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PRINCIPAL INVESTIGATOR: William E. Schlenger Ph.D.

Durham, NC 27703

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In 2001, the US military launched the largest prospective study of service personnel in its history, the Millennium Cohort Study (N > 200,000), in order to evaluate the effects of military service on the long-term health and well-being of US service members. Based on military and civilian recommendations for comprehensive research on military families, the study was expanded in 2011 to include the Millennium Cohort Family Study (Family Study). The Family Study was designed by a multidisciplinary team of investigators at the Naval Health Research Center (NHRC), Abt Associates, Duke University, and New York University to understand the interrelated health and well-being effects of military service on families – including the service member, spouse, and children. The baseline Family Study survey cycle concluded in 2013, after successfully enrolling 9,930 spouses married to Service Member participants in the probability sample of the Millennium Cohort Study. The Family Study includes both male and female spouses of active duty, Reserve, and National Guard personnel from all five service branches of the US military – with 75% married to service members that have deployed in support of OEF/OIF/OND at least once. Because the Family Study is nested within the Millennium Cohort Study of service members, it provides unique data on a large cohort of service member-spouse dyads, utilizing both self-report and military records.
NWHSS Implement Family Member Assessment Component in the Millennium Cohort Study

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Submitted by:
Abt Associates Inc.
4550 Montgomery Avenue
Suite 800 North
Bethesda, MD 20814
NWHSS Family Member Assessment Component in the Millenium Cohort Study: Final Report

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1. Introduction

The Millennium Cohort Family Study’s (Family Study) primary objective is to examine empirically the impact of deployment to OEF/OIF/OND on the families of US service members. The study is being conducted by a multidisciplinary consortium of research organizations, including the Naval Health Research Center (NHRC), Abt Associates (Abt), Duke University (Duke), and New York University (NYU), as a new component of the Millennium Cohort Study (MilCo), initiated along with the enrollment of Milco’s 4th panel of service personnel.

MilCo’s Panel 4 was launched near the end of year two of the Family Study (7 June 2011), and by the close of enrollment on 4 April 2013, successfully enrolled 50,052 Service Members from all branches of the military, including Reserve and National Guard. The Family Study began inviting the spouses of married Milco panel 4 participants to join the Family Study, approximately a month after the launch of Milco’s survey cycle. The Family Study survey cycle concluded in 1 August 2013, after successfully enrolling 9,930 spouses married to Service Member participants in the probability sample of the Millennium Cohort Study’s panel 4. The Family Study includes both male and female spouses of active duty, Reserve, and National Guard personnel from all five service branches of the US military – with 75% married to service members that have deployed in support of OEF/OIF/OND at least once. Because the Family Study is nested within the Millennium Cohort Study of service members, it provides unique data on a large cohort of service member-spouse dyads, utilizing both self-report and military records.

The Family Study baseline survey included 100 numbered questions and was divided into fourteen specific areas: spouse demographics, physical health, mental health, coping skills, life experiences, modifiable behaviors, military service (for dual military families), marital relationship, deployment, return and reunion experiences after deployment, service member spouse’s behavior, military life, family functioning, and children’s health and well-being.

In order to determine how military families and family relationships change over time, the research team will reassess the spouses every three years. As such, the Family Study is uniquely poised to address critical scientific, operational and policy questions that can contribute to the development of interventions that increase resilience among service members and their families, and minimize the negative consequences for both.
2. Project Administration & Technical Implementation

2.1 Overview

The Family Study was purposefully implemented as a collaborative effort of the MilCo team at NHRC and a consortium of investigators at Abt Associates, Duke University School of Medicine, and New York University School of Medicine. The project was described in a single application submitted by Abt, but funded via two separate funding streams—one for NHRC, focused on data collection, and another for Abt, Duke, and NYU, focused on data analysis and interpretation.

All of the tasks necessary to implement the study were conducted collaboratively, but leadership varied across the tasks. Tasks that involved the logistics of the survey (e.g., sample selection, survey construction, survey implementation, survey data management) were led by NHRC with input and support from the Abt team, and tasks that included the analysis and interpretation of Family Study data, were to be led by the Abt team, with input and support from NHRC.

Communication between the teams was facilitated by regularly scheduled conference calls of the two teams, in which we discussed progress and issues from the current work and plans for upcoming tasks. In addition, Abt and NHRC held several planning meetings at NHRC, conducted yearly Scientific Review Panel (SRP) meetings, and presented Family Study progress yearly at In Progress Review (IPR) meetings in Ft. Detrick, MD at the request of MOMRP.

Brief Chronology

Year 1 (Sept 2009- Aug 2010). The study began in earnest on 14 September 2009, with the fund awards to NHRC and Abt. In Year 1, the Family Study team prepared for implementation by coming to agreement on study protocols and the baseline survey instrument and sending them for OMB and IRB review. Although regulations indicated that OMB review should be completed in 60 days, review of the package for the Family Study took more than a year, putting the study far behind schedule. Year 1 came and went without a ruling from OMB, however we did receive positive feedback during our first Scientific Review Panel (SRP) meeting held at NHRC and during our first In Progress Review (IPR; See Appendix A).

Year 2 (Sept 2010 – Aug 2011). In Year 2, OMB finally approved the Family Study protocol on 21 March 2011, 18 months after it was submitted and 6 months into Year 2 of the Family study. This delay caused the MilCo team to make some changes in the Panel 4 protocol, without informing the Family Study investigators. One week later, NHRC’s Commanding Officer changed the leadership of both the Milco Study and the Family Study from a 15-year veteran epidemiologist of the Milco Study to an infectious disease physician with no survey methodology experience. This change was made without informing the co-PIs of the Family Study. Nevertheless, three months after receiving OMB clearance, on 7 June 2011, the MilCo
team launched Panel 4, a year later than intended. Fifteen days later, on 22 June 2011, invitations were e-mailed to the spouses of the first group of service members that enrolled in Panel 4 of Milco and gave permission to contact their spouse, marking the beginning of Family Study data collection. The original plan for launching the Family survey was May 2010, marking the first of many delays to come (See Appendix B).

As Year 2 was merging into Year 3, early returns suggested that the recruiting protocol for the Family Study would not produce the 10,000 participants expected by design. Because MilCo survey implementation procedures were described as “Modified Dillman” designs, and due to some of the senior Abt/Duke/NYU investigators having long-term connections to Professor Dillman, we suggested to the NHRC team that we could arrange for Don Dillman to review our protocol and suggest ways to raise response rates (Milco and Family). NHRC agreed, and the initial meeting with Dillman was held in August 2011.

**Year 3 (Sept 2011 – Aug 2012).** By plan, Year 3 was for finishing data collection, cleaning the collected data, establishing data sharing agreements, determining work assignments, and solidifying research aims and objectives. Working together each week, the Family Study team participated in the creation of the protocols we needed to analyze the data and report the findings accurately and safely. Halfway through Year 3, the Family Study response rate was 50% (our goal response rate), but referral rates were still lower than estimated (35% vs 65%) and Milco response rates were still below predicted levels (15% vs 25%). Dillman continued working with the Milco and Family Study teams to improve Milco Panel 4 response rates and, consequently, the sample of Family Study spouses that we could contact and enroll.

Although there were notable strengths of the original Family Study protocol (obtaining spousal contact information from the service member and secondary consent for their participation), referral rates remained below expected, hindering us from reaching our goal of enrolling 10,000 spouses. Therefore, the Family Study survey protocol was updated to allow for 1) recruitment via referral of spouses by Panel 4 respondents, as well as by contacting directly the spouses of Panel 4 respondents without referral, and 2) survey completion via the web (as planned) or by a paper survey that was developed mid-survey cycle (with the help of Dr. Dillman). In addition to the development of a paper survey, the study team also established new recruitment procedures that included a 6-step mail approach spanning an approximate 12-week period. Referred spouses were also contacted via email (address supplied by referring spouse), which included a link to the Family Study web survey (See Appendix C).

During Year 3, NHRC told us that they were dangerously low in funds and would run out soon, and to make matters worse the possibility of sequestration was looming. Because our primary role in the study was analysis, interpretation, and manuscript preparation, the Abt/Duke/NYU group had carryover funds from years 1-3, saved to be used when the data became available for analysis. We recognized, however, that if we did not meet our recruitment goals that we
would not have the power to conduct planned analyses. In multiple discussions with our Contracting Officer, MOMRP, and NHRC, we came to consensus that the only viable short-term solution to the problem was for Abt to use some of our carry-over funds to support completion of the data collection. Our contract was therefore modified on 19 September 2012 and for years 3 and 4, the total amount transferred for data collection was $1.2M.

**Year 4 (Sept 2012- Aug 2013).** The beginning of year 4 was spent finalizing the follow-up survey (See Appendix D). Because the follow-up survey needed to be tailored to spouses that changed marital status (i.e., separated, divorced, widowed), and to families that separated from the military; there was considerable work done in Year 3. Based on our experience with the 2011 baseline survey, it was imperative that we submit the 2014 follow-up survey and protocol to OMB at least 18 months in advance of our desired launch date. In order to facilitate this process, several members of the Abt team flew to NHRC for a 2-day planning meeting in Feb 2012, where each item of the baseline survey was reviewed for inclusion/exclusion in the follow-up survey and additional items were debated for addition to the follow-up. In addition, the 2012 Scientific Review Panel meeting held at NHRC was used to present the suggested changes to the baseline survey and to seek the recommendations of the panel and invited guests. Upon conclusion of the meeting, and after several more exhaustive team meetings, the Family Study team submitted a finalized version of the follow-up survey for review by the OMB and the NHRC IRB in November 2012.

During Years 3 and 4, it became apparent that something was wrong within the NHRC team. The only Family Study co-investigator on the NHRC team (Dr. Hope McMaster) resigned in February 2013, and over the rest of the year approximately 80% of Milco’s analysts resigned, while other key individuals were reassigned to tasks far below their skill levels and job descriptions. Late in Year 4, the motive for the exodus became clear when NHRC’s newly appointed Commanding Officer ordered an investigation of the Milco and Family Study PI and subsequently fired her, along with her long-time assistant, on 13 September 2013 for cause. Our understanding was that the NHRC portion of the Family Study team lost substantial organizational memory and analytic talent, and that recovering from the loss of staff would impede the progression of the study and our ability to begin data analysis and interpretation.

**Year 5 (Sept 2013 – July 2014).** The Family Study survey cycle closed on August 1, 2013, just prior to the dismissal of the NHRC Family Study PI. We believe that an absence of leadership after the dismissal of the PI, as well as a significant loss of staff, led to delays in data entry, verification, and cleaning. We were initially led to believe that the survey data would be ready by September 2013, however after the dismissal of the PI, we were told to expect the data in December 2013, then January 2014, then March 2014, then July 2014. During this time we became aware of several barriers that led to significant delays in the preparation of the data. For instance, because the survey was initially designed as web-only and then subsequently, a paper survey was created mid-cycle, survey items were given multiple names for each mode of
entry (e.g., web surveys, paper surveys processed by NHRC, paper surveys processed by Data Recognition Corporation) rather than one unique name for each item, with mode of entry as a separate variable. In addition, the lack of leadership during this time at NHRC, as well as an 80% reduction in analytic staff, caused significant delays in survey verification and validation, and data cleaning. It is our understanding that at this time, survey cleaning measures are still ongoing. We feel that NHRC worked very hard to 1) clean the data with limited staff, 2) hire new personnel, and 3) train new employees to participate in the cleaning effort, but unfortunately, there was really no way around the devastation caused by the previous PI’s leadership of the NHRC team.

In February of 2014, Dr. Hope McMaster was hired by Abt Associates to bring back at least some portion of the talent that was lost when so many individuals resigned from NHRC. In addition to adding Dr. McMaster to the team, we flew the Abt team to NHRC to participate in a planning meeting on 5 February 2014 that was initiated by Abt to provide a forum to reconnect with the NHRC team and to enhance communication and collaboration. The meeting culminated in renewed optimism and a formalized plan for collaboration (see Appendix E). Dr. McMaster immediately began participating in on-site meetings at NHRC, facilitating communication, collaboration, and the data transfer process. In addition, Dr. McMaster and Cynthia LeardMann (NHRC) presented Family Study progress at the IPR held in March 2014, after being delayed due to travel restrictions the previous year (see Appendix F).

Significant strides were being made toward beginning data analysis and manuscript preparation during this time, such as 1) the signing and approval of the DUA on 23 April 2014 (see Appendix G), 2) a high profile symposium at the American Psychiatric Association (see Appendix H) 2) the submission and approval of study proposals that aligned with the revised collaboration protocol (see “Technical Progress & Activities”), 3) the finalization of the Family Study and Milco Study data dictionaries, 4) completion of Panel 4 Milco and Baseline Family data cleaning, and 5) the transfer of data from NHRC to Abt on 23 July 2014. In addition, NHRC conducted a nationwide search for a new PI for the Milco and Family Studies, which resulted in Dr. David Luxton coming on board with NHRC on 7 July 2014. Dr. Luxton has been very supportive of our continued collaboration and is appreciative of the subject matter expertise provided by the Abt team.

Unfortunately, just when the team was making significant progress and immediately after data was finally transferred to Abt, we received notice that we would not be granted another no-cost extension to complete our work and that all work must stop by 31 July 2014. We are poised to contribute significantly to our understanding of how military families are impacted by military life and deployment (see “Technical Progress & Activities”), but we need continued funding to conduct analyses of the Family Study data and complete substantive manuscripts. In addition, we have contributed significant time and effort into creating the 2014 follow-up survey (See Appendix C) and anticipate that the strength our team and of the Family Study will become even more apparent in the analysis of the longitudinal data.
2.2 Project Team & Work Modifications

Abt Team

As part of the Family Study team, the Abt team—comprised of Principal Investigators and technical staff from Abt Associates, Duke University School of Medicine, and New York University School of Medicine - led the data analysis component of the Family Study. This team, led by Drs. Schlenger (Abt), Fairbank (Duke), and Marmar (NYU), brought together broad technical expertise, including:

- Child development and child and adult behavioral health;
- Spousal and family psychosocial functioning;
- Survey research and methodology; and,
- Service member behavioral health, PTSD, and physical health.

These areas of expertise are critical to the Family Study team’s ability to implement a robust analysis plan and central to understanding the dynamic impact of military deployment on the psychological and physical well-being of families.

To further support the study effort during the fourth year of work, the Abt team provided substantive methodological expertise and financial support to improve the implementation of the Family Study survey and address issues with overall response. Through routine monitoring and financial support of the study, weekly team meetings, and other ongoing communications with the data collection team (NHRC), the Abt team provided:

- Timely responses and solutions to improving efforts to engage the survey target population (e.g., continued funding of Dr. Dillman to provide technical expertise to improve survey response, proposing and securing the services of Dr. Dillman);
- Strategies and access to resources to improve survey response;
- Updates, in collaboration with team member NHRC, to USAMRMC (e.g. scientific review panels, product line reviews) on the progress of the Family Study; and,
- Provision of funding that supported the provision of incentives to survey respondents, provided three key staff members to the NHRC team, and supported the 2013 Scientific Review Panel in San Diego.

During the fifth year of the study, the Abt team hired Dr. Hope McMaster, former Co-PI of the Family Study at NHRC, to bring back at least some portion of the talent that was lost when so many individuals resigned from NHRC during the third and fourth years of the study. As a social psychologist, Dr. McMaster brings considerable knowledge and experience of survey methodology and persuasion techniques, as well as her in depth knowledge of Family Study survey operations, to the study team. As a military spouse with two young children and...
experience with multiple deployments and reunions, Dr. McMaster represents the population we are investigating and, as such, is an asset to the Family Study team.

Consultants
To provide additional methodological support for the survey implementation, the Abt team secured the services of Drs. Don Dillman and Richard Kulka during the fourth year of the study. Experts in the field of survey research and methodology, Drs. Dillman and Kulka reviewed survey implementation procedures and provided recommendations to improve survey response rates for the service member study, thus increasing the sample of spouses available to the Family Study. While Kulka’s services were used intermittently (e.g., preparation for the 2012 Scientific Review Panel), Dillman’s services were used throughout the project year (see “Technical Progress & Activities”).

The Family Study team continued to use Dillman throughout the fourth and fifth year of the project.

His scope of work included:

- Continued close monitoring of survey implementation procedures and service member and spouse response rates;
- Feedback to improve survey response and communication with the survey population; and,
- Attendance at key meetings with USAMRMC personnel to discuss survey updates and planning for data analysis.
- Review of the 2014 follow-up survey implementation plan

Scope of Work: Modifications
At the request of USAMRMC, the Abt team provided additional funding to support the data collection effort led by NHRC. The additional funding targeted improving response rates among Milco Panel 4 survey participants, which prior to year three had not met the survey response goals for this project (see “Technical Progress & Activities). After discussions with USAMRMC and NHRC in May 2012, resources from the Abt-Duke-NYU stream was reallocated to address the following:

- Enhancing communications with the Panel 4 service member sample to improve survey response and, consequently, increase Family Study sample size;
- Increasing the sample size of eligible respondents;
- Adding additional technical staff to the NHRC team to assist with the timely completion of work associated with survey implementation; and,
• Providing NHRC with ongoing consultation with Dr. Don Dillman to improve survey implementation strategy and monitoring participant response to the family assessment survey.

Specifically, $917,923 was reallocated to the data collection effort during year three, and an additional $144,726 was reallocated for work in year four.

2.3 Technical Progress & Activities

Implementation of the Spouse Survey in MilCo Panel 4

When the third year of the Family Study began, the MilCo Panel 4 and Family Study surveys had been launched (in June and July 2011, respectively), but early participation results were not encouraging in either. In response, the Family Study team moved quickly to intervene as the second year was coming to a close, by bringing Drs. Don Dillman and Richard Kulka in as consultants.

Dr. Dillman continued his work on the Family Study in year four, working with the NHRC team that was implementing the Family Study data collection to make changes that would improve spouse participation. The “new” design incorporated a wide variety of the elements that have been shown in the many randomized field trials that Dillman has conducted across his career to enhance survey participation, including more incentives, revising the messages in communication with potential participants, and the offer of a pencil-and-paper option for those who wanted it.

Additionally, as the implementation of the “Dillmanization” of the Family Study survey protocol unfolded, Drs. Nancy Crum (Co-PI) and Hope McMaster (Co-I) began a dialog with the Chair of the NHRC IRB concerning barriers to participation in Family Study. When the IRB reviewed the protocol prior to OMB clearance, it insisted that the Family Study only approach spouses of service members who approved of spouse participation and provided contact information. The a priori assumption of the Family Study team was that 65% of married Panel 4 participants would give permission to contact their spouse, and 50% of those spouses would participate in Family Study, resulting in 10,000 spouses participating in the Family Study.

Unfortunately, four months into the data collection, even though our response rates met the goals of the study, service member referral of spouses was languishing at about 32%. Based on discussions with Drs. Crum and McMaster, the NHRC IRB agreed to allow the Family Study to approach the spouses of Panel 4 participants without their secondary consent, as long as questions regarding the service member’s behavior were removed from the survey. By removing the referral requirement, the study team was immediately able to contact more than 10,000 spouses of Panel 4 participants and could continue to contact more as Panel 4 response continued over the next year. Because contact information was not provided by the service member, spouses were contacted by mail only using the physical addresses of the service
members. This change in protocol necessitated the development of a paper survey, because previous research indicates that it is advantageous to provide a paper survey when email augmentation that includes a link to the web survey cannot be utilized.

Changing recruitment procedures and developing a paper survey after a survey has been launched is extremely challenging. With guidance from Dillman, however, the NHRC Family Study team did a terrific job on both. Although doing so took time, energy, and resources, over several months of the fourth year, spouse response rose steadily as the various changes were implemented - allowing us to reach our goal of enrolling almost 10,000 spouses.

**Conceptual Models That Will Guide the Family Study Analysis**

The Family Study team has developed conceptual models that operationalize our hypotheses about processes underlying the phenomena that we will be studying. As an example, Appendix I contains two slides showing the hypothesized associations among the variables that are included in the Spouse Survey.

Those models are useful in many ways, but are best understood as generic models of community epidemiologic studies focused on health and mental health outcomes. In our application, we described a conceptual model of how military families respond to war zone deployment of a service member parent, which will guide many of our substantive analyses. In what follows, we describe briefly some examples of other kinds of conceptual models that will structure our analyses of the Family Study baseline data, focusing on methodological issues.

1. **Establishment of external validity.** Although the Family Study sample is a probability sample drawn from military records, the external validity (generalizability) of the study’s findings can be heavily influenced by response rate if the non-response is not random. We plan to use propensity models to examine and adjust for potential non-response bias. To do so, we will first fit logistic regression models of “propensity to participate” in the Spouse Survey, using predictors that are available for both those who did participate and those who did not (e.g., demographic and other variables available in military records. Then we will use the logistic model to create for each person in the sample a “predicted probability of participating in the Survey,” and compute the correlations of the predicted probability and the baseline values of the primary outcomes. For any outcome, if there is a statistically significant correlation with predicted probability of participating, there is non-response bias.

When bias is identified, it must be adjusted for. Fortunately, the bias can be adjusted for easily, by creating nonresponse weights for use in the analysis—for each person who participated in the study, their non-response adjustment weight is the inverse of their predicted probability of participating in the Survey.

The procedure described above produces a gold-standard correction for the non-response of spouses for whom their sponsor provided the spouse’s contact information. The other source
of spouse non-response, however, is spouses of married Panel 4 sample members who didn’t participate in Panel 4. We are currently seeking advice from experienced sampling statisticians on how to take account of this form of non-response.

(2) Establishment of internal validity of comparisons. Although the analysis of these data will involve many types of comparisons, the primary comparisons involve war zone deployment versus no war zone deployment. These comparisons will constitute a non-equivalent comparison group (quasi-experimental) design. Assessing the internal validity of such designs involves examining the overlap of the distributions of demographic and other important variables in the two groups. Groups are said to be non-equivalent to the extent that the distributions of independent variables overlap.

We will examine overlap using propensity analyses. We will begin again with a logistic regression model of being in the deployed group, and use that model to produce a predicted probability of being in the deployed group. Following procedures developed by Rubin and his colleagues, we will then organize the two groups (deployed vs non-deployed) into quintiles on the basis of their predicted probability scores. Examination of the balance of the quintiles within and across groups provides important information about the comparability of the groups. If the quintiles are balanced within and across, the two groups can be considered “equivalent,” and if not the patterns of the quintiles can point to which quintiles are equivalent and which are not.

