinated with the Chief of Deployment Medicine at Fort Carson. The survey was administered in the BH Clinic on the grounds of Fort Carson during an already scheduled 3-weak SRP. The survey was added as the first station of the daily SRP. Units received a fragmentary order to report to the SRP site 0630 hours instead of the regularly scheduled 0730 hours. A patient waiting room was located next door to the Automated Neuropsychological Assessment Metrics (ANAM) computer room and was used to in-brief 30 Soldiers at a time. Soldiers entered through the rear door of the building. The first 30 filed into the waiting room; the remaining Soldiers formed a line in the hallway.

Initially, the in-brief stated:

> "My name is MAJ X. I am an Army Public Health Nurse here with a team from MEDCOM at the request of the BDE Commander and Garrison Commander to look into the situation of increased violence in the community.
>
> This is an anonymous survey to find out more about what is going on in the community. The survey is not part of the SRP, we are just using the SRP to reach all of you in a short period of time. The survey is five pages front and back; mostly lists so not as long as it sounds. If you have not deployed there is a skip pattern, so only answer what is pertinent to your situation. There are little boxes, an X or check mark is sufficient, and you can use pen or pencil. There is a comments section on the last page for any additional information you think would be useful.
>
> When you are finished with the survey, our civilian staff, will collect it from you and give you an index card to give to the S1. This just lets them know that you had an opportunity to answer the survey.
>
> We thank you for your time and input."

Following the in-brief, the Soldiers filed into the ANAM computer room. Each Solider was handed a stapled and numbered five pages, front and back, survey. As each Soldier left the survey room, another Soldier was called from the briefing room, given a survey and directed to the open seat. Survey completion took between 5 and 20 minutes depending on the number of questions the Soldier answered. Pencils and pens were provided as needed. Each Solider sat at an individual desk space with a cardboard privacy curtain.

As each Soldier finished the survey, they handed it to a clerk who glanced at the back page to see if any of the demographic information was answered—if not, she asked if that was intentional or if they would answer those questions. The numbered surveys were placed in a collection box. A clerk handed each Soldier an index card with a hole punch to give to the S-1 station—this let the personnel staff know that the Soldier had an opportunity to answer the survey. By mid-week of the first week, the index card was replaced with an ACE card—ordered shipped over night from USACHPPM Health Information Operations.

Each Soldier left the survey room, turned left (kept a one-way flow of traffic) to exit the building and entered the SRP building next door. The Platoon Sergeant or other designated person was posted at the exit to direct Soldiers to the S1 desk to start the SRP.

Some Soldiers took issue with us stating that the survey is anonymous, when individuals could be identified through the demographic information (i.e., only one person with a given rank in a given company level unit). This was especially true for the senior enlisted, warrant officers, and officers. The Soldiers were not convinced despite the survey team's attempts to explain that the data were going to be collapsed or grouped into categories for analyses. One captain wrote in the comments box: "tricky" as if the survey was indirectly asking for his identity. A sergeant major, too, was upset and said that using the word "anonymous" during the in-brief was not true, that the survey is not anonymous, and that the team is losing credibility stating that the survey is anonymous. The EPICON team conferred on how to address this concern about personal identification. The survey could not be changed. Telling the Soldiers to skip a certain section of the demographics information would highlight the issue even more. The team agreed to simply state that the survey does not ask for name, SSN, or birthday and that the data will not be used to identify individuals. Not all demographic data was completed by each respondent.

From talking with Soldiers and listening to their idle conversations, the introduction was changed to state "on the invitation of the garrison Commander and two-Star installation Commander."

The list of units was found to not be accurate. The in-brief was updated to ask the Soldiers to write their unit in the Comments section if it was not listed.

Notably, during weeks 2 and 3 more so than the first week, the Soldiers snickered at some of the questions and joked with one another. This was especially problematic when a senior NCO started or participated in the commentary. This behavior ceased when an Army officer was in the room. So, after each briefing an Army officer handed out the surveys and stayed in the survey room between unit briefings.

Another concern was the sensitive questions regarding suicidal ideations, specifically, what was the plan for surveys that positively endorsed the suicidal ideation questions? The EPICON team decided that the sensitive nature of the questions warranted special instructions during the in-brief. A clinical psychologist, joined the survey team for weeks 2 and 3.