Aims and Objectives Defined

The Family Study team has clearly defined the study’s aims and objectives in an effort to guide data analysis and the production of manuscripts, consequently serving as a benchmark of our progress. In addition, the team recently assigned responsibility for conducting specific studies to each collaborating institution.

<table>
<thead>
<tr>
<th>Aim 1: Explore the association between service member deployment (e.g. combat, duration, dwell time, and frequency) and the health and well-being of spouses and children</th>
<th>Specific Study Question</th>
<th>Project Lead/Analyst</th>
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<tbody>
<tr>
<td>Objective</td>
<td></td>
<td>NYU and Abt</td>
</tr>
<tr>
<td>Compare emotional, behavioral, and medical issues of spouses of service members deployed with and without combat to service members who have not yet deployed</td>
<td>Is there an association between service member deployment and spouse mental health (e.g., anxiety, panic, depression, PTSD)?</td>
<td>NYU and Abt</td>
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<td>Is there an association between service member deployment and spouse distress (e.g., somatization, alcohol misuse/abuse, tobacco use, aggression)?</td>
<td>NYU and Abt</td>
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<td>Is there an association between service member deployment and the functional and general health of spouses (e.g., sleep, # of dx conditions, PCS, body weight, fatigue, exercise)?</td>
<td>NYU and Abt</td>
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</table>
### Compare emotional, behavioral, and medical issues of children of service members deployed with and without combat to service members who have not yet deployed

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<th>Objective</th>
<th>Specific Study Question</th>
<th>Project Lead/Analyst</th>
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<tr>
<td>Examine number and length of service member deployments in relation to spouse mental health outcomes</td>
<td>Is there an association between the length of service member deployment and spouse emotional, behavioral, and physical health outcomes?</td>
<td>NYU and Abt</td>
</tr>
<tr>
<td>Examine number and length of service member deployments in relation to child behavioral outcomes</td>
<td>Is there an association between the length of service member deployment and child behavioral outcomes?</td>
<td>Duke and Abt</td>
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### Aim 2: Explore the association between service member readjustment issues (e.g., PTSD, anxiety, depression, alcohol misuse/abuse) and the health and well-being of spouses and children

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<th>Objective</th>
<th>Specific Study Question</th>
<th>Project Lead/Analyst</th>
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<tr>
<td>Assess association of service member readjustment issues with spouse health and well-being</td>
<td>Is there an association between service member depression and spouse mental health and distress?</td>
<td>NHRC</td>
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<td>Is there evidence of secondary traumatic stress among the spouses of service members self-reporting PTSD symptoms? (note: look at PTSD behaviors separately – specifically, avoidant behavior seems most problematic for families.)</td>
<td>NYU and Abt</td>
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<td>Is there an association between service member alcohol misuse/abuse and spouse mental health and distress (e.g., somatization, alcohol misuse/abuse, tobacco use, aggression)?</td>
<td>NYU and Abt</td>
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<td>Is there an association between service member readjustment and somatic symptoms (includes sleep items)?</td>
<td>NYU and Abt</td>
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<tr>
<td>Assess association of service member readjustment issues with child health and well-being</td>
<td>Is there an association between service member readjustment and child behavioral, and health and well-being outcomes?</td>
<td>Duke and Abt</td>
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### Aim 3: Examine factors related to resiliency and vulnerability that moderate the association between deployment experiences and service member readjustment issues, and the health and well-being of spouses and children

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<th>Objective</th>
<th>Specific Study Question</th>
<th>Project Lead/Analyst</th>
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<tr>
<td>Determine the relationship between social support (e.g., friends, family, co-workers, neighbors) and the health and well-being of spouses and children</td>
<td>Does social support moderate the relationship between deployment experiences and the health and well-being of spouses and children?</td>
<td>Duke and Abt</td>
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<td>Investigate the relationship between support services (e.g., return and reunion programs,</td>
<td>Do support services moderate the relationship between deployment experiences and the health and well-being of spouses and children?</td>
<td>Duke and Abt</td>
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<tr>
<td>Study Area</td>
<td>Research Questions</td>
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<td>Mental Health and Primary Care Providers, Clergy and the Health and Well-being of Spouses and Children</td>
<td>Do support services moderate the relationship between service member readjustment and the health and well-being of spouses and children? Does the stress of military life moderate the association between deployment experiences and the health and well-being of spouses and children?</td>
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<tr>
<td>Investigate the relationship between the stress of military life (e.g., multiple PCS moves) and the health and well-being of spouses and children</td>
<td>Does the stress of military life moderate the association between service member readjustment issues and the health and well-being of spouses and children?</td>
<td></td>
</tr>
<tr>
<td>Investigate the association between family characteristics (e.g., number and age of children in the household, children with special physical or mental health needs) and the health and well-being of spouses</td>
<td>Do family characteristics moderate the relationship between deployment experiences and the health and well-being of spouses? Do family characteristics moderate the relationship between service member readjustment and the health and well-being of spouses?</td>
<td></td>
</tr>
<tr>
<td>Examine the relationship between spousal adverse life events (e.g., adverse child events, major life events) and the health and well-being of spouses</td>
<td>Do adverse life events moderate the association between deployment experiences and the health and well-being of spouses? Do adverse life events moderate the association between service member readjustment and the health and well-being of spouses?</td>
<td></td>
</tr>
<tr>
<td>Explore the relationship between employment factors and the health and well-being of spouses and children</td>
<td>Does employment moderate the association between deployment experiences and the well-being of spouses and children? Does employment moderate the association between service member readjustment and the well-being of spouses and children? Does dual service moderate the association between deployment experiences and the well-being of spouses and children? Does dual service moderate the association between service member readjustment and the well-being of spouses and children?</td>
<td></td>
</tr>
<tr>
<td>Investigate the relationship between proximity to military services and the health and well-being of spouses and children (GIS Studies)</td>
<td>Does proximity to military services moderate the relationship between deployment experiences and the health and well-being of spouses and children and does this relationship differ by service component? Does proximity to military services moderate the relationship between service member readjustment and the health and well-being of spouses and children and does this relationship differ by service component?</td>
<td></td>
</tr>
<tr>
<td>Explore the role of self-mastery in the health and well-being of spouses and children</td>
<td>Does self-mastery moderate the relationship between deployment experiences and the well-being of spouses and children? Does self-mastery moderate the relationship between service member readjustment and the well-being of spouses and children?</td>
<td></td>
</tr>
</tbody>
</table>
## Aim 4: Examine factors related to marital quality and family functioning

<table>
<thead>
<tr>
<th>Objective</th>
<th>Specific Study Question</th>
<th>Project Lead/Analyst</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determine service member factors that are associated with spouse reports of marital satisfaction and family functioning</td>
<td>Is there an association between deployment experiences (e.g., combat, duration, dwell time, and frequency) and spouse reports of marital satisfaction and family functioning (e.g., communication and cohesion)?</td>
<td>Abt and NHRC</td>
</tr>
<tr>
<td></td>
<td>Is there an association between service member readjustment (e.g., issues and growth) and spouse reports of marital satisfaction and family functioning?</td>
<td>Abt and NHRC</td>
</tr>
<tr>
<td></td>
<td>Is there an association between service member injury, PCS score, and number of doctor diagnosed conditions and spouse reports of marital satisfaction and family functioning?</td>
<td>Abt and NHRC</td>
</tr>
<tr>
<td></td>
<td>Is there an association between service member alcohol misuse/abuse or tobacco use and spouse reports of marital satisfaction and family functioning?</td>
<td>Abt and NHRC</td>
</tr>
<tr>
<td>Determine support factors that are associated with spouse reports of marital satisfaction and family functioning</td>
<td>Is social support (e.g., friends, family, co-workers) associated with spouse reports of marital satisfaction and family functioning?</td>
<td>Abt and NHRC</td>
</tr>
<tr>
<td></td>
<td>Is the use of support services (e.g., return and reunion programs, mental health and primary care providers, clergy) associated with spouse reports of marital satisfaction and family functioning?</td>
<td>Abt and NHRC</td>
</tr>
<tr>
<td>Determine employment related factors that are associated with spouse reports of marital satisfaction and family functioning</td>
<td>Is there an association between employment factors (e.g., service member occupational codes, spouse full/part time/seeking) and spouse reports of marital satisfaction and family functioning?</td>
<td>Abt and NHRC</td>
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<td></td>
<td>Is there an association between service member work-family conflict and spouse reports of marital satisfaction and family functioning?</td>
<td>Abt and NHRC</td>
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<td>Is there a relationship between the gender of the service member and spouse reports of marital satisfaction and family functioning?</td>
<td>Abt and NHRC</td>
</tr>
<tr>
<td></td>
<td>Is there a relationship between dual service employment and spouse reports of marital satisfaction and family functioning?</td>
<td>Abt and NHRC</td>
</tr>
</tbody>
</table>

## Aim 5: Evaluate methodological approaches to ensure adequate representation of spouses from all service branches, Reserve, and National Guard; and assess validity of assessment measures and instruments

<table>
<thead>
<tr>
<th>Objective</th>
<th>Specific Study Question</th>
<th>Project Lead/Analyst</th>
</tr>
</thead>
<tbody>
<tr>
<td>Examine methodology and target enrollment population</td>
<td>What was the Family Study design, its objectives, its target population, and how was data collected?</td>
<td>Complete</td>
</tr>
<tr>
<td></td>
<td>Did recruitment method impact overall response or data quality?</td>
<td>Abt and NHRC</td>
</tr>
<tr>
<td></td>
<td>Were there differences in dyad recruitment with and without referral?</td>
<td>Abt and NHRC</td>
</tr>
<tr>
<td>Conduct non-response analyses to ensure adequate representation of spouses</td>
<td>Did Millennium Cohort Panel 4 survey response propensities and Family Study survey response propensities combine to impact the representation of spouses in the Family Study?</td>
<td>Abt and NHRC</td>
</tr>
</tbody>
</table>
Examining baseline characteristics of Family Study enrolled sample

What are the baseline characteristics of Family Study participants and do they compare to other spouse study populations?

NHRC and Abt

Aim 6: Contribute data to the service member cohort study on spouse and child factors that are associated with service member health and well-being, as well as length of service

<table>
<thead>
<tr>
<th>Objective</th>
<th>Specific Study Question</th>
<th>Project Lead/Analyst</th>
</tr>
</thead>
<tbody>
<tr>
<td>Describe spouse related factors that are associated with service member health and well-being outcomes</td>
<td>Is there an association between the health and well-being of the spouse (e.g., physical health, mental health, stress, functional health) and the service member’s mental and physical health?</td>
<td>NHRC and Abt</td>
</tr>
<tr>
<td></td>
<td>Is there a relationship between healthcare and support service utilization (e.g., return and reunion programs, mental health and primary care providers, clergy) by the spouse and the well-being of the service member?</td>
<td>NHRC and Abt</td>
</tr>
<tr>
<td></td>
<td>Is there an association between the self-mastery of the spouse and the service member’s mental and physical health?</td>
<td>NHRC and Abt</td>
</tr>
<tr>
<td></td>
<td>Is there an association between spouse modifiable behaviors (e.g., alcohol use, smoking, sleep, exercise) and the service member’s mental and physical health?</td>
<td>NHRC and Abt</td>
</tr>
<tr>
<td>Describe spouse and family functioning factors that are associated with service member length of service and separation</td>
<td>What health and well-being factors of the spouse are associated with the military members’ length of service and separation?</td>
<td>NHRC</td>
</tr>
<tr>
<td></td>
<td>Is there a relationship between child health and well-being and the military members’ length of service and separation?</td>
<td>NHRC and Duke</td>
</tr>
<tr>
<td></td>
<td>Is work-family conflict associated with the military members’ length of service and separation?</td>
<td>NHRC</td>
</tr>
<tr>
<td>Explore the relationship between family functioning and service member health and well-being</td>
<td>Is there an association between family communication and functioning and service member health and well-being?</td>
<td>NHRC</td>
</tr>
<tr>
<td>Describe factors associated with the health and well-being of service members in dual military families</td>
<td>Are female service members with children that deploy at greater risk for developing mental health problems than male service members or non-deploying females?</td>
<td>NHRC and Duke</td>
</tr>
</tbody>
</table>

Baseline Study Proposals

The Family Study team identified several high priority papers that were slotted for production over the next year before our untimely work stop. In order to meet this goal, the NHRC team and the Abt team had planned to collaboratively work on each of the following papers:

Non-response Analysis and Adjustment in a Survey of Military Families

Lead Author: Bill Schlenger (Abt team)

Secondary Authors: Hope McMaster, Carrie Donoho, Doug Fuller, Nida Corry, Mike Battaglia, Chia-Lin Ho, Richard Kulka

Status: Proposal Approved, Survey Data Transferred, DMDC data delayed
**Objective:** To conduct non-response analysis and adjustment in order to ensure our sample adequately represents the military family population intended

**Background:** Conducting surveys that accurately reflect the views and experiences of a given population depend on maximizing participation. The Family Study utilized multiple techniques informed by one of the most successful survey approaches to motivate our sample of invited service members and their spouses to enroll in the study in order to maximize participation and reduce the potential for non-response bias. However, as is the case with every probability sample survey, it is important to understand the potential impact of non-response on the ability of surveys to describe large populations. Because the Family Study is the largest study of its kind and offers information critically important for the DoD, VA, and society, it is essential to conduct non-response analysis and post survey adjustment in order to ensure that the Family Study adequately represents the military families intended.

**Analysis Plan:** We will begin by creating design weights for the invited sample of spouses (22,520) based on Millennium Cohort Study Panel 4 married military personnel (125,000) available sociodemographic data. We will also model Family Study participation statistically by using the information that military records (DMDC/DEERS) provide us on responders and non-responders (service members and spouses), and by using the survey data from the married Millennium Cohort Study (2011 – 2013) service member enrollees. Specifically, response propensities will be estimated for the invited Family Study sample using logistic regression that includes the previously mentioned sociodemographic variables and the “spouse-paired” service member survey data. The response propensity for each respondent will then be estimated based on the model, and adjustments will be set to the inverses of the response propensities. The Family Study survey data will then be weighted by multiplying the design weights and the inverse non-response propensity weights for the Family Study participants.

**Recruiting Military Spouse Dyads: Does Requesting Service Member Permission Before Recruiting Spouses Introduce Bias in Survey Respondents**

**Lead Authors:** Hope McMaster (Abt team)/Valerie Stander (NHRC)

**Secondary Authors:** Evelyn Davila, Bill Schlenger, Lauren Bauer, Hector Lemus

**Status:** Proposal Approved, Survey Data and DMDC Data Available

**Objective:** To describe two recruitment strategies used to enroll the spouses of Service Members that recently enrolled in the Millennium Cohort Study, in order to assess their impact on the sample of spouses in the Millennium Cohort Family Study.

**Background:** The interaction between two people is the most common interaction to study (Bakeman & Beck, 1974), yet dyadic research designs present a multitude of methodological
complexities (Quinn, Dunbar, Clark, & Strickland, 2010) that often begin with challenges in recruiting a representative sample of couples. Additionally, researchers often fail to provide valuable details concerning initial contact with couples and rates of non-response (Karney et al., 1995; Preloran, Browner, & Lieber, 2001), information that is useful for determining the generalizability of the sample. By utilizing a probability sample of married Service Members for recruitment, we can utilize sociodemographic information found in military records for each Service Member-spouse dyad, as well as the survey data of Millennium Cohort participants. Consequently, we can 1) compare spouse response rates based on recruitment strategy, 2) determine spouse and Service Member characteristics associated with recruitment strategy, and 3) assess the effect of recruitment strategy on the Family Study’s internal validity by examining differences in military specific exposure-disease relationships, in an effort to explore the impact of recruitment strategy on our sample.

**Analysis Plan:** Descriptive analyses including frequencies and chi square tests will be performed to describe each recruitment group. To assess characteristics significantly associated with recruitment group, univariable logistic regression analyses will be performed, with referral status as the dependent variable. Adjusted logistic regressions to include the independent variables of age, sex, race/ethnicity, education, and all variables significant at the alpha 0.05 level in the univariable models will also be performed.

**Recruiting Military Spouses through Postal Mail: An Experimental Comparison of Web versus Paper Survey Response Strategies**

**Lead Author:** Hope McMaster (Abt team)

**Secondary Authors:** Don Dillman, Cynthia LeardMann, Steven Speigle

**Status:** Proposal Approved, Survey Data and DMDC Data Available

**Objective:** To compare a web-push (initially withholding a paper survey option) recruitment strategy to a paper-push (withholding a web option) recruitment strategy in order to determine the most effective strategy for obtaining responses for a group of military spouses for whom only postal addresses were available.

**Background:** When conducting sample surveys it is often seen as advantageous to collect survey responses over the web, rather than mail or telephone, in order to reduce the time and costs associated with data collection and processing, and for the ability to implement complex skip patterns and reduce erroneous responses. Unfortunately, a significant barrier to collecting survey data via the web is when email addresses are unavailable and another means of contact, such as postal mail addresses, are the only means by which potential respondents may be contacted. Our purpose in this paper is to report an experiment conducted with US military
spouses in which a web-push (initially withholding a paper survey option) strategy was compared to a paper-push (withholding a web option) strategy in order to determine the most effective strategy for obtaining responses for a group of military spouses for whom only postal addresses were available. In addition, the representativeness of respondents was compared by using selected sociodemographic records and survey data that were available for the participants’ service member spouse.

**Analysis Plan:** Response rates will be compared using chi square analyses. Descriptive analyses including frequencies and chi square tests will be performed to describe each recruitment group. To assess characteristics significantly associated with recruitment group, web vs. paper, and responders vs non-responders, univariable logistic regression analyses will be performed. Adjusted logistic regressions to include the independent variables of age, sex, race/ethnicity, education, and all variables significant at the alpha 0.05 level in the univariable models will also be performed.

**An Examination of Military Life Stressors among Families of Combat Deployed, Deployed, and Non-Deployed Service Members on Child Psychosocial Outcomes**

**Lead Author:** John Fairbank (Abt team)

**Secondary Authors:** Ernestine Briggs, Ellen Gerrity, Lisa Amaya-Jackson, Robert Murphy, Robert Lee, Bill Schlenger, Charles Marmar, Hope McMaster, NHRC team member

**Status:** Proposal Approved, Survey Data Transferred, DMDC data delayed

**Objective:** To examine how the potential stresses of military life (deployments, reunions, and service member injury) affect children of different ages, stages of development and psychological profiles.

**Background:** In 2011, the military included over 1.4 million Active Duty personnel. Fifty four percent of them were married and of these, 44 percent had children. Just under half of the 855,867 Reserve and Guard members were married and 43 percent of them had children (U.S. Department of Defense, 2011). Many of these families experienced repeated deployments, some have experienced injuries, and small proportions have experienced the death of a deployed service member. The effects of long and repeated deployment on service members and their families have been discussed extensively in the research and clinical literatures. While some of these studies have examined factors that promote the resiliency of military families and children (Lester et. al. 2011; Neubert, 2010; Palmer, 2008; Park, 2011; Weber & Weber, 2005), most of the extant studies have focused on risk factors associated with deployment (e.g., Mmari, Roche, Sudhinaraset, & Blum, 2009), thus underscoring the need for research examining the specific effects of parental deployment, reunion, and combat-related injury on military children.
Analysis Plan: The proposed study will include Millennium Cohort Family Study service member/spouse dyads from the first enrollment cycle (2011-2013) baseline survey. This study would include all participants with a child/ren at least 3-17 years of age in the home. Univariate and multivariate analyses will be conducted to investigate the associations among deployment variables (length, duration, dwell time), post-deployment adjustment, and service member injury, with child emotional and behavioral functioning.

An Examination of Stressful Environmental Conditions among Military Families on Child Psychosocial Outcomes.

Lead Author: John Fairbank (Abt team)

Secondary Authors: Ernestine Briggs, Ellen Gerrity, Lisa Amaya-Jackson, Robert Murphy, Robert Lee, Bill Schlenger, Charles Marmar, Hope McMaster, NHRC team member

Status: Proposal Approved, Survey Data Transferred, DMDC data delayed

Objective: Explore how stressful environmental conditions (e.g., parental mental health, alcohol abuse/misuse, marital relationship, parental life experiences, coping, family functioning) affect important child psychosocial outcomes.

Background: The research literature about the effects of deployment and its aftermath on military connected children is relatively small, yet a growing list of indicators of the potential strain of deployment on families has been identified. To date, several studies have documented increased risks of: marital conflict and domestic violence (Ruscio et al. 2002); parental maltreatment or neglect of children (Gibbs et al. 2007; Rentz et al. 2007); spousal depression, anxiety and “secondary traumatization” that interferes with effective parenting (Galovski & Lyons 2004; Mansfield et al. 2010); and emotional and behavioral problems among military children (Chandra et al. 2011; Flake et al. 2009; Lester et al.2011b). Reviews of the literature (Johnson et al. 2007; Park, 2011; U.S. Department of Defense, 2010) reveal that there are opportunities to expand research on military children by drawing on theory and empirical findings from research on civilian children and families. One approach that carries considerable promise is to understand and examine the specific mechanisms by which family processes mediate the links between risk factors and adverse outcomes. This strategy in turn can be used to explore factors that promote and/or undermine resilience. To this end, the primary objective of this study is to investigate familial factors (parental life experiences, coping, parental well-being, family functioning) that may influence the psychosocial functioning of military children. The Millennium Cohort Family Study presents a unique opportunity to explore this constellation of risk and protective factors from the perspective of the service members’ spouse in a large cohort of families with variable deployment experiences.

Analysis Plan: The proposed study will include Millennium Cohort Family Study service member/spouse dyads from the first enrollment cycle (2011-2013) baseline survey. This study
would include all participants with a child/ren at least 3-17 years of age in the home. Univariate and multivariate analyses will be conducted to investigate the associations among parental life experiences, coping, well-being, and family functioning, with child emotional and behavioral functioning in families whose service member has or has not deployed.

**The Impact of Military Deployment and Readjustment on Spousal Outcomes**

**Lead Author**: Charles Marmar (Abt)

**Secondary Authors**: Maria Steenkamp, Bill Schlenger, John Fairbank, Hope McMaster, NHRC team member

**Status**: Approval Pending

**Objectives**: To compare emotional, behavioral, and medical issues of spouses of service members deployed with and without combat to service members who have not deployed, to examine the number and length of service member deployment in relation to spouse mental health outcomes, and to assess the association of service member readjustment problems (e.g., PTSD, alcohol problems) with spouse health and well-being.

**Background**: The adverse psychosocial impact of deployment on military spouses has been documented across eras and countries, including World War II (e.g., Bramsen et al. 2002), the Vietnam war (e.g., Westerink & Giarrantano 1992), the 1982 Lebanon War (e.g., Solomon et al., 1992), and the recent wars in Iraq and Afghanistan (Mansfield et al., 2010). These studies have shown that longer deployments, pregnancy while deployed, and having a spouse with PTSD increase the risk of spousal stress and depression (De Burgh et al 2011). The impact of veterans’ PTSD on their spouses has received particular attention. Partners of veterans with PTSD endorse greater anxiety, depression, somatic complaints, sleep problems, loneliness, and lower self-esteem (see Galovski & Lyons, 2004 for review), and the extent of spousal distress is associated with the extent of the veteran’s impairment (Beckham, Lytle, & Feldman, 1996; Riggs, Byrne, Weathers, & Litz, 1998). Spousal distress is especially heightened when the spouse perceives high levels of PTSD in veterans but veterans themselves report low levels of symptoms (Renshaw et al., 2010).

As such, the psychological cost of warfare extends to veterans’ spouses as well. The primary aim of this study is to examine the psychosocial burden of military spouses of deployed and non-deployed service members. The Millennium Cohort Family Study presents a unique opportunity to investigate the psychological sequelae of deployment on members’ spouse in a large cohort of families with variable deployment experiences.

**Analysis Plan**: Univariate and multivariate analyses will be conducted to investigate the associations between deployment-related variables (e.g., number and length of service) and veteran psychosocial functioning with spousal psychosocial outcomes, comparing spouses of
service members deployed with and without combat to service members who have not deployed.

**Factors Associated with Depression among Military Spouses of Combat Deployed, Deployed, and Non-Deployed Service Members**

**Lead Author:** Carrie Donoho (NHRC)

**Secondary Authors:** Hope McMaster (Abt), Toni Rush, Cynthia LeardMann

**Status:** Proposal Approved, Survey Data and DMDC Data Available

**Objective:** To determine environmental and psychosocial factors associated with depression in the military spouse population

**Background:** Military spouses experience unique situations that create cyclical periods of increased stress and strain that are unique to the military family and may negatively impact the well-being of the family. For example, Eaton and colleagues (2008) reported that 12% of military spouses screened positive for a major depressive episode, which is double the prevalence estimation in the general population. Comprehending the factors associated with depression within the military spouse population is increasingly critical, as family readiness can impede the readiness of the Service member. When the Service member returns home from deployment, re-acclimatization into the family unit can be difficult. The presence of mental disorders among the spouse of Service member, such as depression, can create obstacles that could impede a positive reunion and acclimatization. In addition, chronic mental health conditions may continue to disrupt the relationships within the family. The results for this study will help to identify how factors such as deployment, service member mental health, gender, and military status of the spouse are related to depression in the military spouse. Given the higher rate of depression rates among military spouses compared with their civilian counterparts, it is critical that we understand the specific factors that contribute to their well-being, in order to develop interventions that can reduce the risk of depression in this population.

**Analysis Plan:** Univariate analyses including frequencies and chi-square tests will be used to assess associations of factors with depression among military spouses. Using logistic regression, adjusted analyses will be conducted to examine which factors are associated with depression in the military spouse. Factors to be investigated will include demographics, behavioral characteristics, physical health, and military experiences of the spouse, family characteristics, mental health status of the military Service members, and military characteristics of the Service member including deployment and combat experience.
Baseline Enrollment in a Longitudinal Study of Military Service and Deployment on Family Health and Wellbeing

Lead Author: David Luxton (NHRC)

Secondary Authors: Hope McMaster (Abt), Chris O’Malley, Cynthia LeardMann, Carrie Donoho

Status: Proposal Approved, Survey Data and DMDC Data Available

Objective: To describe participants of the Family Study using self-report from the service member and Family Study spouse, as well as military records.

Background: The Millennium Cohort Family Study is a landmark study of United States military families, serving throughout the world, with planned follow-up for over 20 years to evaluate the impact of military experiences on families both during and after time in service (Crum-Cianflone, Fairbank, Marmar, & Schlenger, 2014). The Family Study is made up of both male and female spouses of active duty, Reserve and National Guard personnel from all service branches (Army, Navy, Air Force, Marine Corps and Coast Guard) of the U.S. military (Crum-Cianflone et al., 2014). Approximately 10,000 spouses completed a web or paper survey containing over 500 questions related to demographics, physical health, mental health, coping skills, life experiences, deployment of military spouse, post-deployment return and reunion experiences, personal military service (for dual military relationships), marital adjustment, military spouse’s behavior and adjustment, military life, family functioning, and children’s health and well-being. Demographic and military characteristics (e.g., age, gender, military spouses’ length of service) extracted from the Defense Manpower Data Center DEERS database are matched to survey response. The primary objective of the Family Study is to prospectively evaluate the associations between military experiences and service member readjustment on military family health and well-being.

Analysis Plan: Univariate analyses will be conducted to describe the study sample. The following indictors will be included in analyses: Military factors, chronic health conditions, SF-36V, PHQ (depression, anxiety, panic, somatoform); PCL-C (PTSD), Cage (history of alcohol abuse), ISI (insomnia), ACE (adverse childhood experiences), QMI (marital quality), FACES (family cohesion), and child outcomes.

Family Study Publication

**Family Study Presentations**


Fairbank J, for the Millennium Cohort Family Study Team. Millennium Cohort Family Study. *North Carolina Governor's Focus on Service Members, Veterans, and Their Families*, 16 May 2012, Morrisville, NC.


Fairbank J, for the Millennium Cohort Family Study Team. Millennium Cohort Family Study. *Briefed Deanie Dempsey, wife of General Martin E. Dempsey, Chairman of the Joint Chiefs of Staff*, 13 January 2012, Durham, NC.


Briggs-King E, for the Millennium Cohort Family Study Team. Responding to the needs of military children and families: Collaboration, research, services, and policies. *The Congressional Black Caucus Foundation*, 17 September 2010, Washington, DC.


military family: Using survey methodology to understand the impact of military service on family health and well-being. **13th Annual Force Health Protection Conference**, 7-13 August 2010, Phoenix, AZ.

Schlenger W, McMaster H, for the Millennium Cohort Family Study Team. Millennium Cohort Family Study. **Military Family Research In Progress Review (IPR)**, 21 July 2010, Frederick, MD.

Smith T, for the Millennium Cohort Study Team. The Millennium Cohort Study and Deployment Health. **Military Family Research Institute**, 7-8 April 2010, West Lafayette, IN.


### 2.4 Barriers to Progress & Solutions

The following highlights key barriers to progress encountered during the study and solutions to the encountered barriers. Details concerning the barriers and solutions are provided in the preceding sections.

**Barriers to Progress:**

- Low response rates for service members in the Panel 4 sample;
- Low referral rate for Panel 4 respondents;
- Lack of availability of centralized database of email addresses for military spouses;
- Complexity of developing a paper survey mid-survey cycle;
- Complexity associated with “rolling” enrollment (i.e., sample becomes available over the course of 2 years of enrolling service members);
  - Cost and complexity associated with 6-contact 12-week recruitment effort for a rolling survey cycle;
• Additional funding for NHRC data collection effort to improve staffing ability, survey implementation, and response rates with Panel 4 respondents;

• Budget revisions and modifications to the Abt team’s analytic scope of work to accommodate additional data collection effort.

• Multiple changes in leadership of the NHRC study team for the Milco Study and the Family Study over the 5 year study period, specifically there were 5 different study PIs that we worked with causing multiple changes in survey implantation, survey development, staffing, and support;

• Loss of staff during years 3 and 4 at NHRC, resulting in loss of 80% of analytic support and unmeasurable institutional knowledge; and,

• Data processing and cleaning delays associated with significant loss of staff at NHRC and multiple modes of response that were not planned.

Solutions:

• Addition of Dr. Dillman to the team and development of an ongoing consulting agreement for services to improve Panel four response rates;

• Modification of recruitment approach to include both referred and non-referred spouses;

• Modification to the scope of work to support additional data collection effort through: additional staff for NHRC; and, increased funding for survey implementation communication strategies and respondent incentives;
  
  - NHRC hiring and training qualified personnel to support the data cleaning effort; and,

• Conducting a nationwide search and finding a new NHRC study PI, Dr. David Luxton, that has the knowledge and experience to conduct survey operations and manage two large epidemiological studies for the military;
3. Key Research Accomplishments

- Enrolled ~10,000 spouses;
- Recruitment of experienced survey experts (Dillman, Kulka) to review the survey design and suggest changes;
- Developed and implemented marketing and survey strategies that improved response rates;
- Changed study design mid-cycle by inviting spouses with and without referral, to address bias concerns associated with low referral rate
- Implemented a highly effective 6-step mail approach utilizing the most effective recruitment techniques currently available;
  - Developed a paper survey (second mode to respond) mid-cycle
  - Tailored messages to spouses
  - Obtained endorsement from Deanie Dempsey
  - Utilized pre-incentives (magnet, $5 gift card)
- Created a new recruitment technique (sample survey) that resulted in increased enrollment and encouraged web survey response
- Scanned and verified all paper surveys
- Cleaned and verified all survey data
- Linked Family data with married Service Member
- Improved Family Study Website by including guidelines for researchers interested in collaborating and using data
- Completed survey revisions of the 2014-2015 follow up cycle
- Received IRB and OMB approval for 2014-2015 survey
- Developed and approved a streamlined collaboration protocol
- Finalized DUA between NHRC and Abt Associates to share data
- Transferred data from NHRC to Abt
- Published paper describing the Family Study design and methodology
- Wrote 8 proposals that were in various states of production prior to work stop;
4. Reportable Outcomes

N/A
5. Conclusions

N/A
6. Appendices

1. Appendix A: IPR Presentation 2010
2. Appendix B: IPR Presentation 2011
3. Appendix C: IPR Presentation 2012
5. Appendix E: Collaboration Protocol
6. Appendix F: IPR Presentation 2013/2014
7. Appendix G: Data Use Agreement
8. Appendix H: APA symposium
9. Appendix I: Conceptual Models
10. Appendix J: Family Study Overview Manuscript
Millennium Cohort Family Study

PI: William Schlenger, PhD, Abt Associates and Duke University

Co-PI: John Fairbank, PhD, Duke University

Co-PI: Charles Marmar, MD, New York University

Co-PI: Tyler Smith, MS, PhD, Naval Health Research Center

Co-I: Hope McMaster (presenter), PhD, Naval Health Research Center
Administrative Information

- Award Number: W81XWH-09-C-0101
- Award Date: 28 Sep 2009
- Award Amount: $9,850,873
- COR: MAJ Pedro Bonilla-Vazquez
- Project Officer: Ms. Buffy Burdette
- Portfolio Mgrs: COL Carl Castro, PhD, & Kate Nassauer, PhD.
Study Background and Rationale

- Substantial empirical documentation of mental health and related outcomes for US service members deployed to war-zones

- Less is known about deployment-related outcomes for spouses and other family members of US service personnel

- War-zone deployment can be understood as representing an extreme case of work-family conflict resulting in degraded individual and family functioning:
  - extended geographic separation
  - constant threat of bodily harm
  - anxiety and mood changes
  - substance abuse and related problems
  - service member concern over events at home
DoD’s Mental Health Task Force recommendations:

- Research on the processes of post-deployment adjustment for family members
- Research on children who have been separated from their parents by deployment, including their access to support for psychological health issues

A recent gap analysis by the Military Operational Medicine Research Program (MOMRP) identified studies of military families as a high priority issue.
So, we are conducting a community epidemiologic study of the impact of OEF/OIF deployment on family members

For practical reasons, the study is:

- being implemented in the context of the Millennium Cohort Study
- focused primarily on spouses and secondarily on co-resident children
- funded only for the baseline assessment, but designed and intended to be longitudinal
The Millennium Cohort Study was launched in 2001 in collaboration with all US military services and the Department of Veterans Affairs, prior to the conflicts in Iraq and Afghanistan.

The Millennium Cohort Study has now enrolled more than 151,000 service members that are surveyed every 3 years to examine how deployment and other military occupational exposures affect the long-term physical and mental health of military members and veterans.

- 50% deployed in support of OIF/OEF
- 50% Reserve Guard
- 25% separated from the military

- Panel 1: 77,000
- Panel 2: 31,100
- Panel 3: 43,000
Family member assessment added to new enrollees (Panel 4) in the Millennium Cohort Study, which will be launched in 2010 and enroll about 62,000 new service member participants.

Married
\[ n = 125,000 \]

Men
\[ n = 100,000 \]

Women
\[ n = 25,000 \]

Not Married
\[ n = 125,000 \]

Men
\[ n = 100,000 \]

Women
\[ n = 25,000 \]

Military personnel with 2-5 years (24-60 months) of service
\[ N = 250,000 \]

50% married

50% not married

80% men

20% women

25% estimated to enroll in the Millennium Cohort Study
\[ n = 31,250 \]

65% estimated to give permission to contact spouse
\[ n \sim 20,313 \]

50% estimated to respond
\[ n \sim 10,000 \] spouses enrolling in the Millennium Cohort Family Study

*Active-duty, Reserve, and National Guard, oversampling for female and married personnel*
Methodology

- Panel 4 of the Millennium Cohort Study includes a probability sample of military service members, oversampling for female and married service members.

- Approximately half married to service members who have deployed to OEF/OIF at least once.

- Married service members will be asked to grant permission to contact their spouse.

- Participants respond via secure website: www.familycohort.org

- Link to other military data to complement self-report measures with objective measures of exposure, service use, and health-related outcomes.
Family Study Design Overview

- **Primary Aim 1:** To assess the impact of OIF/OEF deployment on:
  - mental health and related outcomes of spouses and co-resident children of service member
  - the quality of the relationships between service members, spouses and their children
  - the associations between family member outcomes and service member outcomes

- **Primary Aim 2:** To identify vulnerability and resilience factors for deployment stress-related outcomes for spouses and children of deployed service members
Specific outcomes assessed include:

- Spouse’s report of deployment-related stressors
- Spouse’s mental health symptoms (including substance abuse) and mental health service use
- Spouse’s health status and health service use
- Spouse’s sleep and sleep quality
- Spouse’s report of the service member’s health and mental health status and service use
- Family relationships
- Child health and mental health symptoms and service use
Research will inform policy makers and guide intervention and prevention strategies related to:

- Family member resilience
- Deployment-related stress
- Family support dynamics
- Service member and family well-being
- Force readiness
- Military separation
- Barriers to care

Main Survey Topics:

- Demographic information
- General health (including sleep)
- Spouse, family, child, and service member stress
- Impact of deployment and military service
- Family cohesion, expressiveness, and conflict
- Child behavioral, developmental and general health
- Health services
- Alcohol and tobacco use
- Military specific questions for active-duty spouses
Selected Family Study Hypotheses

- Military families will demonstrate resilience during deployment and other periods of significant stress.

- Increased stress on the family system as a result of deployment to a war-zone is associated with greater levels of psychological distress.

- Spouses of deployed service members will report higher levels of psychological distress than spouses of non-deployed.

- Level of spousal distress will be associated with number of deployments to war zones, duration of the deployments, and the level of warfighters’ exposure to combat and other war zone stressors.

- Children of deployed services members will have higher levels of internalizing and externalizing behavioral problems, in a dose-response relationship.
Preliminary Deliverable and Dissemination Plan

➢ All years:
  • Quarterly and Annual Reports, IPRs, comprehensive final report

➢ Years 1/2:
  • Standard methodological studies, e.g.:
    * nonresponse analyses
    * comparability at baseline of deployed vs non-deployed groups
    * internal consistency reliability and dimensionality of multi-item scales.

➢ Years 2/3:
  • “Main findings” manuscripts, e.g.:
    * spouse stressors, health, mental health, and functioning (deployed vs non-deployed, service member vs spouse);
    * relationship quality;
    * health, mental health, and functioning of children (spouse report of Sx, record based Dx and service use information).

➢ Years 4/5:
  • Conceptually-driven manuscripts, e.g.:
    * mediators and moderators of relationships of exposures and outcomes
    * SEM models of hypothesized causal factors
Study Progress to Date

- NHRC IRB approved study protocol
- Family questionnaire developed and submitted to OMB for review and approval
- Family study secure website developed and tested
- Web-based questionnaire developed and being tested
- Scientific Review Panel recruited and initial meeting scheduled for September 21, 2010
- Study aims and design presented and critically discussed at multiple professional meetings
- Study analysis and dissemination plans under development
Appendix B: IPR Presentation 2011
Millennium Cohort Family Study

Co-PI: Nancy F. Crum-Cianflone, MD, MPH
Naval Health Research Center

Co-PI: John Fairbank, PhD
Duke University

Co-PI: Charles Marmar, MD
New York University

Co-PI: William Schlenger, PhD
Abt Associates and Duke University

Co-I: Hope McMaster, PhD (Presenter)
Naval Health Research Center

Award Number (Abt): W81XWH-09-C-0101
Award Amount: $5,041,373
Award Date: 28 Sep 2009

Award Number (NHRC): W911QY-09-D-0040 0006
Award Amount: $5,017,930
Award Date: 29 Sept 2009 – 30 Sept 2013

COR: MAJ Pedro Bonilla-Vazquez
Project Officer: Ms. Sherri Pearson
Portfolio Mgrs: COL Carl Castro, PhD
Kate Nassauer, PhD
Study Background and Rationale

- Substantial empirical documentation of mental health and related outcomes for US service members deployed to war-zones

- Less is known about deployment-related outcomes for spouses and other family members

- War-zone deployment can be understood as representing an extreme case of work-family conflict resulting in degraded individual and family functioning:
  - Extended geographic separation
  - Constant threat of bodily harm
  - Anxiety and mood changes
  - Substance abuse and related problems
  - Service member concern over events at home
DoD’s Mental Health Task Force recommendations:

- Research on the processes of post-deployment adjustment for family members
- Research on children who have been separated from their parents by deployment, including their access to support for psychological health issues

A recent gap analysis by the Military Operational Medicine Research Program (MOMRP) identified studies of military families as a high priority issue
Research Questions

- What is the impact of deployment on the mental health and well-being of spouses and co-resident children of service members?

- Does deployment impact the quality of the relationships between service members, spouses, and their children?

- What is the impact of deployment on the association between family member outcomes and service member outcomes?

- What are the vulnerability and resilience factors for stress-related deployment outcomes for spouses and children of deployed service members?
Hypotheses

- Military families will demonstrate resilience during deployment and other periods of significant stress.

- Increased stress on the family system as a result of deployment to a war-zone is associated with greater levels of psychological distress.

- Spouses of deployed service members will report higher levels of psychological distress than spouses of non-deployed.

- Level of spousal distress will be associated with number of deployments to war zones, duration of the deployments, dwell time, the level of combat experienced by the service member, and other war-zone stressors.

- Children of deployed services members will have higher levels of internalizing and externalizing behavioral problems, in a dose-response relationship.
The Millennium Cohort Study was launched in 2001 in collaboration with all US military services and the Department of Veterans Affairs, prior to the conflicts in Iraq and Afghanistan.

The Millennium Cohort Study has enrolled more than 150,000 service members and is currently enrolling new participants.

Cohort members are surveyed every ~3 years to examine how deployment and other military occupational exposures affect the long-term physical and mental health of military members and veterans.

50% deployed in support of the operations in Iraq and Afghanistan

50% Reserve Guard

30% separated from the military

Panel 1: 77,000
Panel 2: 31,100
Panel 3: 43,000
Panel 4: Enrolling (est. 62,000)
Panel 4 of the **Millennium Cohort Study** includes a probability sample of military service members (Active-duty, Reserve, and National Guard)

~ 50% deployed in support of the operations in Iraq and Afghanistan

Married service members will be asked to grant permission to contact their spouse.