A total of 2779 surveys were scanned. One of the three team members reviewed each survey for definitive markings that could be read by the scanner. The scanner had fewer questionable answers when the survey markings were reinforced. The team also screened each survey for remarks in the comments section. Four surveys were handed over to CID for investigation. Copies of these surveys were kept in their sequence of paper files. Of the 2779 scanned, approximately 2775 appeared legitimate, with plausible write-in data points like age and number of years in Service.

Prior to departure the Excel® data file was saved on a back-up disc and also emailed to the survey epidemiologist. The surveys were boxed by numerical sequence and FedEx® shipped them back to USACHPPM Headquarters. (Excel® is a registered trademark of the Microsoft Corporation; FedEx® is a registered trademark of the Federal Express Corporation.)

c. Cleaning of Survey.

The USACHPPM epidemiologists oversaw the cleaning of the survey and the quality assessment of responses. Questionnaires were examined to determine completeness and any inconsistencies in answers. An initial check determined that no questionnaires were scanned twice, and all completed questionnaires had been scanned and were included in the final database. A second check identified inconsistencies. Many Soldiers wrote their company in the comments as—due to reflagging—their company was not listed in Question 45. Comments and the answers to Question 45 were recoded to properly reflect company and BN membership.

Questionnaires were then checked for appropriateness of responses. A very small number of questionnaires revealed evidence of questionable responses (for example, three Soldiers

endorsed all five possible waivers, and one Soldier further reported an age of 99, holding a Ph.D., and having been arrested and convicted of all crime types). Careful examination revealed that other responses by these individuals were also facetious; thus, these few questionnaires were eliminated. This resulted in a total of 2775 useable questionnaires.

A deployment check was run to determine if Soldiers answering "yes" to the first question "Have you ever been deployed with the Army?" answered questions 1–3 in a manner that indicated deployment. Alternatively, a check was run to ensure that Soldiers who either answered no to the first question or left it blank did not answer questions 1–3 in a manner that indicated deployment. If either of these two situations occurred, then the questionnaire was further examined to determine whether to discard the deployment section or to change the answer to the deployment question.

d. Data Analysis.

The USACHPPM epidemiologists were responsible for the analysis of the survey data. The representativeness of the survey sample was assessed by comparing the basic characteristics of survey respondents to all members serving with the index BCT since June of 2008. comparison data was obtained from administrative databases provided by AFHSC. Table F–2 shows the comparison between the two groups. The survey captured 86.0 percent of the current BCT membership. Survey respondents were found to be highly representative of the BCT, with comparable ages, distribution of ranks, racial/ethnic composition, current marital status, and waiver rates.

Table F–2. Comparison of All Soldiers in Index BCT who Completed the Survey with all Soldiers in Index BCT Since June 2008

	Survey Population	**Cohort Population**
Total	2775	3526
Age		
Range	17-58	18-58
Mean (median)	26(25)	27(26)
Rank		
E1-E4	59.4	51.4
E5-E7	31.1	36.4
E8-E9	1.3	1.9
W1-W3	0.8	1.1
O1-O2	4.4	4.0
O3	2.4	3.9
O4-O5	0.7	1.3
Race/Ethnicity		
Caucasian/White	68.1	67.8

African American	11.1	13.3
Hispanic	11.9	11.5
Asian/Pacific Islander	4.3	4.8
Other	4.6	2.9

Table F–2. Comparison of All Soldiers in Index BCT who Completed the Survey with all Soldiers in Index BCT Since June 2008 (continued)

	Survey Population	Cohort Population
Currently Married	53.8	54.3
Waivers		
Any	14.2	19.3
Medical	6.4	6.1
Crime*	5.4	8.5
Drugs/Alcohol	2.3	1.1

* Data obtained from administrative databases.

(1) The IN BN Comparison (IN BN A (index BN) vs. IN BN B (comparison IN BN) vs. other Non-IN BNs).

Comparisons were made between IN BN A, IN BN B, and all other non-infantry units of the index BCT. Initial comparisons across the two IN BNs and the remaining members of the BCT were assessed for significance with Analysis of Variance and Chi-square testing. Continuous variables were assessed with Analysis of Variance; whereas, categorical variables were assessed using Chi-square analysis.

Analyses were first conducted by assessing all Soldiers completing the survey. Analyses were then conducted restricting the analysis to only those individuals in the BCT who had ever deployed. A third set of analyses focused on those individuals who had deployed directly from Korea to Iraq in 2004 in comparison to all others who had deployed. Finally, IN BN A and IN BN B responses were pulled out, and analyses were conducted comparing just these two units.