*Oversampling for female and married service members*
Design and Methodology

Service Member Pre-referral Page

Survey Login Page

Website
Design and Methodology

June 2011 — June 2012

- June 2011
  - Magnet Mailer
  - Email

- July 2011
  - Email

- August 2011
  - Special Mailer
  - Email

- September 2011
  - Postcard
  - Email

- November 2011
  - Study Update Newsletter
  - Email

- December 2011
  - Postcard

- January 2012
  - Special Postcard

- February 2012
  - Email

- March 2012
  - Special Mailer
  - Email

- April 2012
  - Automated Call

- May 2012
  - Email

- June 2012
  - Automated Call

Follow-up launch P 1,2,3
New Enrollee P4 launch with Family invitation
Millennium Cohort Family Study: Spouse Model

- **Spouse**
  - Demographics
  - Life experiences
  - Health-related behaviors (physical activity, tobacco/alcohol use, sleep)
  - Resiliency and vulnerability factors (coping skills, employment, social support, life experiences)
  - Marital status and satisfaction

- **Service Member**
  - Demographics
  - Mental and physical health
  - Social functioning
  - Coping skills
  - Health-related behaviors

- **Military Factors**
  - Component (active duty, Reserve/Guard, separated)
  - Service branch
  - Pay grade
  - Deployment factors (frequency, duration, dwell time, combat)
  - Military status (single, dual)

- **Family Factors**
  - Family communication/functioning
  - Child health and well-being outcomes
  - Child developmental stage/s in household
  - Family composition
  - Deployment return and reunion
  - Service use
  - Stress of Military Life

- **Spouse Outcomes**
  - Anxiety/panic
  - Depression
  - Impulse control

- **Mental Health**
  - Substance abuse
  - Somatization
  - PTSD

- **Physical Health**
  - Functional health
  - General health
  - Provider diagnoses
  - Body weight
  - Fatigue/sleep

- **Direct and Indirect Factors**

- **Prevention strategies**
- **Clinical practices**
- **Training**
- **Policy**
Millennium Cohort Family Study: Child Model

**Parental Factors**
- Demographics
- Marital status (married, divorced, separated, widowed)
- Marital satisfaction
- Mental health
- Physical health
- Social functioning
- Health-related behaviors (physical activity, tobacco/alcohol use, sleep)
- Resiliency and vulnerability (coping skills, employment, social support, life experiences)

**Military Factors**
- Component (active duty, Reserve/Guard, separated)
- Service branch
- Rank/pay grade
- Deployment (frequency, duration, dwell time, combat)
- Military status (single, dual)

**Family Factors**
- Family communication/functioning
- Family composition
- Proximity to a base
- Service use
- Stress of military life
- Deployment return and reunion
- Child developmental stage/s in household

**Behavioral**
- Parent observations (close friends, TV consumption, stealing, attention, temper, lying, fighting, fears)
- Parent reported provider diagnoses (conduct disorder, oppositional defiant disorder)

**Parent Reported Service Use**
- Inpatient/outpatient counseling (self-help groups, day treatment, residential, individual therapy)
- State services (welfare, foster care, case-management, incarceration)
- School services (counseling, special education)

**Health and Well-being**
- Parent reported provider diagnosed psychological and physical conditions

**Direct and Indirect Factors**

**Child Outcomes**
- Demographics
- Marital status (married, divorced, separated, widowed)
- Marital satisfaction
- Mental health
- Physical health
- Social functioning
- Health-related behaviors (physical activity, tobacco/alcohol use, sleep)
- Resiliency and vulnerability (coping skills, employment, social support, life experiences)

**Prevention strategies**
- Clinical practices
- Training
- Policy
Complementary Data Sources

Civilian Spouse*

- Civilian Inpatient / Outpatient Care & Behavioral Health
- Military Inpatient and Outpatient Care
- Pharmacologic Data
- Medical History
- Mortality Data

Service Member

- Survey Data
- Demographic Data
- Recruit Assessment Program
- Military Inpatient and Outpatient Care
- Civilian Inpatient and Outpatient Care
- Pharmacologic Data
- Medical History
- Deployment Data
- Environmental Exposure Data
- Immunization Data
- Mortality Data

*Spouses of Active Duty service members
Preliminary Deliverable and Dissemination Plan

- **Years 1/2: Standard methodological studies**
  - Non-response analyses
    - Panel 4, Spouse Referral, Spouse
    - Early vs. Late
  - Comparability at baseline of deployed vs. non-deployed groups
  - Internal consistency reliability and dimensionality of multi-item scales
  - Validation of self-reported medical diagnoses with medical records

- **Years 2/3: “Main findings” manuscripts**
  - Spouse stressors, health, mental health, and functioning (non-deployed vs. non-combat vs. combat, readjustment issues vs. absence of readjustment issues, service member vs. spouse)
  - Relationship quality (non-deployed vs. non-combat vs. combat, readjustment issues vs. absence of readjustment issues)
  - Health, mental health, and functioning of children (spouse report of Sx and Dx and service use information) by deployment group (non-deployed vs. non-combat vs. combat) and adjustment (readjustment issues vs. absence of readjustment issues)

- **Years 4/5: Conceptually-driven manuscripts**
  - Mediators and moderators of relationships of exposures and outcomes
  - SEM models of hypothesized causal factors
  - Data visualization (GIS)
Current Challenges and Solutions

- **Challenges**
  - Response Rates
    * Panel 4 completions
    * Service member referrals
    * Spouse completion

- **Solutions**
  - New print marketing campaigns that focus on the couple (vs. spouse or service member only)
  - Getting better email addresses for Panel 4 sample
  - Playing on the “norm of reciprocity” by including a free gift with invitation for Panel 4
  - Press releases
  - Using QR codes on print mail to link to videos/websites
  - Automated phone calls
  - Accelerated email schedule
  - Contact services to convey legitimacy of studies
Study Progress to Date

- OMB approval
- Survey launched
  - Panel 4 Married Response Rate
  - Invited
  - Completed
- Marketing materials being developed and tested
- HTML emails generated
- New incentives tested
- Family study secure website developed and tested
- Web-based questionnaire developed, tested, and implemented
- Study aims and design presented and critically discussed at multiple professional meetings
- Study analysis and dissemination plans under development
- Data dictionary created
- Collaboration protocol developed
- Scientific Review Panel met and follow-up planned for October 2011
- Cognitive interviews completed and report under way
- Stakeholder interviews underway
- Focus groups HRPO approved
Important Subpopulations

- Reserve and National Guard
  - Proximity to and use of available services associated with marital satisfaction, family dynamics, parent perception of child distress

- Dual military families
  - Deployment lengths, frequency of relocation

- Single parent families
  - Change in family dynamics, impact on psychological well-being, parent perception of child distress, use of services

- Service utilization among male spouses
Figure 1 illustrates two population projections: (1) follow Panel 1 (spouses of MilCohort Panel 4) until 2031 or 2061; (2) follow Panel 1 in addition to a larger population-based Panel 2 launched in 2013 (spouses of MilCohort Panel 5) until 2031 or 2061.
Sanela Dursun, PhD
Canadian Department of National Defense

Shirley Glynn, PhD
US Department of Veterans Affairs, Greater Los Angeles

Michael Hurlburt, PhD
University of Southern California

Christine Johnson, MD, FAAP, CDR, MC, USN
Naval Medical Center San Diego

Patricia Lester, PhD
University of California, Los Angeles

Larry Palinkas, PhD
University of Southern California

Penelope Trickett, PhD
University of Southern California

Jennifer Vasterling, PhD
US Department of Veterans Affairs, Boston
Appendix C: IPR Presentation 2012
Millennium Cohort Family Study

Award Number (Abt): W81XWH-09-C-0101
Award Date: 28 Sep 2009
Award Number (NHRC): W911QY-09-D-0040 0006
Award Date: 29 Sept 2009 – 30 Sept 2013
COR: MAJ Pedro Bonilla-Vazquez
Project Officer: Ms. Sherri Pearson
Portfolio Mgrs: COL Carl Castro
Kate Nassauer, PhD

Co-PI: Nancy F. Crum-Cianflone, MD, MPH
Naval Health Research Center

Co-PI: John Fairbank, PhD
Duke University

Co-PI: Charles Marmar, MD
New York University

Co-PI: William Schlenger, PhD
Abt Associates and Duke University

Co-I: Hope McMaster, PhD (Presenter)
Naval Health Research Center
NHRC
Nancy Crum-Cianflone, MD, MPH, Co-PI
Hope McMaster, PhD, Psychologist, Co-I
Cynthia LeardMann, MPH, Statistician
Isabel Jacobson, MPH, Statistician
Lt Col Nisara Granado, Epidemiologist
Kelly Jones, MPH, Data Analyst
Amber Seelig, MPH, Data Analyst
Kari Sausedo, MA, Study Coordinator
Beverly Sheppard, Assistant Coordinator
William Lee, IT Specialist
Gordon Lynch, Web Developer
Steven Speigle, Data Manager
Jim Whitmer, Data Manager
Roy Nesbitt, MFA, Marketing Specialist
Michelle Linfesty, Director of Operations
Toni Rush, MPH, Data Analyst*
Raechel Del Rosario, MPH, Study Coordinator*

*Abt employees located at NHRC

Abt
William Schlenger, PhD, Co-PI
Doug Fuller, PhD, Sociologist

Duke
John Fairbank, PhD, Co-PI
Ellen Gerrity, PhD
Lisa Amaya-Jackson, MD, MPH
Ernestine Briggs-King, PhD
Robert Lee, MA, MS, Data Analyst

NYU
Charles Marmar, MD, Co-PI

Survey Consultant
Donald Dillman, PhD
Washington State University
Little is known about deployment-related outcomes for spouses and other family members.

DoD’s Mental Health Task Force recommendations:
- Research on the processes of post-deployment adjustment for family members.
- Research on children who have been separated from their parents by deployment, including their access to support for psychological health issues.

A gap analysis by the Military Operational Medicine Research Program (MOMRP) identified studies of military families as a high priority issue.
Overall Study Objective

- To determine if, and how, deployment experiences and service member readjustment issues impact family health and well-being
  - To provide strategic evidence based policy recommendations that inform leadership and guide interventions
Aim 1: Service Member Deployment

Aim 2: Service Member Readjustment

Aim 3: Service Member Deployment and Readjustment

Aim 4: Service Member Factors
       Support Factors
       Employment Factors

Aim 5: Foundation Studies

Aim 6: Spouse Factors, Child Factors, and Family Functioning Factors

Research Aims
2011-12 Family Survey: Spouse Model

Spouse
- Demographics
- Life experiences
- Health-related behaviors (physical activity, tobacco/alcohol use, sleep)
- Resiliency and vulnerability factors (coping skills, employment, social support, life experiences)
- Marital status and satisfaction

Service Member
- Demographics
- Mental and physical health
- Social functioning
- Personal growth
- Health-related behaviors

Military Factors
- Component (active duty, Reserve/Guard, separated)
- Service branch
- Pay grade
- Deployment factors (frequency, duration, dwell time, combat)
- Military status (single, dual)

Family Factors
- Family communication/functioning
- Child health and well-being outcomes
- Child developmental stage/s in household
- Family composition
- Deployment return and reunion
- Service use
- Stress of Military Life

Mental Health
- Anxiety/panic
- Depression
- Aggression
- Substance abuse
- Somatization
- PTSD

Physical Health
- Functional health
- General health
- Provider diagnoses
- Body weight
- Fatigue/sleep

Direct and Indirect Factors
- Prevention strategies
- Clinical practices
- Training
- Policy

Spouse Outcomes
2011-12 Family Study: Child Model

Direct and Indirect Factors

Parental Factors
- Demographics
- Marital status (married, divorced, separated, widowed)
- Marital satisfaction
- Mental health
- Physical health
- Social functioning
- Health-related behaviors (physical activity, tobacco/alcohol use, sleep)
- Resiliency and vulnerability (coping skills, employment, social support, life experiences)

Military Factors
- Component (active duty, Reserve/Guard, separated)
- Service branch
- Rank/pay grade
- Deployment (frequency, duration, dwell time, combat)
- Military status (single, dual)

Family Factors
- Family communication/functioning
- Family composition
- Proximity to a base
- Service use
- Stress of military life
- Deployment return and reunion
- Child developmental stage/s in household

Behavioral
- Parent observations (close friends, TV consumption, stealing, attention, temper, lying, fighting, fears)
- Parent reported provider diagnoses (conduct disorder, oppositional defiant disorder)

Parent Reported Service Use
- Inpatient/outpatient counseling (self-help groups, day treatment, residential, individual therapy)
- State services (welfare, foster care, case-management, incarceration)
- School services (counseling, special education)

Health and Well-being
- Parent reported provider diagnosed psychological and physical conditions

Child Outcomes

- Prevention strategies
- Clinical practices
- Training
- Policy
Complementary Data Sources

**Civilian Spouse**
- Civilian Inpatient / Outpatient Care & Behavioral Health
- Military Inpatient and Outpatient Care
- Pharmacologic Data
- Medical History
- Mortality Data

*Spouses of Active Duty service members*

**Service Member**
- Survey Data
- Demographic Data
- Recruit Assessment Program
- Military Inpatient and Outpatient Care
- Civilian Inpatient and Outpatient Care
- Pharmacologic Data
- Medical History
- Deployment Data
- Environmental Exposure Data
- Immunization Data
- Mortality Data
- Department of Veterans Affairs
Design and Methodology: Leveraging Existing Efforts

- The **Millennium Cohort Study** was launched in 2001 in collaboration with all US military services and the Department of Veterans Affairs, prior to the conflicts in Iraq and Afghanistan.

- The **Millennium Cohort Study** has enrolled more than 150,000 service members and is currently enrolling a 4\(^{th}\) panel of new participants.

- Cohort members are surveyed every ~3 years to examine how deployment and other military occupational experiences affect the long-term physical and mental health of military members and veterans.

- 57% deployed in support of the operations in Iraq and Afghanistan.
- 47% Reserve Guard.
- 36% have separated from the military but continue to participate.

Panel 1: 77,000
Panel 2: 31,100
Panel 3: 43,000
Panel 4: Enrolling (~62,000)
Panel 4 of the Millennium Cohort Study includes a probability sample of military service members (active duty, reserve, and National Guard).

*Oversampling for women and married service members*

- 30.81% (2001)
- 20.74% (2004)
- 21.72% (2007)
- 15.33% (Current Cycle)
Step 1
Married Panel 4 Response

Responses

Emails  Post cards

Days After Launch

Survey 1 Mailed
Large format postcard sent to P4 households
Veterans Day postcard
Accelerated email strategy (4 in one month)
Service specific memorandum sent to P4 households
Survey 2 Mailed
Newsletter Mailed
Memorial Day postcard
GEN Dempsey Endorsement Letters Mailed

0 30 60 90 120 150 180 210 240 270 300 330 360 390

0 2000 4000 6000 8000 10000 12000 14000 16000 18000 20000 22000

20,283
Step 2
Service Member Referral Rate
– 65% estimated to refer spouse
» 7,063 referrals

Days After Launch
0 30 60 90 120 150 180 210 240 270 300 330 360 390
20% 22% 24% 26% 28% 30% 32% 34% 36% 38%

- Large format postcard introducing the Family Study
- Added a pre-consent page
- Pilot study completed
- Redesign of pre-consent and consent pages
- Automated voice message
- Survey 1 mailed
- Redesign of pre-consent and consent pages
- Survey 2 mailed
- $5 Starbucks pre-incentive
- Follow-up email to pre-incentive
- 34.55%
Step 3
Spouse Response Rates
– 50% estimated to respond
» 3,581 spouses enrolled

Magnet frame $5 Pre-incentive

Days After Launch
New Approach: Reducing Bias by Inviting Spouses Without Referral

- **Eligibility:**
  Spouses of Panel 4 married responders that “skip” the referral page OR complete a paper survey
  - ~10,000 spouses and increasing

- **Modified Survey:**
  Spouses that are not referred by the service member will not view items that require secondary consent
  - “Your spouse’s behavior”

- **No Email Address:**
  - Mail only marketing campaign
Revised Participant Contact: Spouses With and Without Referral

- Provide paper survey option
- Randomize spouses without referrals (known sample of ~10,000) to Mail Approach A or B
- Use Mail Approach A with email augmentation for referred spouses (rolling sample)

**Group A: Push to Web**

1. Magnet picture frame and card mailer
2. Postcard reminder
3. Sample survey with $5 card
4. Letter reminder
5. Paper survey sent FedEx or USPS priority
6. Postcard reminder

**Group B: Push to Paper**

1. Paper survey with magnet picture frame included
2. Postcard reminder
3. Paper survey with $5 card
4. Letter reminder
5. Paper survey sent FedEx or USPS priority
6. Postcard reminder
## First Glance at the Data: Background (N = 3527)

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<table>
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<tbody>
<tr>
<td>High school or less</td>
<td>443</td>
<td>13%</td>
</tr>
<tr>
<td>Some college, no degree</td>
<td>1178</td>
<td>33%</td>
</tr>
<tr>
<td>Associates degree</td>
<td>454</td>
<td>13%</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>1025</td>
<td>29%</td>
</tr>
<tr>
<td>Master’s or higher degree</td>
<td>420</td>
<td>12%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Employment</th>
<th>n*</th>
<th>%†</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time or part-time job</td>
<td>1542</td>
<td>44%</td>
</tr>
<tr>
<td>Not employed (inc retired, disabled)</td>
<td>504</td>
<td>14%</td>
</tr>
<tr>
<td>Homemaker</td>
<td>1207</td>
<td>34%</td>
</tr>
<tr>
<td>Other</td>
<td>261</td>
<td>7%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spouse ever served in US military</th>
<th>n*</th>
<th>%†</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>2932</td>
<td>83%</td>
</tr>
<tr>
<td>Yes</td>
<td>588</td>
<td>17%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sponsor deployed since 2001</th>
<th>n*</th>
<th>%†</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>967</td>
<td>27%</td>
</tr>
<tr>
<td>Yes</td>
<td>2551</td>
<td>73%</td>
</tr>
</tbody>
</table>

Note: Data presented have not been cleaned, pulled July 24, 2012

*Total population may vary by variable due to missing data

†Percentages may not sum to 100 due to rounding

Spouse = Family Study participant
Sponsor = Millennium Cohort Panel 4 participant
First Glance at the Data: Family Background (N = 3527)

<table>
<thead>
<tr>
<th>Years married</th>
<th>n*</th>
<th>%†</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2</td>
<td>0.1%</td>
</tr>
<tr>
<td>&lt;2</td>
<td>590</td>
<td>17%</td>
</tr>
<tr>
<td>2-5</td>
<td>1970</td>
<td>57%</td>
</tr>
<tr>
<td>6-10</td>
<td>663</td>
<td>19%</td>
</tr>
<tr>
<td>11-15</td>
<td>132</td>
<td>4%</td>
</tr>
<tr>
<td>&gt;15</td>
<td>94</td>
<td>3%</td>
</tr>
</tbody>
</table>

# Children with prior/current relationship; mean = 2, sd = 1

<table>
<thead>
<tr>
<th></th>
<th>n*</th>
<th>%†</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>1360</td>
<td>39%</td>
</tr>
<tr>
<td>Yes</td>
<td>2160</td>
<td>63%</td>
</tr>
</tbody>
</table>

Child age (years); mean = 5, sd = 4

<table>
<thead>
<tr>
<th></th>
<th>n*</th>
<th>%†</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;2</td>
<td>1699</td>
<td>45%</td>
</tr>
<tr>
<td>3-5</td>
<td>928</td>
<td>25%</td>
</tr>
<tr>
<td>6-11</td>
<td>759</td>
<td>20%</td>
</tr>
<tr>
<td>12-14</td>
<td>173</td>
<td>5%</td>
</tr>
<tr>
<td>&gt;15</td>
<td>192</td>
<td>5%</td>
</tr>
</tbody>
</table>

Note: Data presented have not been fully cleaned - pulled July 24, 2012
*Total population may vary by variable due to missing data
†Percentages may not sum to 100 due to rounding
First Glance at the Data: Mental Health (N = 1157*)

% Participants Screening Positive for Mental Health Symptoms

- Alcohol abuse (PHQ): 7%
- Alcohol misuse (CAGE): 14%
- Anxiety (PHQ): 8%
- Major depression (PHQ-8): 6%
- Panic (PHQ): 6%
- PTSD (PCL-C): 8%

Mean depression score = 4.21, sd 4.97
Mean PTSD score = 25.71, sd 11.74

Note: Preliminary data pulled December 2011
Study Progress to Date

1. OMB approval
2. Survey launched
3. Ongoing marketing material development
4. Ongoing pre- and post-incentive implementation
5. Family study secure website developed and updated
6. Web-based questionnaire developed, tested, and implemented
7. Study aims and design presented and critically discussed at multiple professional meetings
8. Conceptual models created
9. Data dictionary created
10. Collaboration protocol developed
Study Progress to Date


12. Cognitive interviews, stakeholder interviews, and focus groups completed

13. Study Aims and Objectives outlined and approved

14. Preliminary data examined

15. Marketing specialist and survey methodologist hired

16. Additional study staff hired (study coordinator and data analyst)

17. 2014 follow-up survey developed and IRB approved

18. Paper survey being developed

19. New participant contact procedures developed and experimental design implemented
Current Challenges and Solutions: Response and Referral Rates

- **Panel 4 married completions - 20,283**
  - Solutions
    - $5 pre-incentive for P4 incompletes
    - General Dempsey and Deanie Dempsey endorsement letters
    - Work with service branches to reduce blocking
    - Accelerated email schedule
    - Automated phone calls

- **Service member referrals – 7,063**
  - Solutions
    - $5 pre-incentive for referral from P4 member
    - Pre-notification of Family Study
    - Email request for referral following survey completion

- **Spouse completion – 3,581**
  - Solutions
    - Contact spouses without referral from service member
    - $5 pre-incentives to spouses
    - Offer paper mode of response in addition to web response
    - Press releases
Detecting Non-response Bias
• Response rate is not a good predictor of non-response bias in probability sample surveys
• The correlation between response propensity and a study’s outcome variables is a good measure of response bias

Bias is not necessarily study wide
• Because bias is identified in the covariance matrix, it is outcome specific

Statistical Approaches
• There are multiple approaches to adjusting statistically for bias when it is detected
• The most comprehensive approach is weighting the data by the inverse of each participant’s response propensity
Solution:

- Data Analyses in Support of Adjusting for Bias

Step 1: Identify bias by correlating propensity scores with important outcomes

Step 2: When bias is detected, outcome-specific weights adjusting for the bias are required

Step 3: The weights for each participant are calculated as the inverse of that participant’s propensity score
Future Plans*

- Completion of Survey Cycle – Early 2013
- Data Cleaning – Spring-Summer 2013
- Begin Analyses
  - Foundational Studies
  - Family Study Objectives
  - Millennium Cohort Study Linkage

*Approximate timeline for next steps
**Future Plans***

- **Continue longitudinal follow-up**
  - Survey spouses every 3 years with cycle corresponding to the Millennium Cohort Study

- **Consider enrollment of new Panel in 2014-2015**
  - Use potential Panel #5 for Millennium Cohort to enroll additional spouses
  - Enroll spouses of Panels 1-3

- **Consider long-term follow-up of spouses similar to service members (20-60 years)**
  - Investigate lifelong health outcomes of the family
  - Study long-lasting effects of military life
  - Evaluate impact on families from future conflicts
Millennium Cohort
Family Study
Scientific Review Panel

Sanela Dursun, PhD
Canadian Department of National Defense

Shirley Glynn, PhD
US Department of Veterans Affairs, Greater Los Angeles

Michael Hurlburt, PhD
University of Southern California

Christine Johnson, MD, CDR, MC, USN
Naval Medical Center San Diego

Patricia Lester, MD
University of California, Los Angeles

Larry Palinkas, PhD
University of Southern California

Penelope Trickett, PhD
University of Southern California

Jennifer Vasterling, PhD
US Department of Veterans Affairs, Boston
Appendix D: 2014 Family Study Panel 1 Wave 2 Survey
The web-survey uses numerous skip patterns and allows for personalization of questions. By tailoring the survey to each participant’s particular situation, we hope to increase the quality of the data collected and to enhance the user experience.

This paper survey was designed to provide the study team with an operational document, and is not intended to be completed by participants or to serve as a substitute for the experience of completing the web-survey.
Our records indicate that your name is <family spouse name>. Is this correct?
- No   Please contact the Family Study team, (link to toll free phone #, contact page)
- Yes Option to update last name only and continue with survey.

Q1. What is your date of birth?

If incorrect match for DOB, then Study Team link is provided “Please contact the study team to correct your DOB after you finish the survey”. We don’t want to stop them from completing the survey, but we will need to determine if the correct person took the survey. Perhaps add another alert at the end of the survey as well.

Q2. What is your current marital status with <spouse name>?

- Currently married
  a. How many years have you been married to your spouse?

- Separated
  a. In what month and year did you and your spouse separate?

- Divorced
  a. In what month and year did you and <spouse name> separate?

b. How many years have you been married to your spouse?

Prior to starting YOUR SPOUSE’S DEPLOYMENT and DEPLOYMENT RETURN AND REUNION, spouses separated/divorced will see a paragraph cautioning them that some of the questions in these sections may be difficult to answer because of their marital status and that they may skip questions that do not apply to their situation.
☐ Widowed

(Skip question regarding spouse’s employment, relationship with your spouse section, spouse’s deployment section, deployment return and reunion section, and military life section.)

a. How many years were you married to your spouse?

☐ No

☐ Yes → □□ years

b. In what month and year did your spouse die?

☐ No

☐ Yes → □□ □□

MM YY

c. Are you remarried? If so, date remarried:

☐ No

☐ Yes → □□ □□

MM YY
Q3. What is <spouse name>'s current military status?
- Active Duty
- Reserve
- National Guard
- Separated from Military service
  (If selected: Did <spouse name> separate from the military in the past year?)
  - No — Skip Military Life (except if Family participant is in military)
  - Yes
- Retired
  (If selected: Did <spouse name> retire from the military in the past year?)
  - No — Skip Military Life (except if Family participant is in military)
  - Yes
- Do not know — Skip Military Life (except if Family participant is in military)

Q4. In the last 3 years have you served in the US military?
- Yes, Active Duty
- Yes, Reserve or National Guard
- Yes, Both
- No — Skip Your Military Service

Q5. How many children do you have from your current relationship or prior relationship(s)?
(Please include biological, adopted, foster, and stepchildren of all ages)
- If 0 then do NOT see next question and SKIP YOUR CHILDREN section

Dropdown range: 0-10

Q6. Please record the ages of your children oldest to youngest. [Question populated with # of children selected from previous question] If all children are older than 17, SKIP YOUR CHILDREN section

Dropdown range: <1 year, 1 year - 50 years

Q7. Including yourself, how many people currently reside in your household?
(Please include <spouse name> even if currently deployed, on temporary duty, or in training, if he/she lives and sleeps in your household the majority of the time. Please do not include anyone that does not live and sleep in your household the majority of the time, such as visiting relatives.)

adults

children (17 and younger)

Q8. Is English your primary language?
- No
- Yes
**PHYSICAL HEALTH**

We would like to begin by asking you some questions about your physical health, how you feel, and how well you are able to do your usual activities. These items allow us to assess changes in your general health over time and if those changes may be related to other information you provide.

Q9. How tall are you?  
feet   inches

Q10. What is your current weight?  
(If you are currently pregnant, please provide your weight prior to your pregnancy.)  
pounds

Q11. How much did you weigh a year ago?  
(If you were pregnant a year ago, please indicate your weight before pregnancy.)  
pounds

Q12. In general, would you say your health is:  
- Excellent  
- Very good  
- Good  
- Fair  
- Poor

Q13. The following questions are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

<table>
<thead>
<tr>
<th>Activity Description</th>
<th>No, not limited at all</th>
<th>Yes, limited a little</th>
<th>Yes, limited a lot</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vigorous activities</strong>, such as running, lifting heavy objects, or participating in strenuous sports?</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td><strong>Moderate activities</strong>, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf?</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Lifting or carrying groceries?</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Climbing several flights of stairs?</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Climbing one flight of stairs?</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Bending, kneeling, or stooping?</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Walking more than a mile?</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Walking several blocks?</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Walking one block?</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Bathing or dressing yourself?</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
</tbody>
</table>
Q14. During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

<table>
<thead>
<tr>
<th>Problem</th>
<th>No, none of the time</th>
<th>Yes, a little of the time</th>
<th>Yes, some of the time</th>
<th>Yes, most of the time</th>
<th>Yes, all of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cut down the <strong>amount of time</strong> you spent on work or other activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Accomplished less</strong> than you would like</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Were limited in the <strong>kind</strong> of work or other activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Had <strong>difficulty</strong> performing the work or other activities (for example, it took extra effort)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q15. During the past 4 weeks, how much bodily pain have you had?

- None
- Very mild
- Mild
- Moderate
- Severe
- Very severe

Q16. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?

- Not at all
- A little bit
- Moderately
- Quite a bit
- Extremely

Q17. In the last 12 months, did you use prescription only pain relievers (including any narcotics or medications such as Codeine, OxyContin, Percocet)?

- Never
- Less than 1 week
- 1-2 weeks
- 3-4 weeks
- More than 4 weeks

Q18. Are you currently taking any medicine for anxiety, depression, or stress?

- No
- Yes
Q19. During the **past 4 weeks**, how much have you been bothered by any of the following problems?

<table>
<thead>
<tr>
<th>Problem</th>
<th>Not Bothered</th>
<th>Bothered a little</th>
<th>Bothered a lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stomach pain</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Back pain</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Pain in your arms, legs, or joints (knees, hips, etc)</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Pain or problems during sexual intercourse</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Headaches</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Chest pain</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Dizziness</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Feeling your heart pound or race</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Shortness of breath</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Constipation, loose bowels, or diarrhea</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Nausea, gas, or indigestion</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Feeling tired or having low energy</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Trouble sleeping</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Women only: menstrual cramps or other problems with your periods</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>

Q20. In the **last 3 years**, has your doctor or other health professional told you that you have any of the following conditions?

<table>
<thead>
<tr>
<th>Condition</th>
<th>If yes, in what year were you first diagnosed?</th>
<th>Mark here if ever hospitalized for the condition *</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Hypertension (high blood pressure)</td>
<td></td>
<td>Hospitalized</td>
</tr>
<tr>
<td>b) High cholesterol requiring medication</td>
<td></td>
<td>Hospitalized</td>
</tr>
<tr>
<td>c) Coronary heart disease</td>
<td></td>
<td>Hospitalized</td>
</tr>
<tr>
<td>d) Heart attack</td>
<td></td>
<td>Hospitalized</td>
</tr>
<tr>
<td>e) Angina (chest pain)</td>
<td></td>
<td>Hospitalized</td>
</tr>
<tr>
<td>f) Any other heart condition (please specify)</td>
<td></td>
<td>Hospitalized</td>
</tr>
<tr>
<td>g) Asthma</td>
<td></td>
<td>Hospitalized</td>
</tr>
<tr>
<td>h) Diabetes or sugar diabetes</td>
<td></td>
<td>Hospitalized</td>
</tr>
<tr>
<td>i) Fibromyalgia</td>
<td></td>
<td>Hospitalized</td>
</tr>
<tr>
<td>j) Rheumatoid arthritis</td>
<td></td>
<td>Hospitalized</td>
</tr>
<tr>
<td>k) Lupus</td>
<td></td>
<td>Hospitalized</td>
</tr>
<tr>
<td>l) Stomach, duodenal, or peptic ulcer</td>
<td></td>
<td>Hospitalized</td>
</tr>
<tr>
<td>m) Acid reflux / gastroesophageal reflux disease requiring medication</td>
<td></td>
<td>Hospitalized</td>
</tr>
</tbody>
</table>

*Hospitalized means that you were admitted to the hospital for treatment. Please do not check if you went to the ER, but were not admitted to the hospital.
Q20 (continued). In the last 3 years, has your doctor or other health professional told you that you have any of the following conditions?

<table>
<thead>
<tr>
<th></th>
<th><strong>Migraine headaches</strong></th>
<th><strong>Stroke</strong></th>
<th><strong>Sleep apnea</strong></th>
<th><strong>Thyroid condition other than cancer</strong></th>
<th><strong>Cancer (please specify)</strong></th>
<th><strong>Chronic fatigue syndrome</strong></th>
<th><strong>Depression</strong></th>
<th><strong>Posttraumatic stress disorder</strong></th>
<th><strong>Infertility</strong></th>
<th><strong>Anxiety</strong></th>
<th><strong>Memory loss or memory impairment</strong></th>
<th><strong>Eating disorder</strong></th>
<th><strong>Irritable bowel syndrome</strong></th>
<th><strong>Other (please specify below)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If yes, in what year **first** diagnosed?

Mark here if **ever** hospitalized for the condition *

* Hospitalized means that you were admitted to the hospital for treatment. Please **do not** check if you went to the ER, but were **not** admitted to the hospital.

Q21. Please choose the answer that best describes **how true or false each** of the following statements is for you.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Definitely true</th>
<th>Mostly true</th>
<th>Not sure</th>
<th>Mostly false</th>
<th>Definitely false</th>
</tr>
</thead>
<tbody>
<tr>
<td>I seem to get sick a little easier than other people</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>I am as healthy as anybody I know</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>I expect my health to get worse</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>My health is excellent</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Q22. Over the **past 3 years**, approximately how much time were you hospitalized because of illness or injury (exclude hospitalization for pregnancy and childbirth)?

[ ] [ ] [ ] days
Q23. Over the past 3 years, approximately how many days were you unable to work or perform your usual activities because of illness or injury (exclude lost time for pregnancy and childbirth)?

[ ] days

Q24. In the past 3 years, where have you gone for medical care? Mark all that apply.

- Military Treatment Facility (MTF)
- VA facility
- Civilian Provider - TRICARE
- Civilian Provider – Other
- Public health centers (free or reduced cost care)
- I did not use healthcare facilities/providers (If selected, clear out previous selections)

Q25. Compared to 3 years ago, how would you rate your physical health in general now?

- Much better
- Somewhat better
- About the same
- Somewhat worse
- Much worse

Q26. Compared to one year ago, how would you rate your emotional health or well-being (such as feeling anxious, depressed, or irritable) now?

- Much better
- Somewhat better
- About the same
- Somewhat worse
- Much worse
We would like to end this section by asking about pregnancy and fertility.

Q27. In the last 3 years, have you and your <spouse name> tried to get pregnant?
- No ➔ Skip to Q28
- Not applicable ➔ Skip to Q28
- Yes

(If YES) In the last 3 years, have you and your spouse been unsuccessful getting pregnant for a year or more (not including time spent apart, such as deployment)?
- No
- Yes

Q28. In the last 3 years, if you and your spouse got pregnant, did you have a miscarriage?
- Does not apply (no pregnancy)
- No miscarriage
- Yes, 1 miscarriage ➔ Year
- Yes, 2 miscarriages ➔ Years
- Yes, 3 or more miscarriage ➔ Years

FOR WOMEN ONLY:
Q29. Are you currently pregnant?
- No
- Yes

Q30. Have you given birth within the last 3 years?
- No
- Yes

Q31. In the last 3 years, have you been diagnosed with gestational diabetes by a glucose tolerance test during pregnancy?
- No
- Yes
WELL-BEING

Now, we would like to ask you about your mental well-being. These questions are about how you feel and how things have been going over the last 4 weeks. Some of these questions will seem slightly repetitive, but we assure you that they are actually different and each has a specific purpose. Remember, there are no right or wrong answers.

Q32. In the last 4 weeks, have you had an anxiety attack – suddenly feeling fear or panic?

Q33. Over the last 4 weeks, how often have you been bothered by any of the following problems?

Feeling nervous, anxious, on edge, or worrying a lot about different things

Feeling restless so that it is hard to sit still

Getting tired very easily

Muscle tension, aches, or soreness

Trouble falling asleep or staying asleep

Trouble concentrating on things, such as reading a book or watching TV

Becoming easily annoyed or irritable
Q34. During the **past 4 weeks**, how much of the time have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

<table>
<thead>
<tr>
<th>Problem</th>
<th>No, none of the time</th>
<th>Yes, a little of the time</th>
<th>Yes, some of the time</th>
<th>Yes, most of the time</th>
<th>Yes, all of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cut down the amount of time you spent on work or other activities</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Accomplished less than you would like</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Didn't do work or other activities as carefully as usual</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Q35. During the **past 4 weeks**, how much of the time...

<table>
<thead>
<tr>
<th>Question</th>
<th>None of the time</th>
<th>A little of the time</th>
<th>Some of the time</th>
<th>A good bit of the time</th>
<th>Most of the time</th>
<th>All of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did you feel full of pep?</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Have you been a very nervous person?</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Have you felt so down in the dumps that nothing could cheer you up?</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Have you felt calm and peaceful?</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Did you have a lot of energy?</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Have you felt downhearted and blue?</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Did you feel worn out?</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Have you been a happy person?</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Did you feel tired?</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Q36. How often in the **past month** did you...

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Never</th>
<th>One Time</th>
<th>Two Times</th>
<th>Three or four times</th>
<th>Five or more times</th>
</tr>
</thead>
<tbody>
<tr>
<td>Get angry at someone and yell or shout at them</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Get angry with someone and kick/smash something, slam the door, punch the wall, etc.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Get into a fight with someone and hit the person</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Threaten someone with physical violence</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cry persistently or uncontrollably</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sulk or refuse to talk about an issue</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Q37. In the **last month**, how often have you...

<table>
<thead>
<tr>
<th>Question</th>
<th>Never</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Fairly Often</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>Felt that you were unable to control the important things in your life</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Felt confident about your ability to handle personal problems</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Felt that things were going your way</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Felt difficulties were piling up so high that you could not overcome them</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Q40. Below is a list of problems and complaints that people sometimes have in response to stressful life experiences. Some of these may not apply to you, however, please read each one carefully and mark the answer that best reflects how much you have been bothered by each problem in the last month.

In the past month have you experienced…?

<table>
<thead>
<tr>
<th>Problem</th>
<th>Not at all</th>
<th>A little bit</th>
<th>Moderately</th>
<th>Quite a bit</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repeated, disturbing memories of stressful experiences from the past</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Repeated, disturbing dreams of stressful experiences from the past</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Suddenly acting or feeling as if stressful experiences were happening again</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Feeling very upset when something happened that reminds you of stressful experiences from the past</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Trouble remembering important parts of stressful experiences from the past</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Loss of interest in activities that you used to enjoy</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Feeling distant or cut off from other people</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Feeling emotionally numb, or being unable to have loving feelings for those close to you</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Feeling as if your future will somehow be cut short</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Trouble falling asleep or staying asleep</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Feeling irritable or having angry outbursts</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Difficulty concentrating</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Feeling &quot;super-alert&quot; or watchful or on guard</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Feeling jumpy or easily startled</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Physical reactions when something reminds you of stressful experiences from the past</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Efforts to avoid thinking about your stressful experiences from the past or avoid having feelings about them</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Efforts to avoid activities or situations because they remind you of stressful experiences from the past</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>
Q41. Over the last 2 weeks, how often have you been bothered by any of the following problems?

<table>
<thead>
<tr>
<th>Problem</th>
<th>Not at all</th>
<th>Several days</th>
<th>More than half the days</th>
<th>Nearly every day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Little interest or pleasure in doing things</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Feeling down, depressed, or hopeless</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Trouble falling or staying asleep, or sleeping too much</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Feeling tired or having little energy</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Poor appetite or overeating</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Feeling bad about yourself - or that you are a failure or have let yourself or your family down</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Trouble concentrating on things, such as reading the newspaper or watching television</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Moving or speaking so slowly that other people could have noticed, or the opposite - being so fidgety or restless that you have been moving around a lot more than usual</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>

Q42. Over the last 2 weeks, how often have you been bothered by the following problems?

<table>
<thead>
<tr>
<th>Problem</th>
<th>Not at all</th>
<th>Several days</th>
<th>More than half the days</th>
<th>Nearly every day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeling nervous, anxious or on edge</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Not being able to stop or control worrying</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Worrying too much about different things</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Trouble relaxing</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Being so restless that it is hard to sit still</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Becoming easily annoyed or irritable</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Feeling afraid as if something awful might happen</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>
Q43. Indicate the degree to which each statement describes your feelings or behavior:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Not at all</th>
<th>A little bit</th>
<th>Moderately</th>
<th>A lot</th>
<th>Very much</th>
</tr>
</thead>
<tbody>
<tr>
<td>I often find myself getting angry at people or situations</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>When I get angry, I get really mad</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>When I get angry, I stay angry</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>When I get angry at someone, I want to clobber the person</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>My anger prevents me from getting along with people as well as I’d like to</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>

Q44. Do you often feel that you can’t control what or how much you eat?
   ○ No
   ○ Yes

Q45. Do you often eat, within any 2 hour period, what most people would regard as an unusually large amount of food?
   ○ No
   ○ Yes

Q46. Has this been as often, on average, as twice a week for the last 3 months?
   ○ No
   ○ Yes

(Q46 only seen if participant responds ‘Yes’ to either Q44 or Q45)
**SUPPORT AND COPING**

We would now like to ask you some questions about your available social support and how you cope with life's challenges.

Q47. Please indicate how you feel about each statement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Very Strongly Disagree</th>
<th>Strongly Disagree</th>
<th>Mildly Disagree</th>
<th>Neutral</th>
<th>Mildly Agree</th>
<th>Strongly Agree</th>
<th>Very Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is a special person who is around when I am in need</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is a special person with whom I can share my joys and sorrows</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My family really tries to help me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I get the emotional help and support I need from my family</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have a special person who is a real source of comfort to me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My friends really try to help me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can count on my friends when things go wrong</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can talk about my problems with my family</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have friends with whom I can share my joys and sorrows</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is a special person in my life who cares about my feelings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My family is willing to help me make decisions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can talk about my problems with my friends</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q48. Indicate the degree to which the follow statements are true in your life.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Not at all</th>
<th>To a very small degree</th>
<th>To a small degree</th>
<th>To a moderate degree</th>
<th>To a great degree</th>
<th>To a very great degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I prioritize what is important in life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have an appreciation for the value of my own life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am able to do good things with my life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have an understanding of spiritual matters</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have a sense of closeness with others</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have established a path for my life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I know that I can handle difficulties</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have religious faith</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I'm stronger than I thought I was</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have learned a great deal about how wonderful people are</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have compassion for others</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Q49. Please indicate your level of agreement with these statements:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have little control over the things that happen to me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is really no way I can solve some of the problems I have</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is little I can do to change many of the important things in my life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I often feel helpless in dealing with the problems of life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sometimes I feel that I am being pushed around in life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What happens to me in the future mostly depends on me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can do just about anything I really set my mind to do</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q50. Have you ever received counseling/mental health services? Options should always remain visible

- No [Auto populate with all “Never” selected]
- Yes

Please specify… (will appear once ‘Yes’ is selected)

<table>
<thead>
<tr>
<th>Service</th>
<th>Never</th>
<th>Once</th>
<th>Twice</th>
<th>Three or more times</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mental health professional at a military facility</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General medical doctor at a military facility</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Military chaplain</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mental health professional at a civilian facility</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General medical doctor at a civilian facility</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Civilian clergy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q51. Were any of these visits in the past 12 months? (Only seen if at least one ‘please specify’ bubbles above is positively endorsed)

- No
- Yes

Q52. In the last 4 weeks, how much has your family or friends supported you?

- Not at all
- A little bit
- Moderately
- Quite a bit
- Extremely
**LIFE EXPERIENCES**

We are aware that many of these questions are quite personal, but we would appreciate your candid response. We want to assure you that all your answers are strictly confidential.

Q53. Have you had any of the following life events happen to you in the last 3 years? If YES, did this event occur in the last 12 months?

<table>
<thead>
<tr>
<th>Event</th>
<th>Yes</th>
<th>No</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>You changed job, assignment, or career path involuntarily (for example, you lost a job, or you were forced to take a job you did not like)</td>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>You or your partner had an unplanned pregnancy</td>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>You were divorced or separated</td>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Suffered major financial problems (such as bankruptcy)</td>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Suffered forced sexual relations or sexual assault</td>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Experienced sexual harassment</td>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Suffered a violent assault</td>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Had a family member or loved one who became severely ill</td>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Had a family member or loved one who died</td>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Suffered a disabling illness or injury</td>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Q54. In the last year, have you been hit, slapped, kicked, or otherwise physically hurt by someone?

- Never
- Rarely
- Monthly
- Weekly
- Daily

Q55. How much of your childhood was spent growing up in a military family (in other words, your Parent(s) or guardian(s) served in the U.S. military)?

- None
- Less than 4 years
- 4-8 years
- 9-13 years
- 14 or more years

Q56. Please indicate your level of agreement with each item.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Slightly Disagree</th>
<th>Neither Agree or Disagree</th>
<th>Slightly Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>In most ways my life is close to my ideal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The conditions of my life are excellent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am satisfied with my life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>So far I have gotten the important things I want in life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If I could live my life over, I would change almost nothing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
YOUR ALCOHOL USE

Now we would like to ask you some questions about drinking.
Alcoholic beverages include beer, wine, and liquor (such as whiskey, gin, etc.). For the purpose of this questionnaire:
One drink = one 12-ounce beer, one 4-ounce glass of wine, or one 1.5-ounce shot of liquor

Q58. In the past year, how often did you typically drink any type of alcoholic beverage?
- Never ➔ Skip to Q61
- Rarely
- Monthly
- Weekly
- Daily

a) In the past year, on those days that you drank alcoholic beverages, on average, how many drinks did you have?

b) In a typical week, how many drinks of each type of alcoholic beverage do you have?

- beer(s)
- wine
- liquor

c) Last week, how many drinks of alcoholic beverages did you have? (# of drinks)

Monday  Tuesday  Wednesday  Thursday  Friday  Saturday  Sunday

d) In the past year, how often did you typically get drunk (intoxicated)?
- Never
- Monthly or less
- 2-4 times per month
- >4 times per month

FOR MEN ONLY

Q59. In the past year, how often did you typically have 5 or more drinks of alcoholic beverages within a 2-hour period?
- Never
- Monthly or less
- 2-4 times per month
- >4 times per month

FOR WOMEN ONLY

Q60. In the past year, how often did you typically have 4 or more drinks of alcoholic beverages within a 2-hour period?
- Never
- Monthly or less
- 2-4 times per month
- >4 times per month
**Q60. In the last 12 months,** have any of the following happened to you more than once?