(2) Overall IN Comparison (IN BN vs. Non-IN BN).

Similar comparisons, as described above, were conducted between IN and non-IN BN as Soldiers in the IN BNs may be different than Soldiers serving in non-IN BNs. Any Soldiers who served in either IN BN A or IN BN B were considered to be IN Soldiers. Comparisons were made for all deployment and non-deployment related characteristics.

(3) Overall Deployment Comparison (Ever Deployed vs. Never Deployed).

Comparisons were made between the Soldiers who had deployed and the Soldiers who had never deployed. This was done to determine what role deployment, as an exposure, had on the BH-related outcomes. Comparisons were made for all non-deployment-related characteristics. Specifically, we assessed self-reported aggression levels of aggression, criminal history, BH history, demographics, and stigma/barriers to health care.

(4) Combat Intensity Analysis.

Using survey data, an analysis was conducted to determine whether combat intensity was a significant risk factor for some specific behavioral health outcomes (aggression (minor and major), problematic alcohol use, any criminal conviction (after joining Army), any self-reported BH problems, and any physical altercations with a significant other). Using Soldiers' deployment history and responses to the 15-item combat exposure survey, developed by WRAIR (Hoge et al, 2004), we estimated individual combat intensity. Soldiers with no previous deployments were designated as having the lowest combat intensity. Among Soldiers who have previously deployed, combat intensity was defined by examining the frequency of events reported on the 15-item combat exposure scale in the survey. Essentially, deployers were divided into tertiles: low intensity (experienced 0–4 events), moderate (5–8), high (9–15). The result was the following four levels of combat intensity: (1) Never Deployed, (2) Deployed - low intensity, (3) Deployed - moderate intensity and (4) Deployed–high intensity. Multi-variable analyses were then conducted controlling for potential covariates including race/ethnicity, grade/rank, education, marital status, and whether or not the Soldier had served in infantry battalion.

F–2. RESULTS. (OVERALL SAMPLE DISCUSSION)

a. Demographics and Military Characteristics.

In terms of demographics and military characteristics, the index BCT was typical of FORSCOM installation populations. The majority were young, primarily White, males, and had completed high school or some college. About half were currently married. These characteristics were similar between individual IN BNs (IN BN A and IN BN B). Similar characteristics wereseen between Soldiers in the BCT who have and have not been deployed, with the exception that those who deployed were somewhat more likely to be currently married and older. Most likely, Soldiers who never deployed were young in their Army career. The IN BN A had more deployed Soldiers with only a high school education and fewer Soldiers with a college education.

b. Criminal Background.

Generally, the highest rates of any arrest before or after entry into the military were found among IN BN B (comparison IN BN). Members of IN BN A, however, were more likely to have been arrested for domestic violence or property damage after entry into the Army. Again, similar rates were seen both for the overall sample and for those who had never been deployed. Rates of other criminal measures, including having an Article 15, a court martial, and gang membership or friendship were generally low for the overall group.

c. Unit Climate.

All groups reported favorable unit climate, with the highest rated climate to be found among the IN BN A (Index IN BN). Again, this was evident in both the overall sample and among those who had deployed.

d. Mental Health.

Self-reported rates of mental problems were moderately high among the BCT members, with the highest rates reported among the two IN BNs. Rates for most mental health problems were slightly higher among those Soldiers who had deployed and were particularly high among those members of IN BN A who had deployed.

e. Violent Behaviors/Aggression.

Violent behaviors were moderately reported by the entire BCT, but the highest rates were reported among the IN BN B (comparison BN).. Soldiers who had deployed were more likely to report a physical altercation with a spouse and having a restraining order against them, than the Soldiers who had never deployed. Overall the IN BNs had higher aggression than the non-IN BNs. Deployed Soldiers also had significantly higher levels of aggression than non-deployed Soldiers.

f. Stigma and Barriers.

Perceptions of stigma associated with mental health problems or barriers to seeking care for mental health problems were generally high, with some 57 percent of both the overall sample and those who had deployed reporting some type of stigma or barrier. In particular, the IN BN A reported the highest rates of stigma or barriers, particularly those who had been deployed.

g. Combat Exposure.