<table>
<thead>
<tr>
<th>Event</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>You drank alcohol even though a doctor suggested that you stop drinking because of a problem with your health</td>
<td></td>
<td></td>
</tr>
<tr>
<td>You drank alcohol, were high from alcohol, or hung over while you were working, going to school, or taking care of children or other responsibilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>You missed or were late for work, school, or other activities because you were drinking or hung over</td>
<td></td>
<td></td>
</tr>
<tr>
<td>You had a problem getting along with people while you were drinking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>You drove a car after having several drinks or after drinking too much</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Q61. Have you ever felt any of the following?**

<table>
<thead>
<tr>
<th>Feeling</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Felt you needed to cut back on your drinking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felt annoyed at anyone who suggested you cut back on your drinking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felt you needed an &quot;eye-opener&quot; or early morning drink</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felt guilty about your drinking</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**YOUR TOBACCO USE**

Now we would like to ask you some questions about smoking.

**Q62. In the past year,** have you used any of the following products?

<table>
<thead>
<tr>
<th>Product</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cigarettes (smoke)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electronic Cigarettes (vape)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cigars</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pipes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smokeless tobacco (chew, dip, snuff)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Q63. In your lifetime,** have you smoked at least 100 cigarettes (5 packs)?

- No → Skip to Q64
- Yes

**(If YES)**

<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) At what age did you start smoking?</td>
<td>years</td>
</tr>
<tr>
<td>b) How many years have or did you smoke an average of at least 3 cigarettes per day (or one pack per week)?</td>
<td>years</td>
</tr>
<tr>
<td>c) When smoking, how many packs per day did you or do you smoke?</td>
<td></td>
</tr>
<tr>
<td>Less than half a day per day</td>
<td></td>
</tr>
<tr>
<td>Half to 1 pack per day</td>
<td></td>
</tr>
<tr>
<td>1 to 2 packs per day</td>
<td></td>
</tr>
<tr>
<td>More than 2 packs per day</td>
<td></td>
</tr>
<tr>
<td>d) Have you ever tried to quit smoking?</td>
<td></td>
</tr>
<tr>
<td>Yes, and succeeded</td>
<td></td>
</tr>
<tr>
<td>Yes, but not successfully</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>
Q64. Over the past month, how many hours of sleep did you get in an average 24-hour period?

[ ] hours

Q65. Please rate your sleep pattern for the past 2 weeks.

<table>
<thead>
<tr>
<th>Difficulty falling asleep</th>
<th>None</th>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
<th>Very Severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulty staying asleep</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problem waking up too early</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Snoring</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q66. How satisfied/dissatisfied are you with your current sleep pattern?
- Very satisfied
- Generally satisfied
- Somewhat dissatisfied
- Very dissatisfied

Q67. To what extent do you consider your sleep pattern to interfere with your daily functioning (e.g. daytime fatigue, ability to function at work/daily chores, concentration, memory, mood, etc.)?
- Not at all interfering
- A little
- Somewhat
- Much
- Very much interfering

Q68. How noticeable to others do you think your sleep pattern is in terms of impairing the quality of your life?
- Not at all noticeable
- A little
- Somewhat
- Much
- Very much noticeable

Q69. How worried/distressed are you about your current sleep problem?
- Not at all
- A little
- Somewhat
- Much
- Very much

Q70. During the past month, how often have you taken medicine (prescribed or "over the counter") to help you sleep?
- Not during the past month
- Less than once a week
- Once or twice a week
- Three or more times a week
Now we're going to ask you some questions about your exercise habits.
We realize that some participants may be pregnant, injured, or suffering from an illness when they take the survey, so please think about your exercise habits in a typical week.

Q71. In a **typical week**, how much time do you spend participating in …

(Please mark both your typical “days per week” and “minutes per day” doing these activities)

<table>
<thead>
<tr>
<th># of Days per week you exercise</th>
<th>On those days, how many minutes per day on average do you exercise</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vigorous</strong> exercise or work that causes heavy sweating or large increases in breathing or heart rate (such as running, active sports, biking)?</td>
<td>☐ None ☐ Cannot physically do OR ➜</td>
</tr>
<tr>
<td><strong>Moderate or Light</strong> exercise or work that causes light sweating or slight increases in breathing or heart rate (such as walking, cleaning, slow jogging)?</td>
<td>☐ None ☐ Cannot physically do OR ➜</td>
</tr>
</tbody>
</table>
YOUR MILITARY SERVICE

Q72. Are you currently serving in the US military?
- Yes, Active Duty
- Yes, Reserve or National Guard
- No (Skip to Q73. If Service Member is also not Active Duty, then skip Military Life.)

(If YES)

c) What is your overall feeling about your military service?
- Negative
- Somewhat negative
- Neither negative or positive
- Somewhat positive
- Positive

Q73. Have you deployed for more than 30 days in the last 3 years?
- No → Skip to Q74
- Yes

(If YES)

In the last 3 years, how often have you experienced the following during deployment?

<table>
<thead>
<tr>
<th>Experience</th>
<th>Never</th>
<th>Yes, 1 time</th>
<th>Yes, more than 1 time</th>
<th>If Yes, list most recent year of exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeling that you were in great danger of being killed</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>2 0</td>
</tr>
<tr>
<td>Being attacked or ambushed</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>2 0</td>
</tr>
<tr>
<td>Receiving small arms fire</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>2 0</td>
</tr>
<tr>
<td>Clearing/searching homes or buildings</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>2 0</td>
</tr>
<tr>
<td>Having an improvised explosive device (IED) or booby trap explode near you</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>2 0</td>
</tr>
<tr>
<td>Being wounded or injured</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>2 0</td>
</tr>
<tr>
<td>Seeing dead bodies or human remains</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>2 0</td>
</tr>
<tr>
<td>Handling or uncovering human remains</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>2 0</td>
</tr>
<tr>
<td>Knowing someone seriously injured or killed</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>2 0</td>
</tr>
<tr>
<td>Seeing Americans who were seriously injured or killed</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>2 0</td>
</tr>
<tr>
<td>Having a member of your unit be seriously injured or killed</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>2 0</td>
</tr>
<tr>
<td>Being directly responsible for the death of enemy combatant</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>2 0</td>
</tr>
<tr>
<td>Being directly responsible for the death of a non-combatant</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>2 0</td>
</tr>
<tr>
<td>Being exposed to smoke from burning trash and/or feces</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>2 0</td>
</tr>
</tbody>
</table>
EDUCATION AND EMPLOYMENT

Q74. What is the highest level of education that you have completed? (Choose the single best answer.)
- Less than high school completion/diploma
- High school degree/GED/or equivalent
- Some college, no degree
- Associate's degree
- Bachelor's degree
- Master's, doctorate, or professional degree

Q75. Are you currently a student?
- No
- Yes, full-time
- Yes, part-time

Q76. Which of the following best describes your employment status? (Choose the single best answer.)
- Full-time work (greater than or equal to 30 hours per week)
- Part-time work (less than 30 hours per week)
- Homemaker
- Not employed, looking for work
- Not employed, not looking for work
- Not employed, retired
- Not employed, disabled
- Other (please specify):

(IF FULL-TIME WORK, PART-TIME WORK, OR HOMEMAKER)

a) How satisfying is your current employment?  
Not satisfying 1 2 3 4 5 6 Extremely satisfying 7

(IF FULL-TIME OR PART-TIME WORK)

b) How long did it take you to find employment after your last permanent change of station (PCS)?
- Less than 1 month
- 1 to 4 months
- 5 to 8 months
- 9 months to 1 year
- More than 1 year
- Not Applicable

Q77. Do you feel that being a military spouse has hindered your career development (in other words, that you have not achieved in your career as much as you would have if you were not a military spouse)?
Not at all hindered 1 2 3 4 5 6 Extremely hindered 7

Q78. What is your annual household income? (Please include Basic Allowance for Housing (BAH), even if you live in base housing, and any other regular income that your family receives.)
- less than $25,000
- $25,000-$49,999
- $50,000-$74,999
- $75,000-$99,999
- $100,000-$124,999
- $125,000-$149,999
- $150,000 or more
RELATIONSHIP WITH SPOUSE (Married or Separated)

In order to better understand how military life affects families, this next section asks you questions about your relationship with your spouse. Once again, we'd like to remind you that all your answers are strictly confidential.

Q79. Taking all things together, how would you describe your marriage?

<table>
<thead>
<tr>
<th>Very Unhappy</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Very Happy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Q80. Please rate the following statements about your relationship with your spouse:

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have a good marriage</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>I really feel like part of a team with my spouse</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>

Q81. How happy are you with each of the following aspects of your marriage?

<table>
<thead>
<tr>
<th>Very Unhappy</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Very Happy</th>
</tr>
</thead>
<tbody>
<tr>
<td>The understanding you receive from your spouse</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td></td>
</tr>
<tr>
<td>The love and affection you get from your spouse</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td></td>
</tr>
<tr>
<td>The amount of time you spend with your spouse</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td></td>
</tr>
<tr>
<td>The demands your spouse places on you</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td></td>
</tr>
<tr>
<td>Your sexual relationship</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td></td>
</tr>
<tr>
<td>The way your spouse spends money</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td></td>
</tr>
<tr>
<td>The work your spouse does around the house</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td></td>
</tr>
<tr>
<td>Your spouse as a parent (Skip if not a parent)</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td></td>
</tr>
</tbody>
</table>
Q82. Please select the picture that best illustrates your current relationship with <Spouse Name>.

Q83. In the last year, have you or <Spouse Name> seriously suggested the idea of divorce or permanent separation? (Skip if marital status is separated)
- No
- Yes

Q84. Have you and <Spouse Name> ever received marital counseling?
- Never
- Once
- Twice
- Three or more times

Q85. Please rate the following statements regarding <Spouse Name>'s current job(s).

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>The demands of my spouse's work interfere with our home and family life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The amount of time my spouse's job takes up makes it difficult for him/her to fulfill family responsibilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My spouse's job produces stress/strain that makes it difficult for him/her to fulfill family responsibilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My spouse's job produces stress/strain that makes it difficult for me to fulfill family responsibilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequent TDY/TAD (training duty) interfere with our home and family life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Q86. Please rate the following statements in regard to your family, including you, <spouse’s name>, and your children (if applicable).

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Generally disagree</th>
<th>Undecided</th>
<th>Generally agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family members are satisfied with how they communicate with each other</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Family members are very good listeners</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Family members express affection to each other</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Family members are able to ask each other for what they want</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Family members can calmly discuss problems with each other</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Family members discuss their ideas and beliefs with each other</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>When family members ask questions of each other, they get honest answers</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Family members try to understand each other's feelings</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>When angry, family members seldom say negative things about each other</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Family members express their true feelings to each other</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Q87. How satisfied are you with:

<table>
<thead>
<tr>
<th>Satisfaction</th>
<th>Very dissatisfied</th>
<th>Somewhat dissatisfied</th>
<th>Generally satisfied</th>
<th>Very satisfied</th>
<th>Extremely satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>The degree of closeness between family members</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Your family’s ability to cope with stress</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Your family’s ability to be flexible</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Your family’s ability to share positive experiences</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>The quality of communication between family members</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Your family’s ability to resolve conflicts</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>The amount of time you spend together as a family</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>The way problems are discussed</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>The fairness of criticism in your family</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Family members' concern for each other</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Q88. How often have you observed these behaviors in <spouse name> within the past month (or if your spouse is currently deployed, please refer to the most recent month your spouse was home)?

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Never</th>
<th>Seldom</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very often</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sudden bad memories/flashbacks</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Spaces out</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Lack of interest in sex/intimacy</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Difficulty sharing thoughts and feelings</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Avoids former interests/activities</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Hyper-alert/startles easily</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Anxious/nervous</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Fearful</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Withdrawn/detached</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Irritable</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Quick temper</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Secretive</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Difficulty falling or staying asleep</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Nightmares or bad dreams</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Taking more risks with his/her safety</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Lack of interest in parenting/children (skip to the next question if you don't have children)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Q89. Within the past month (or if your spouse is currently deployed, please refer to the most recent month your spouse was home) how difficult has it been for your spouse to do the following:

<table>
<thead>
<tr>
<th>Task</th>
<th>Not at all</th>
<th>Somewhat</th>
<th>Very</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do his/her work</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Take care of things at home</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Get along with other people</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Fulfill supporting role as spouse/parent</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Q90. In your opinion, does your spouse consume too much alcohol in a typical week when he/she is at home (or if your spouse is currently deployed, please refer to the most recent time your spouse was home)?

☐ No
☐ Yes
RELATIONSHIP WITH SPOUSE AFTER DIVORCE

In order to better understand how military life affects families, this next section asks you questions about your relationship with your spouse after your divorce. Once again, we'd like to remind you that all your answers are strictly confidential.

Q91. Please select the picture that best illustrates your current relationship with <Spouse Name>.

Q92. Did you and <Spouse Name> ever receive marital counseling?
- Never
- Once
- Twice
- Three or more times
PARENTING

All Married, Divorced, or Separated spouses will see if screened for having biological or adopted children.

Q93. The questions listed below concern what happens between you and <Spouse Name>. While you may not find an answer which exactly describes what you think, please mark the answer that comes closest to what you think. Your first reaction should be your first answer.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Not sure</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>My child’s other parent enjoys being alone with our child(ren)</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>During pregnancy, my child’s other parent expressed confidence in my ability to be a good parent</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>When there is a problem with our child, we work out a good solution together</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>My child’s other parent and I communicate well about our child</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>My child’s other parent is willing to make personal sacrifices to help take care of our child</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Talking to my child’s other parent about our child is something I look forward to</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>My child’s other parent pays a great deal of attention to our child</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>My child’s other parent and I agree on what our child should and should not be permitted to do</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>I feel close to my child’s other parent when I see him/her play with our child</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>My child’s other parent knows how to handle children well</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>My child’s other parent and I are a good team</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>My child’s other parent believes I am a good parent</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>I believe my child’s other parent is a good parent</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>My child’s other parent makes my job of being a parent easier</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>My child’s other parent sees our child in the same way I do</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>My child’s other parent and I would basically describe our child in the same way</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>If our child needs to be punished, my child’s other parent and I usually agree on the type of punishment</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>I feel good about my child’s other parent’s judgment about what is right for our child</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>My child’s other parent tells me I am a good parent</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>My child’s other parent and I have the same goals for our child</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>
DEPLOYMENT

Now, we would like to ask you some questions regarding the deployment experience.

If spouse indicates that they are Separated or Divorced, then they will receive the following caution before completing SPOUSE’S DEPLOYMENT, RETURN AND REUNION, and MILITARY LIFE sections.

“It is very important to understand the health and well-being of spouses and children after a change in marital status. We have attempted to make the questions in this survey apply to everyone, but if you feel that a question doesn’t apply to your situation, please feel free to skip that question.”

Q94. In the last 3 years, has <spouse name> been deployed for more than 30 days?
- No ➔ Skip to Q111
- Yes ➔ Continue with Q95
- I don’t know ➔ Skip to Q111

Q95. Is <spouse name> currently deployed?
- No / I don’t know ➔ Skip to Q95c
- Yes

(If YES)

a) When did <spouse name> leave for deployment?

b) Has <spouse name> deployed previously?
- Yes ➔ Continue to 95c
- No ➔ Skip to Q111

(If NO / I don’t know)

c) When did <spouse name> return from his/her last completed deployment?

- 20
Q96. How much has <spouse name> shared his/her deployment experiences with you from his/her last completed deployment?
   - None
   - A little
   - Somewhat
   - A lot

Q97. To what degree were/are you bothered by the deployment experiences <spouse name> shared with you? Choose the single best answer.
   - Not at all
   - A little bit
   - Moderately
   - Quite a bit
   - Extremely

Q98. How often did you communicate with <spouse name> during their last completed deployment?
   - Almost daily
   - Every few days
   - About once a week
   - About once or twice a month
   - Less than once a month

Q99. If there was no limit to how often you could communicate with <spouse name> while deployed, how often would you have chosen?
   - Almost daily
   - Every few days
   - About once a week
   - About once or twice a month
   - Less than once a month

Q100. During <spouse name>'s last completed deployment, how satisfied were you with his/her access to communication?

<table>
<thead>
<tr>
<th>Very Dissatisfied</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Very Satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>
Q101. Overall, when you communicated with <spouse name> during their last completed deployment, how satisfied were you with your ability to support each other (connect emotionally and/or spiritually)?

![Satisfaction Scale](image)

Q102. Please estimate how much advance notification you had before <spouse name> left for their last completed deployment.

- More than 6 months
- 3-6 months
- Less than 3 months
- Less than 1 month
- Less than 1 week
- 24 hours or less

Q103. In your opinion, what was the level of danger to <spouse name> during their last completed deployment?

![Danger Scale](image)

Q104. Was <spouse name>’s last completed deployment extended beyond what you originally expected?

- Yes, by less than 2 weeks
- Yes, by 2 weeks to 2 months
- Yes, by more than 2 months
- No, not extended

Q105. During the last completed deployment or active duty assignment, how much support did you feel you received from the following?

<table>
<thead>
<tr>
<th>Source of Support</th>
<th>A lot</th>
<th>Moderate amount</th>
<th>Only a little</th>
<th>None at all</th>
<th>Does not apply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your extended family</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your friends</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your co-workers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your neighbors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your clergyman or chaplain</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support group of those in a situation similar to yours</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family and community support services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your mental health provider (e.g. psychiatrist or psychologist)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your primary care provider (e.g. family practice doctor or nurse practitioner)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other military resources</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Q106. Which best describes your living situation during <spouse name>’s last completed deployment?
- Military housing, on base
- Military house, off base
- Civilian housing

Q107. During <spouse name>’s last completed deployment, did you live with extended family (for example, your parents, your in-laws, your siblings)?
- Yes, in my home → Skip to Q108
- Yes, in their home → Skip to Q108
- No

(If NO) During <spouse name>’s last completed deployment, did you live near family (for example, you moved to your hometown)?
- Yes
- No
DEPLOYMENT RETURN AND REUNION

The deployment return and reunion process can often be challenging, so our next questions are about that experience.

Q108. Following <spouse name’s> last completed deployment, please rate the following statement. The process of reunion/reintegration was stressful.

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree
- Does not apply

Q109. Following <spouse name’s> last completed deployment, did you personally participate in any deployment transition programs such as Return and Reunion? (For instance, programs on how to prevent or manage the stress related to your spouse returning from a deployment or active duty assignment.)

- No
- Yes → Skip to Q110

(If NO) Indicate which of the following are reasons why you did not participate in a deployment transition program.

<table>
<thead>
<tr>
<th>Reason</th>
<th>Was this a reason for you?</th>
</tr>
</thead>
<tbody>
<tr>
<td>No such program was available to me</td>
<td>No</td>
</tr>
<tr>
<td>I was not able to take the time to participate in the program</td>
<td>No</td>
</tr>
<tr>
<td>I had no child care available</td>
<td>No</td>
</tr>
<tr>
<td>I was unable to get off work to attend the program</td>
<td>No</td>
</tr>
<tr>
<td>I had previously received this training and did not need it again</td>
<td>No</td>
</tr>
<tr>
<td>I did not think such training would help me</td>
<td>No</td>
</tr>
<tr>
<td>I was not aware these programs were available</td>
<td>No</td>
</tr>
<tr>
<td>My spouse was not supportive of the program</td>
<td>No</td>
</tr>
</tbody>
</table>

Q110. Please choose the best answer regarding <spouse name’s> last completed deployment.

<table>
<thead>
<tr>
<th>Time Frame</th>
<th>Less than one month</th>
<th>1-2 months</th>
<th>3-5 months</th>
<th>6 months or more</th>
<th>Not yet adjusted</th>
<th>Does not apply</th>
</tr>
</thead>
<tbody>
<tr>
<td>How long did it take for you to adjust to your spouse's return from being away from home?</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>How long did it take for your spouse to adjust to his/her return home?</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>How long did it take for your relationship to return to the way it was before he/she left home?</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>How long did it take for your children to adjust to his/her return home? (If no children currently reside in your home, please skip this question)</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>
MILITARY LIFE

Now, we’d like to ask you some questions about the stress of military life and the military’s efforts to help you and your family deal with those stressors.

Q111. On average, during the past month, or the most recent month <spouse name> was not deployed, how many hours did he/she work per week (including weekends)?

- [ ]  O I don’t know

Q112. On average, during the past year, how many days of leave from work did <spouse name> take? Please round to nearest whole number and do not use dashes or decimals.

- [ ]  O I don’t know

Q113. How many total months was <spouse name> away from home in the past year (including deployments, training, temporary duty-TDY/TAD)?

- [ ]  O I don’t know

Q114. Many situations experienced by military families can be stressful for them. For each of the following possible stressful situations you and your family personally experienced in the past 12 months, please indicate how stressful you felt it was for you and your family.

<table>
<thead>
<tr>
<th>In the past 12 months</th>
<th>Very stressful</th>
<th>Moderately stressful</th>
<th>Slightly stressful</th>
<th>Not at all stressful</th>
<th>Have not experienced in past 12 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>A combat-related deployment or duty assignment for your spouse</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>A non-combat-related deployment or duty assignment requiring your spouse to be away from home</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Uncertainty about future deployments or duty assignments</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Combat-related injury to your spouse</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>A non-combat injury to your spouse from carrying out his/her military duties</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Caring for your ill, injured, or disabled spouse</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Intensified training schedule for your spouse</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Increased time spouse spent away from family, or missed family celebrations, while performing military duties</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Family conflict over whether spouse should remain in the military or reserves</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Difficulty balancing demands of family life and your spouse's military duties</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>A permanent change of station (PCS)</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>

For reserve families only:

- Unpredictability of when reservists will be activated for duty
- Changes in your family’s financial situation due to your spouse’s active duty
- Concern over your spouse's employment when de-activated
- Concern over continuity of access to healthcare for your family
Q115. Overall, how would you rate the military's efforts to help <spouse name>, you, and your family deal with the stresses of military life?

Help <spouse name>
- Excellent
- Very Good
- Good
- Fair
- Poor

Help you and your family
- Excellent
- Very Good
- Good
- Fair
- Poor

Q116. Please indicate how you feel about this statement:
Skip if P4 is no longer Active Duty AND Family spouse is Active Duty

Generally, on a day-to-day basis, I am proud to be a military spouse

Very strongly disagree
Strongly disagree
Mildly disagree
Neutral
Mildly agree
Strongly agree
Very strongly agree

Q117. What is your overall feeling about military life?
- Negative
- Somewhat negative
- Neither negative nor positive
- Somewhat positive
- Positive

Q118. In the last 3 years, how many times have you experienced a permanent change of station (PCS) move?

Q119. How long have you lived at your current location?
- Less than a year
- 1 to 2 years
- 3 to 5 years
- 6 or more years

Q120. Which best describes where you currently live?
- Military housing, on base
- Military house, off base
- Civilian housing

Q121. Do you currently live with extended family (for example, your parents, your in-laws, your siblings)?
- Yes, in my home → Skip to Q122
- Yes, in their home → Skip to Q122
- No

(If NO) Are you currently living near family (for example, you moved to your hometown)?
- Yes
- No
YOUR CHILDREN

Now we would like to ask you about your children. We realize that these questions are sensitive, but it is important to answer them as accurately as you can. Your answers will provide insight into how families and children are coping with military life and deployment. We want to remind you that this is a population-based study and data collected will not be used to make decisions about treatment. If you feel your child needs medical care or counseling, you should make contact with the appropriate medical personnel.

Q122. How many children do you have with <spouse name> or from prior relationship(s)?

Children

(Please include any biological or adopted children.)

(This answer will be used to build the next question asking for DOB)

Made revisions to Q123: please see below

Q123. Please answer the following questions for each of your children who are 17 years old or younger.

<table>
<thead>
<tr>
<th>Child 1 (Display age from newly added Q5)</th>
<th>Relationship to you:</th>
<th>Has this child ever shared a household with &lt;spouse&gt;?</th>
<th>How many years has this child lived in the same household with &lt;spouse&gt; for the majority of the year?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological</td>
<td>Yes</td>
<td>Less than 1</td>
<td></td>
</tr>
<tr>
<td>Adopted</td>
<td>Yes</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Stepchild</td>
<td>Yes</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Foster</td>
<td>Yes</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>7</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>8</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>9</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>10</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>11</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>12</td>
<td></td>
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<tr>
<td></td>
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<td>13</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>14</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>15</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>16</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>17</td>
<td></td>
</tr>
</tbody>
</table>

As discussed earlier, we will only ask about children who the participant indicates that the child has shared a household with the P4 Service member (based on the question above “Has this child ever shared a household with <spouse>?”)

If the participant indicates that none of their children ever shared a home with the P4 Service member then they will skip the remaining questions in this section and go straight to the ‘Contact Information’ section. UNLESS the Family participant responded to original Q4 at the beginning of the survey: Yes, Active Duty OR Yes, Reserve or National Guard, OR Yes, Both. We will ask these participants all child questions for all of their children under 17 years old.
Q124. For each of your children 3 to 17 years of age living at home, mark whether you have observed the following behaviors in the past month. Mark all that apply.

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Child 1</th>
<th>Child 2</th>
<th>Child 3</th>
<th>Child 4</th>
<th>Child 5</th>
<th>Child 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Considerate of other people’s feelings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restless, overactive, cannot stay still for long</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Often complains of headaches, stomach-aches or sickness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shares readily with other children, for example toys, treats, pencils</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Often loses temper</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rather solitary, prefers to play alone</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Generally well behaved, usually does what adults request</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Many worries or often seems worried</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helpful if someone is hurt, upset or feeling ill</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constantly fidgeting or squirming</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has at least one good friend</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Often fights with other children or bullies them</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Often unhappy, depressed or tearful</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Generally liked by other children</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Easily distracted, concentration wanders</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nervous or clingy in new situations, easily loses confidence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kind to younger children</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Often lies or cheats</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Picked on or bullied by other children</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Often offers to help others (parents, teachers, other children)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thinks things out before acting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steals from home, school or elsewhere</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gets along better with adults than with other children</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Many fears, easily scared</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good attention span, sees work through to the end</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
NEW QUESTION: This will be added as the first question for each child. (Underneath the green box that is currently on the web survey that says ‘The questions below are for you child born on XXXX)"

**Please change text in green box to: Please answer the following questions for XXX year old. (use age provided from newly added Q5 to fill in age)

Question: ‘Please provide the date of birth for your child’ [DOB Drop Down] Year range: 1997-2014

Q125. Please indicate if you are currently interested in your child(ren) receiving mental health services/counseling? (Note: Children ages 3-17)

<table>
<thead>
<tr>
<th></th>
<th>Child 1 (Oldest)</th>
<th>Child 2</th>
<th>Child 3</th>
<th>Child 4</th>
<th>Child 5</th>
<th>Child 6 (Youngest)</th>
</tr>
</thead>
<tbody>
<tr>
<td>If yes, please indicate which children.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Q126. On a typical day, how much time does your child spend watching TV/videos, using a computer, or playing video games? (Note: Children ages 3-17)

<table>
<thead>
<tr>
<th></th>
<th>Child 1</th>
<th>Child 2</th>
<th>Child 3</th>
<th>Child 4</th>
<th>Child 5</th>
<th>Child 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>If yes, please indicate the number of hours per day.</td>
<td>⬜️ ⬜️ ⬜️ ⬜️ ⬜️ ⬜️</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q127. Please indicate if your child(ren) is overweight. (Note: Children ages 3-17)

<table>
<thead>
<tr>
<th></th>
<th>Child 1</th>
<th>Child 2</th>
<th>Child 3</th>
<th>Child 4</th>
<th>Child 5</th>
<th>Child 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>If yes, please indicate which child(ren).</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Q128. Please indicate the degree to which your child was disturbed or upset by your spouse's most recent or current deployment or active duty assignment. (Note: Children ages 3-17)

<table>
<thead>
<tr>
<th></th>
<th>Child 1</th>
<th>Child 2</th>
<th>Child 3</th>
<th>Child 4</th>
<th>Child 5</th>
<th>Child 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>A lot</td>
<td>⬜️ ⬜️ ⬜️ ⬜️ ⬜️ ⬜️</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than just a moderate amount</td>
<td>⬜️ ⬜️ ⬜️ ⬜️ ⬜️ ⬜️</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A moderate amount</td>
<td>⬜️ ⬜️ ⬜️ ⬜️ ⬜️ ⬜️</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Only a little</td>
<td>⬜️ ⬜️ ⬜️ ⬜️ ⬜️ ⬜️</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not at all</td>
<td>⬜️ ⬜️ ⬜️ ⬜️ ⬜️ ⬜️</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N/A- no current/recent deployment or active duty assignment</td>
<td>⬜️ ⬜️ ⬜️ ⬜️ ⬜️ ⬜️</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In the last 3 years, have any of your children 17 or younger, received any of these services or been placed in any of the following: (If you have more than one child, please mark all that apply for any of your children.)

<table>
<thead>
<tr>
<th>Service</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inpatient psychiatric unit or a hospital for mental health problems</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Residential treatment center (A self-contained treatment facility where the child lives and goes to school)</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Detention center, training school, jail, or prison</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Group home (A group residence in a community setting)</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Treatment foster care (Placement with foster parents who receive special training and supervision to help children with problems)</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Probation officer or court counselor</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Day treatment program (A day program that includes a focus on therapy and may also provide education while the child is there)</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Case management or care coordination (Someone who helps the child get the kinds of services he/she needs)</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>In-home counseling (Services, therapy, or treatment provided in the child's home)</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Outpatient counseling/therapy (From psychologist, social worker, therapist, or other counselor)</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Outpatient treatment from a psychiatrist</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Primary care physician/pediatrician for symptoms related to trauma or emotional/behavioral problems. (Excluding emergency room)</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>School counselor, school psychologist, or school social worker (For behavioral or emotional problems.)</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Special class or special school (For all or part of the day)</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Child Welfare or Department of Social Services (Include any type of contact)</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Foster care (Placement in kinship or non-relative foster care)</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Therapeutic recreation services or mentor</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Hospital emergency room (For problems related to trauma or emotional or behavioral problems)</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Self-help groups (such as Alcoholics Anonymous, Narcotics Anonymous)</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>
Q130. In the last 3 years, has a doctor or health professional told you that any of your children 17 or younger, has any of the following conditions? (If you have more than one child, and more than one child has the condition, please mark the severity level for the child that is most affected by the condition.)

<table>
<thead>
<tr>
<th>Condition</th>
<th>Yes</th>
<th>If Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food allergies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-food allergies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obesity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asthma</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any developmental delay that affects (his/her) ability to learn</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stuttering, stammering, or other speech problems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attention Deficit Disorder (ADD) or Attention Deficit Hyperactive Disorder (ADHD)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety problems or other emotional problems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eating disorder</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Behavioral or conduct problems, such as oppositional defiant disorder or conduct disorder</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Autism or Autism Spectrum Disorder (ASD)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tourette Syndrome</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diabetes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cystic Fibrosis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cerebral Palsy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Muscular Dystrophy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epilepsy or other seizure disorder</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Migraine or frequent headaches</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arthritis or other joint problems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hearing problem</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vision problems that cannot be corrected with glasses or contact lenses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A brain injury or concussion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood problems such as anemia or sickle cell disease</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Severity Levels:
- Mild
- Moderate
- Severe
Q131. In the past 3 years, where has your child(ren) 17 or younger, gone for care? Mark all that apply.
- Military Treatment Facility (MTF)
- Civilian Provider - TRICARE
- Civilian Provider – Other
- Public health centers (free or reduced cost care)
- My child(ren) did not use healthcare facilities/providers

Q132. To best understand the dynamics of health care utilization and the needs of service members and their families, are you willing to allow us to link your survey data to DoD medical records of any children you may have that are 17 or younger?
- No
- Yes
Q133. Have you been receiving the Family Study mailings?
   ○ No
   ○ Yes

Q134. Have you moved since 2011?
   ○ No
   ○ Yes

Q135. Please provide your current mailing address below: Only see Q135 if answered Yes to Q134
   
   Address Line 1: 
   Address Line 2 (optional): 
   City (or FPO/APO): 
   State/Province/Region (or AA/AE/AP): 
   ZIP/Postal Code: 
   Country: 

Q136. Have you been receiving the Family Study emails?
   ○ No
   ○ Yes

Q137. Please provide your current email address(es): Only see Q137 if answered No to Q136
   
   Primary: 
   Secondary: 

Q138. What is your full Social Security Number? Only see if we do NOT have an SSN for their SID
   
   (The reason for asking you your SSN is to assist us in maintaining contact with you and to be included in all analyses. Your SSN will not be stored with your survey responses and will be confidentially maintained.)
To help us contact you in the future, please provide the name and contact information for two people who are likely to know where you can be reached. Please do not include individuals that live in your household. We will NOT share your questionnaire responses with these individuals and they will ONLY be contacted if we have difficulty contacting you.

139. First Alternate Contact
- Name:
- Phone:
- Email:

140. Second Alternate Contact
- Name:
- Phone:
- Email:

141. Finally, do you have any concerns about your health that are not covered in this questionnaire that you would like to share?

THANK YOU FOR COMPLETING THE FAMILY STUDY SURVEY!

If you have any questions or concerns, you can contact the Millennium Family Study team toll free at (800) 571-9248. You can also email us at familycohortinfo@med.navy.mil.
Appendix E: Collaboration Protocol
Family Study Collaboration Protocol

Family Study Team

Step 1: Family Study Leadership Meeting

The Family Study has outlined six primary aims that include objectives and specific study questions. Utilizing this framework, the Principal Investigators and Co-Investigators from Abt, NHRC, Duke, and NYU will meet to discuss and determine the priority of studies to be conducted based on their scientific merit and potential to impact force health protection (to prepare, protect, and treat the families of Service members). They will also suggest potential study team members based on expertise, experience, and availability.

Step 2: Proposal Submission

Once a specific study question has been prioritized and a study team established, the team will develop a proposal for review by the NHRC Department Head and approval by the Principal Investigators.

Proposals will include the following elements:

A. General Information
   1. Project title
   2. Aim/objective
   3. Initiating author(s), including at least one NHRC team member
   4. Lead analyst

B. Background and Analysis Plan
   1. Brief background and significance, including military relevance
   2. Proposed analytic approaches
   3. Applicable data sets and variables

C. References

Step 3: Presentation/Publication

All forms of presentation and publication require clearance through approval channels (e.g., NHRC, NMRC, & BUMED). Final authorship for publications will be decided in accord with journal authorship guidelines.
External Collaborators

Step 1: Proposal Submission

Proposals will include the following elements:

A. General Information
   1. Project title
   2. Initiating author(s) and qualifications

B. Background and Analysis Plan
   1. Brief background and significance, including military relevance
   2. Proposed analytic approaches
   3. Applicable data sets and variables

C. References

Step 2: Initial Review

The Family Study has outlined six primary aims that include objectives and specific study questions. Utilizing this framework, the Principal Investigators and Co-Investigators from Abt, NHRC, Duke, and NYU will conduct an initial review of each proposal. Initial review will be scored on the following elements: (1) scientific merit, (2) relevance to force health protection (to prepare, protect, and treat the families of Service members), (3) relevance to the aims and objectives of the Family Study, and (4) experience of potential authors. The initial review of the proposal may result in recommendations to enhance scientific merit and/or relevance, as well as to add potential authors.

If the proposal is approved: (1) a scientific aim and objective will be identified and assigned to the manuscript by the PIs, (2) a lead analyst will be identified, (3) at least one PI and one NHRC team member will be included in the study team, and (4) a time-line that includes interim products, as well as completion date(s) will be submitted and approved by the PIs.

Step 3: Completion of Data Use Agreements and Data Security Plans (when applicable)

Once a proposal has been approved, and it has been determined that analyses need to be conducted off-site, then the initiating author(s) will develop a data transfer request.

In order to protect participants' privacy and within rules governing human subjects research, the Naval Health Research Center (NHRC) does not share identifiable data. However, NHRC will share de-identified data with collaborating external institutions after data use agreements and data security plans have been developed and approved. For archival purposes, a copy of the final data set and programs will be sent to NHRC when a study closes.

Step 4: Presentation/Publication

All forms of presentation and publication require clearance through approval channels (e.g., NHRC, NMRC, & BUMED). Final authorship for publications will be decided in accord with journal authorship guidelines.
CDR Dennis Faix  
Naval Health Research Center

Dr. William Schlenger  
Abt Associates Inc.

4/15/2014  
Date

Page 3 of 3
Appendix F: IPR Presentation 2013/2014
Co-PI: William Schlenger, PhD
Abt Associates

Co-PI: John Fairbank, PhD
Duke University

Co-PI: Charles Marmar, MD
New York University

Presenters:
Hope McMaster, PhD
Research Psychologist
Abt Associates

Cynthia LeardMann, MPH
Senior Epidemiologist
Naval Health Research Center

Abt Associates Award Number: W81XWH-09-C-0101
Award Date: 28 Sep 2009 – 27 Oct 2014

NHRC Award Number: W911QY-09-D-0040-0006
Award Date: 29 Sep 2009 – 30 Sep 2013

COR: Ashley Fisher
Project Officer: Michelle Lane
Portfolio Mgrs: CAPT Doug Forcino
Kate Nassauer, PhD
Family Study Team

Naval Health Research Center

CDR Dennis Faix, MD, MPH, Dept. Head
Cynthia LeardMann, MPH, Senior Epidemiologist
Evelyn Davila, PhD, MPH, Senior Epidemiologist
Isabel Jacobson, MPH, Senior Epidemiologist
CPT Carrie Donoho, PhD, Research Psychologist
Valerie Stander, PhD, Research Psychologist
Toni Rush, MPH, Data Analyst
Lauren Bauer, MPH, Study Coordinator
William Lee, IT Specialist
Gordon Lynch, Web Developer
Steven Speigle, Data Manager

Abt Associates

William Schlenger, PhD, Co-PI
Nida Corry, PhD
Doug Fuller, PhD
Hope McMaster, PhD

Duke University

John Fairbank, PhD, Co-PI
Lisa Amaya-Jackson, MD, MPH
Ernestine Briggs-King, PhD
Ellen Gerrity, PhD
Robert Lee, MA, MS

New York University

Charles Marmar, MD, Co-PI

Survey operations conducted at NHRC
Estimated 3 million military dependents
  • 2 million are children
Military families face unique challenges
  • Deployments, extended separation, relocations
Despite challenges, many show resilience

Background and Rationale
Rationale and Objectives

➢ Research is needed to better understand:
  • Short-term and long-term effects of deployment and service member readjustment issues related to:
    ▪ the mental and physical health of military spouses and children*
    ▪ marriage quality
    ▪ family relationships
  • Effects on children separated from their parents by deployment and their access to support for psychological health issues*
  • Role of social support and services on the health and well-being of families after they separate from the military
  • Factors associated with resilience and vulnerability among military families

➢ The Family Study addresses this need and seeks to provide strategic evidence based policy recommendations that inform leadership and guide interventions

* 2007 DoD Mental Health Task Force Recommendation
The Millennium Cohort Study was launched in 2001 in collaboration with all US military services and the Department of Veterans Affairs, prior to the conflicts in Iraq and Afghanistan.

Cohort members are surveyed every ~3 years to examine how deployment and other military occupational experiences affect the long-term physical and mental health of military members and veterans.

The Millennium Cohort Study has completed 4 cycles and enrolled more than 200,000 Service Members.

Panel 1: 77,047
Panel 2: 31,110
Panel 3: 43,439
Panel 4: 50,052
Panel 4 of the Millennium Cohort Study includes a probability sample of military service members (active duty, Reserve, and National Guard).

*Oversampling for women and married service members*
Design and Methodology: Recruitment and Study Population

- 63% response rate for referred spouses
  - Email augmentation for bi-modal recruitment
  - Rapid invitation after Service Member enrollment
- 25% response rate for non-referred spouses
  - Mailed paper requests without email augmentation
  - Time delay between Service Member enrollment and spouse invitation
- 84.6% completed survey via web (N=8,421)
Recruitment Methodology

Week 1
Card and Magnet
Picture Frame

Week 2
Postcard reminder

Week 5
Sample survey with $5 card

Week 6
Letter Reminder

Week 9
Paper survey (FedEx or Priority)

Week 10
Postcard Reminder

BECAUSE FAMILIES SERVE TOO
A STUDY OF HOW MILITARY SERVICE MAY AFFECT THE HEALTH AND WELL-BEING OF MILITARY FAMILIES

BECAUSE FAMILIES SERVE TOO
A STUDY OF HOW MILITARY SERVICE MAY AFFECT THE HEALTH AND WELL-BEING OF MILITARY FAMILIES

BECAUSE FAMILIES SERVE TOO
A STUDY OF HOW MILITARY SERVICE MAY AFFECT THE HEALTH AND WELL-BEING OF MILITARY FAMILIES
# Measures

<table>
<thead>
<tr>
<th>Standardized instrument used</th>
<th>Topics covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Outcomes Study Short Form 36-Item Survey for Veterans (SF-36V)</td>
<td>Physical, mental, and functional health</td>
</tr>
<tr>
<td>Patient Health Questionnaire (PHQ)</td>
<td>Depression, anxiety, panic syndrome, binge-eating, bulimia nervosa, and alcohol abuse</td>
</tr>
<tr>
<td>Posttraumatic Stress Disorder (PTSD) Checklist-Civilian Version (PCL-C)</td>
<td>Post-traumatic stress disorder</td>
</tr>
<tr>
<td>CAGE questionnaire</td>
<td>Alcohol problems</td>
</tr>
<tr>
<td>Insomnia Severity Index (ISI)</td>
<td>Sleep</td>
</tr>
<tr>
<td>Family Adaptability and Cohesion Evaluation Scale (FACES IV)</td>
<td>Family communication and satisfaction</td>
</tr>
<tr>
<td>Quality of Marriage Index (QMI)*</td>
<td>Relationship with Service Member</td>
</tr>
<tr>
<td>Adverse Childhood Experiences (ACE)*</td>
<td>Childhood experiences of spouse</td>
</tr>
<tr>
<td>Strengths &amp; Difficulties Questionnaire (SDQ)*</td>
<td>Behavioral screening for children</td>
</tr>
</tbody>
</table>

*Adapted versions of these instruments were used.