Although the rates of combat exposures were considerable among all Soldiers who had deployed, the highest rates were reported by IN BN A. Many of these rates were substantially higher than those reported by the IN BN B (comparison BN), which was also infantry. Overall, the IN experienced higher combat exposures than the non-IN.

h. Resiliency/Post-Traumatic Growth.

We assessed five subscales of post-traumatic growth occurring as a result of deployment:

(1) Relating to others, (2) New possibilities, (3) Personal strength, (4) Spiritual change, and (5) New appreciation for life. There was not a significant difference in between the two IN BNs or between all other BNs. We did, however, find that nearly a quarter of all Soldiers (21.9 percent) who had deployed experienced a great degree of positive growth overall. The most commonly reported types of post-traumatic growth were related to personal strength (32.5 percent to 35.6 percent) and a new appreciation for life (37.2 percent to 41.4 percent).

i. Attitudes and Inappropriate Activities.

Both IN BNs were more likely to report poor attitudes towards noncombatants.. There were generally no dramatic differences between the two IN BNs. Both IN BNs were also more likely to report encountering inappropriate behaviors in theater, with few differences between the two groups.

j. Direct Deployment from Korea to Iraq and Multiple Deployments.

One further source of information that may shed light on the BN differences are the comparisons of those, who had deployed directly from Korea to Iraq, in 2004. Deployed members of both IN BN A and IN BN B were substantially most likely to report all combat exposures and generally reported higher stress levels associated with the combat experiences.

Those members of IN BN A, who deployed directly from Korea to Iraq, reported the highest rates of MH problems and co-morbid MH problems, the highest rates of adjustment disorder, alcohol abuse, as well as TBI and PTSD. The rates of stigma or barriers to seeking care for MH problems were also highest in those Soldiers in IN BN A who had deployed directly from Korea to Iraq.

Soldiers who deployed more than once were more likely to report mental health problems and co-morbid problems, as well as higher rates of PTSD, TBI, and alcohol abuse. Those with multiple deployments were also more likely to receive an Article 15, be arrested or convicted for domestic violence, and physically fight with a spouse or partner.

F–4. REFERENCES.

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GLOSSARY

ACH
Army Community Hospital

ACS
Army Community Service

ACSAP
Army Center for Substance Abuse Program

ADCO
Alcohol and Drug Control Officer

AFHSC
Armed Forces Health Surveillance Center

AHLTA
Armed Forces Health Longitudinal Technology Application

AMSARA
Accession Medical Standards Analysis and Research Activity

ANAM
Automated Neuropsychological Assessment Metrics

AFQT
Armed Forces Qualification Test

AR
Army Regulation

ASAP
Army Substance Abuse Program

BCT
Brigade Combat Team

BH
behavioral health

BN
battalion

BSHOP
Behavioral and Social Health Outcomes Program

BSO
Behavioral Science Officer

CID
Criminal Investigation Division

CTS2
Conflicts Tactics Scale

DA
Department of the Army

DMSS
Defense Medical Surveillance System

DMSS
Defense Medical Surveillance System

EPICON
Epidemiological Consultation

ETOH
extremely trashed or hammered

FAP
Family Advocacy Program

FORSCOM
US Forces Command

HIPAA
Health Insurance Portability and Accountability Act

ICD-9
International Statistical Classification Diseases

ID
Infantry Division

IN
infantry

MEDCOM
US Army Medical Command

MH
mental health

MHAT
Mental Health Advisory Team

MOS
military occupational specialty

MTOE

Modification Table of Organization and Equipment

NCO
noncommissioned officer

NIAAA
National Institution on Alcohol Abuse and Alcoholism

NIH
National Institutes of Health

OIF
Operation Iraqi Freedom

OPTEMPO
operational tempo

OR
Odds Radio

OTSG
Office of The Surgeon General

PDHA
post-deployment health assessment

PTSD
post-traumatic stress disorder

RAPS
Rapid Alcohol Problems Screen

RRP
Risk Reduction Program

R-URI
Reintegration Unit Risk Program

SRP
Soldier Readiness Processing

SSN
Social security number

TBI
traumatic brain injury

TRANSCOM
US Transportation Command

TRACES2
TRANSCOM Regulating and Command and Control Evaluation System

UCMJ
Uniform Code of Military Justice

UIC
Unit identification code

USACHPPM
US Army Center for Health Promotion and Preventive Medicine

WRAIR
Walter Reed Army Institute of Research