### Other topics:
- Socio-demographics
- Health conditions/diseases and health behaviors
- Deployment experiences of spouse and Service Member
- Opinions about military life
- Utilization of health-related services (e.g. medical, mental-health, social support), including Return and Reunion Transition Program, Military OneSource
Complementary Data Sources

**Civilian Spouse**
- Civilian Inpatient / Outpatient Care & Behavioral Health
- Military Inpatient and Outpatient Care
- Pharmacologic Data
- Medical History
- Mortality Data

*Spouses of Active Duty service members

**Service Member**
- Survey Data
- Demographic Data
- Recruit Assessment Program
- Military Inpatient and Outpatient Care
- Civilian Inpatient and Outpatient Care
- Pharmacologic Data
- Medical History
- Deployment Data
- Environmental Exposure Data
- Immunization Data
- Department of Veterans Affairs
Aim 1: Service Member Deployment
- Non-deployed
- Non-combat Deployed
- Combat Deployed

Spouse and Child Health & Well-being

Aim 2: Service Member Readjustment
- Mental Health Issues
- Alcohol Abuse/Misuse

Spouse and Child Health & Well-being

Aim 3: Service Member Deployment and Readjustment
- Resiliency and Vulnerability Factors

Spouse and Child Health & Well-being

Aim 4: Service Member Factors
- Support Factors
- Employment Factors

Marital Quality and Family Functioning

Aim 5: Foundation Studies
- Methodology, Non-response Analyses
- Baseline Characteristics
- Instrument Reliability And Validity

Aim 6: Spouse Factors, Child Factors, and Family Functioning Factors

Service Member Outcomes
# Demographics of MilCo Family Study (N=9,954*)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n*</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>8,629</td>
<td>87</td>
</tr>
<tr>
<td>Race/ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White, non-Hispanic</td>
<td>7,738</td>
<td>78</td>
</tr>
<tr>
<td>Black, non-Hispanic</td>
<td>417</td>
<td>4</td>
</tr>
<tr>
<td>Hispanic</td>
<td>908</td>
<td>9</td>
</tr>
<tr>
<td>Mean age in years of spouse = 29 (SD 5.8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Currently married</td>
<td>9,785</td>
<td>99</td>
</tr>
<tr>
<td>Have children</td>
<td>6,271</td>
<td>63</td>
</tr>
<tr>
<td>Mean # of children = 1.7 (SD 1.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age of children (of 11,055 children reported)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;= 2 years</td>
<td>4,863</td>
<td>44</td>
</tr>
<tr>
<td>3-5 years</td>
<td>2,868</td>
<td>26</td>
</tr>
<tr>
<td>6-11 years</td>
<td>2,162</td>
<td>20</td>
</tr>
<tr>
<td>12-17 years</td>
<td>857</td>
<td>7</td>
</tr>
<tr>
<td>18 and older</td>
<td>305</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n*</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school or less</td>
<td>1,287</td>
<td>13</td>
</tr>
<tr>
<td>Some college/Associate degree</td>
<td>4,608</td>
<td>46</td>
</tr>
<tr>
<td>Bachelor’s degree or higher</td>
<td>4,036</td>
<td>41</td>
</tr>
<tr>
<td>Employment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-time or part-time job</td>
<td>4,576</td>
<td>52</td>
</tr>
<tr>
<td>Not employed</td>
<td>907</td>
<td>10</td>
</tr>
<tr>
<td>Homemaker</td>
<td>3,270</td>
<td>37</td>
</tr>
<tr>
<td>Spouse† deployed since 2001, of 1,761 spouses who ever served in military</td>
<td>886</td>
<td>50</td>
</tr>
<tr>
<td>Sponsor‡ deployed since 2001</td>
<td>7,399</td>
<td>75</td>
</tr>
</tbody>
</table>

*Total population may vary by variable due to missing data; † Spouse = Family Study participant; ‡ Sponsor = Millennium Cohort Panel 4 participant
First Glance at the Data:
Spouse Mental Health Screening (n=9,954)
Quality of Marriage Index

Have a good marriage (n=9,954)

- Strongly agree: 61%
- Agree: 26%
- Neither agree or disagree: 3%
- Disagree: 4%
- Strongly disagree: 6%
Children

Families with a Child(ren) Currently Experiencing a Behavioral, Emotional, or Learning Problem (n=3,710*)

*Families with only children 2 years old or younger were excluded
## Service Member Characteristics

<table>
<thead>
<tr>
<th>Service Member Characteristics</th>
<th>Family Study Responders’ n (%)</th>
<th>Married Military Population with 2-5 Years of Service† n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>8,627 (87)</td>
<td>290,468 (84)</td>
</tr>
<tr>
<td>Female</td>
<td>1,303 (13)</td>
<td>57,012 (16)</td>
</tr>
<tr>
<td><strong>Race/ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White, non-Hispanic</td>
<td>7,997 (81)</td>
<td>228,623 (66)</td>
</tr>
<tr>
<td>Black, non-Hispanic</td>
<td>519 (5)</td>
<td>41,167 (12)</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>398 (4)</td>
<td>14,524 (4)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>745 (7)</td>
<td>43,873 (13)</td>
</tr>
<tr>
<td>Native American</td>
<td>153 (2)</td>
<td>6,885 (2)</td>
</tr>
<tr>
<td>Other</td>
<td>118 (1)</td>
<td>12,409 (4)</td>
</tr>
<tr>
<td><strong>Age (years)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17-24</td>
<td>1,793 (18)</td>
<td>107,124 (31)</td>
</tr>
<tr>
<td>25-34</td>
<td>7,062 (71)</td>
<td>213,148 (62)</td>
</tr>
<tr>
<td>35-44</td>
<td>923 (9)</td>
<td>22,574 (6)</td>
</tr>
<tr>
<td>&gt;44</td>
<td>152 (2)</td>
<td>2,340 (1)</td>
</tr>
</tbody>
</table>

Total population may vary by variable due to missing data.

*Responders include those that responder to either the paper or the web version of the survey.
†Total sample size includes only Family Study responders whose service member completed the P4 Millennium Cohort survey.
‡Married military population data from 31 Oct 2010.
### Service Member Characteristics

<table>
<thead>
<tr>
<th></th>
<th>Family Study Responders*</th>
<th>Married Military Population with 2-5 Years of Service‡</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n (%)</td>
<td>n (%)</td>
</tr>
<tr>
<td><strong>n = 9,930†</strong></td>
<td></td>
<td>N = 347,481</td>
</tr>
</tbody>
</table>

#### Education

<table>
<thead>
<tr>
<th>Education</th>
<th>n (%)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Some college or less</td>
<td>6,932</td>
<td>(70)</td>
</tr>
<tr>
<td>Bachelor’s or higher degree</td>
<td>2,997</td>
<td>(30)</td>
</tr>
</tbody>
</table>

#### Service Branch

<table>
<thead>
<tr>
<th>Service Branch</th>
<th>n (%)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Force</td>
<td>2,722</td>
<td>(27)</td>
</tr>
<tr>
<td>Army</td>
<td>4,581</td>
<td>(46)</td>
</tr>
<tr>
<td>Coast Guard</td>
<td>278</td>
<td>(3)</td>
</tr>
<tr>
<td>Marine Corps</td>
<td>937</td>
<td>(9)</td>
</tr>
<tr>
<td>Navy</td>
<td>1,412</td>
<td>(14)</td>
</tr>
</tbody>
</table>

---

*Responders include those that responder to either the paper or the web version of the survey.
†Total sample size includes only Family Study responders whose service member completed the P4 Millennium Cohort survey.
‡Married military population data from 31 Oct 2010.

Total population may vary by variable due to missing data.
## Service Member Characteristics

<table>
<thead>
<tr>
<th>Service Member Characteristics</th>
<th>Family Study Responders*</th>
<th>Married Military Population with 2-5 Years of Service‡</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n (%)</td>
<td>n (%)</td>
</tr>
<tr>
<td>Military Component</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active Duty</td>
<td>7,140 (72)</td>
<td>254,291 (73)</td>
</tr>
<tr>
<td>Reserve/Guard</td>
<td>2,790 (28)</td>
<td>93,190 (27)</td>
</tr>
<tr>
<td>Military Pay Grade</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enlisted</td>
<td>7,423 (75)</td>
<td>316,432 (91)</td>
</tr>
<tr>
<td>Officer</td>
<td>2,507 (25)</td>
<td>31,049 (9)</td>
</tr>
</tbody>
</table>

Total population may vary by variable due to missing data.

*Responders include those that responder to either the paper or the web version of the survey.
†Total sample size includes only Family Study responders whose service member completed the P4 Millennium Cohort survey.
‡Married military population data from 31 Oct 2010.
Proposed FY14 Analyses/Papers: Foundation Studies (Aim 5)

- Description and overview of the methods, study population, response rate, representativeness of the Family Study
- Conduct non-response analysis
  - Family Study participants compared to non-responding invited spouses
  - Family Study participants compared to married military population with 2-5 years of service
  - Web responders vs. paper responders (Family Study participants)
  - Referred vs. non-referred (Family Study participants)
  - Service Members whose spouses enrolled in the Family Study compared to those whose spouses did not enroll
Deliverables and Successes

- Enrolled ~10,000 spouses
- Developed and implemented marketing and survey strategies to improve response rates
  - Invited spouses with and without referral
  - Implemented a highly effective 6-step mail approach
  - Used a sample survey to encourage web survey response
  - Introduced a paper survey (second mode to respond)
  - Tailored messages to spouses
  - Obtained endorsement from Deanie Dempsey
  - Utilized pre-incentives (magnet, $5 gift card)
- Scanned and verified all paper surveys
- Cleaned and verified all survey data
- Created final dataset
- Linked Family data with married Service Member
Deliverables and Successes

- Improved Family Study Website
  - Now includes guidelines for researchers interested in collaborating and using data
- Paper in press describing the overall study design
- Completed first draft of paper comparing two methods for enrolling participants
- Developed cognitive interview protocols to improve FY14-15 study materials
- Completed survey revisions of the 2014-2015 follow up cycle
- Received IRB approval for 2014-2015 survey
- OMB approval pending
- Developed and approved a streamlined collaboration protocol
- Finalized DUA between NHRC and Abt Associates to share data
- Established study priorities for FY14
Challenges and Solutions

- **Funding is unclear for future follow-ups and additional cohorts/panels of spouses**
  - **Solution:** disseminate findings, collaborate with other researchers, seek other funds, optimize communication and marketing methods for following Panel 1 (to off-set need of Panel 2)

- **Engagement of spouses after their Service Member separates from the military or after they separate from the military member (divorce, widowed)**
  - **Solution:** include language in marketing/communication about need for importance of their data, show participants preliminary findings and potential uses of data

- **Surveying children directly**
  - **Solution:** proposal written, working with IRB to find acceptable methods to survey children
Challenges and Solutions

- Loss to follow-up and low response rates
  - Solution: marketing specialist and survey methodologist consulted, paper/email recruitment, emails enhanced, seek avenues for increasing awareness/credibility of study (military community events, groups, media)

- Translating research into practice and informing policy
  - Solution: publish studies of high relevance to military families in journals with high readership, collaborate with military family and health policy researchers, participate in military research interest groups/organizations events/meetings
Next Steps and Dissemination Plan

- Data analysis and manuscript preparation
- Continue development of methodology to survey children
- Update Wikipedia and develop usable Facebook application
- Present findings at military and scientific meetings/conferences
- Initiate collaborations with external researchers
- Start follow-up survey cycle (~Jul/Aug 2014)
Appendix G: Data Use Agreement
From: Commanding Officer, Naval Health Research Center
To: Chief, Bureau of Medicine and Surgery (M8)
Via: Commanding Officer, Naval Medical Research Center

Subj: DATA USE AGREEMENT (DUA) BETWEEN NAVAL HEALTH RESEARCH CENTER AND ABT ASSOCIATES

Ref: (a) BUMED INSTRUCTION 7050.1B

Encl: (1) DATA USE AGREEMENT

1. Per reference (a), enclosure (1) is forwarded for review and approval.

2. For further assistance, my point of contact is Ms. Liliana Sanchez who may be reached at commercial: (619) 553-8948, DSN: 553-8948, or email: liliana.sanchez@med.navy.mil.
DATA USE AGREEMENT
BETWEEN
THE NAVAL HEALTH RESEARCH CENTER
AND
ABT ASSOCIATES INC.
FOR
USE OF DEPARTMENT OF DEFENSE (DoD) DATA

The Naval Health Research Center (NHRC) working under Contract # (W911QY-11-D-0053-0001) is conducting the Family Study, a substudy of the Millennium Cohort Study for the USA Medical Research ACQ Activity. Abt Associates Inc. (Abt Associates) is working under Contract W81XWH-090C-001 also for the USA Medical Research ACO Activity to conduct analysis of the Family Survey Data. This Data Use Agreement lays out the conditions of transfer of the survey data from NHRC to Abt Associates for data analyses.

1. In order to comply with U.S., Department of Defense (DoD) and other regulations, the users of the data agree with the following requirements. These requirements apply to the use of the data files released and any data derived from such files.

2. Abt Associates will appoint a custodian to receive and oversee use of the data. This person is: Dr. William Schienger, Principal Investigator, at Abt Associates who will be receiving the de-identified data.

3. The purpose of the data transfer is to share de-identified data from the Millennium Cohort Family Study located at the Naval Health Research Center (NHRC) with collaborators of this study at Abt Associates, and in turn, their subcontractors described below. Information will be transmitted through secure means from NHRC to Abt Associates to complete analyses as part of the defined research objectives and aims of the Millennium Cohort Family Study. Data, which will be collected from spouses of service members, may include demographics, health conditions and symptoms, functional health, habits (e.g., smoking, alcohol use, exercise, and diet), family relationships and children-related data, and select information from the main study (the Millennium Cohort Study) including military-related data, such as deployment information. Additionally, dates of events may be shared with Abt Associates for specific substudies of the Family Study. Survey data may be linked by NHRC to electronic health and administrative data from other sources as outlined in research project NHRC.2000.0007, and shared with Abt Associates for substudies requiring this information. NHRC will not transfer any data involving names, dates of birth, social security numbers, or any contact information to Abt Associates. Proposals will be written for each proposed substudy using the Family Study data (and contain a list of required data elements and a list of investigators) and will be reviewed by the Millennium Cohort Study Principal Investigator, the Abt Associates investigator, and appropriate Institutional Review Board(s). Approval will follow guidelines in the Family Study’s Collaboration Protocol.
With regard to the research to be conducted herein, Abt Associates investigators will conduct the specific substudies that are associated with the approved proposals. These substudies may cover a range of collaborative projects between the Abt team and NHRC. Data shared with Abt will not be utilized for any substudies without first having a proposal approved utilizing the aforementioned processes. In addition to Abt Associates, Abt may share the data with their subcontractors under the Family Study, specifically Duke University and New York University so long as they, too, agree to the terms and conditions and requirements of this Data Use Agreement. Together, Abt Associates, Duke University, and New York University may be referred to as the “Abt Team.”

4. The data provided by NHRC to the Abt Team is restricted to the minimum necessary to complete the approved Family sub-studies.

5. The data will only be used for the purpose of the specified substudy. Abt Associates confirms they will obtain any required IRB approval necessary to conduct the research with the data provided by NHRC prior to data receipt or analyses. Likewise, NHRC confirms that it will secure IRB approval prior to the release of data. The parties agree that they will each follow the requirements of the cognizant IRB. Copies of relevant documentation, including IRB approvals and continuing reviews, will be maintained and shared between institutions. The data use must follow all restrictions within the protocol, as well as this Data Use Agreement (DUA).

6. The data provided will be limited to the minimum amount necessary to perform the analysis. Data elements will be delineated in the substudy proposals.

7. Disclosure of the data from Abt Associates to two secondary parties, specifically approved collaborators at Duke University and New York University, is allowable. Abt Associates, Duke University and New York University will not disclose, release, reveal, show, sell, rent, lease, loan or otherwise grant access to the detailed data to anyone not covered by this Agreement. Access to these data will be limited to a minimum number of individuals necessary at each institution to achieve the purpose. Data cannot be used for marketing purposes.

8. Data will be stored in a manner consistent with Federal and DoD regulations and data security best practices. Abt Associates agrees to use administrative, physical, and technical safeguards that reasonably and appropriately protect the confidentiality, integrity, and availability of the data that it receives in the execution of this Agreement. Abt Associates agrees to ensure that these requirements will also be followed for Family Study data at Duke University and New York University. Data may not be stored on laptops, flash drives, or thumb drives; stored on desktops in unsecure areas; sent through email; or transported in unencrypted format. Mobile computing devices (such as CDs and DVDs) should only contain encrypted files and must be stored in a secure manner, such as locked in a filing cabinet with limited access.

9. Data transfers will only occur through secure means using password-protected encrypted files. If the specific purpose for which the data was obtained ends prior to the substudy, then the data will be returned at that time. Use of the data past this period can only occur if this Data Use Agreement is modified or another one is signed before the date to extend the end date. These requirements also pertain to Duke University and New York University.
10. Upon completion of each substudy all analytic data sets and any data in statistical analysis code (e.g., SAS program files) will be returned to NHRC within a year of the conclusion of the substudy and/or expiration of the DUA, or the data will be destroyed at the regulator’s expense, in accordance with the current DoD regulation 5220.22-M, National Industrial Security Program. The data destruction document in Appendix A will be completed and forwarded to NHRC at the time data destruction is complete.

11. NHRC and Abt Associates, Duke University and New York University will be given the opportunity to share authorship for presentations and publications derived from the data shared from NHRC to the Abt Team for specific sub-studies of this collaborative research as also delineated in the Study’s Collaboration Protocol. Procedures for clearance of any work will be obtained in accordance with each institutions’ policies prior to public release. Prior to the release of any reports, presentations, or publications based on the data, approval from the NHRC Scientific Director and any additionally required approvals (e.g., Bureau of Medicine and Surgery - BUMED) will be obtained.

12. In the event of an unauthorized disclosure of these data, NHRC will be immediately notified. NHRC may impose any or all of the following measures: (1) request a formal response to an allegation of an unauthorized disclosure, (2) require the submission of a corrective action plan formulated to implement steps to be taken to alleviate the possibility of any future unauthorized disclosure; (3) require the return of the data; and/or (4) sanction against further release of data to the organization.

13. The requesting organization acknowledges that criminal penalties under the Privacy Act (5 USC 552a (1) (3)) may apply if it is determined that any individual employed or affiliated with the organization knowingly and willfully obtained the file(s) under false pretense.

14. Resources. Execution of this support agreement is contingent upon funding availability. Therefore, approval of this support agreement does not constitute approval of additional resources. Any funding or billet requirements that cannot be accommodated within the existing budget must be separately addressed through normal budget processes or other special programs.

15. Health Insurance Portability and Accountability Act (HIPAA). All parties understand and will adhere to the privacy and security requirements of protected health information and personally identifiable information under the HIPAA and the Privacy Act of 1974 in accordance with the following higher authority guidance as applicable: DoD 6025.18-R, DoD Health Information Privacy Regulation of January 2003, section C3.4; DoD 8580.02 Health Information Security of July 2007, section C2.10; and DoN 5211.5E, Department of Navy Privacy Program Regulation.

16. Effective Period. The effective period of this Agreement is five years from the date of the last signature. It may be continued without change during that period, but must be reviewed annually by both parties.
17. **Modification, Change or Amendment.** Any modifications, changes or amendments to this Agreement must be in writing and are contingent upon the Bureau of Medicine and Surgery (BUMED) (M3) approval. Subsequent to BUMED approval, the modification, change, or amendments must be signed by all parties.

18. **Termination.** The Agreement may be cancelled at any time by mutual consent of the parties concerned. The Agreement may also be terminated by either party upon giving 30 days written notice to the other party. In case of mobilization or other emergency, the Agreement may be terminated immediately upon written notice by any party.

19. **Concurrence.** This written statement embodies the entire agreement between parties regarding this affiliation and no other agreements exist between the parties for this support except as stated herein. All parties to this Agreement below concur with the level of support and resource commitments that are documented herein.

20. On behalf of the Naval Health Research Center and Abt Associates, the undersigned individuals hereby attests that he or she is authorized to enter into this Agreement and agrees to all the terms specified herein.

_Jacqueline Rychlevsky_  
CAPT, NC, USN, PhD, RN, CPNP  
Commanding Officer, Naval Health Research Center

_Marcia King_  
Abt Associates Inc.  
Associate Director, Contracts

4/23/14

April 11, 2014
BUSINESS ASSOCIATE AGREEMENT

PRIVACY AND SECURITY OF PROTECTED HEALTH INFORMATION

Introduction

In accordance with DoD 6025.18-R "Department of Defense Health Information Privacy Regulation," January 24, 2003, the Business Associate meets the definition of Business Associate. Therefore, a Business Associate Agreement is required to comply with both the Health Insurance Portability and Accountability Act (HIPAA) Privacy and Security regulations. This clause serves as that agreement whereby the Business Associate agrees to abide by all applicable HIPAA Privacy and Security requirements regarding health information as defined in this clause, and in DoD 6025.18-R and DoD 8580.02-R, as amended. Additional requirements will be addressed when implemented.

(a) Definitions. As used in this clause generally refer to the Code of Federal Regulations (CFR) definition unless a more specific provision exists in DoD 6025.18-R or DoD 8580.02-R.

HITECH Act shall mean the Health Information Technology for Economic and Clinical Health Act included in the American Recovery and Reinvestment Act of 2009.

Individual has the same meaning as the term "individual" in 45 CFR 160.103 and shall include a person who qualifies as a personal representative in accordance with 45 CFR 164.502(g).

Privacy Rule means the Standards for Privacy of Individually Identifiable Health Information at 45 CFR part 160 and part 164, subparts A and E.

Protected Health Information has the same meaning as the term “protected health information” in 45 CFR 160.103, limited to the information created or received by the Business Associate from or on behalf of the Government pursuant to the Contract.

Electronic Protected Health Information has the same meaning as the term “electronic protected health information” in 45 CFR 160.103.

Required by Law has the same meaning as the term “required by law” in 45 CFR 164.103.

Secretary means the Secretary of the Department of Health and Human Services or his/her designee.

Security Incident will have the same meaning as the term “security incident” in 45 CFR 164.304, limited to the information created or received by Business Associate from or on behalf of Covered Entity.
Security Rule means the Health Insurance Reform: Security Standards at 45 CFR part 160, 162 and part 164, subpart C.

Terms used, but not otherwise defined, in this Clause shall have the same meaning as those terms in 45 CFR 160.103, 160.502, 164.103, 164.304, and 164.501.

(b) The Business Associate shall not use or further disclose Protected Health Information other than as permitted or required by the Contract or as Required by Law.

(c) The Business Associate shall use appropriate safeguards to maintain the privacy of the Protected Health Information and to prevent use or disclosure of the Protected Health Information other than as provided for by this Contract.

(d) The HIPAA Security administrative, physical, and technical safeguards in 45 CFR 164.308, 164.310, and 164.312, and the requirements for policies and procedures and documentation in 45 CFR 164.316 shall apply to Business Associate. The additional requirements of Title XIII of the HITECH Act that relate to the security and that are made applicable with respect to covered entities shall also be applicable to Business Associate. The Business Associate agrees to use administrative, physical, and technical safeguards that reasonably and appropriately protect the confidentiality, integrity, and availability of the electronic protected health information that it creates, receives, maintains, or transmits in the execution of this Contract.

(e) The Business Associate shall, at their own expense, take action to mitigate, to the extent practicable, any harmful effect that is known to the Business Associate of a use or disclosure of Protected Health Information by the Business Associate in violation of the requirements of this Clause. These mitigation actions will include as a minimum those listed in the TMA Breach Notification Standard Operating Procedure (SOP), which is available at: http://www.tricare.mil/tmaprivate/breach.cfm.

(f) The Business Associate shall report to the Government any security incident involving protected health information of which it becomes aware.

(g) The Business Associate shall report to the Government any use or disclosure of the Protected Health Information not provided for by this Contract of which the Business Associate becomes aware.

(h) The Business Associate shall ensure that any agent, including a subBusiness Associate, to whom it provides Protected Health Information received from, or created or received by the Business Associate, on behalf of the Government, agrees to the same restrictions and conditions that apply through this Contract to the Business Associate with respect to such information.
(i) The Business Associate shall ensure that any agent, including a sub-Business Associate, to whom it provides electronic Protected Health Information, agrees to implement reasonable and appropriate safeguards to protect it.

(j) The Business Associate shall provide access, at the request of the Government, and in the time and manner reasonably designated by the Government to Protected Health Information in a Designated Record Set, to the Government or, as directed by the Government, to an Individual in order to meet the requirements under 45 CFR 164.524.

(k) The Business Associate shall make any amendment(s) to Protected Health Information in a Designated Record Set that the Government directs or agrees to pursuant to 45 CFR 164.526 at the request of the Government, and in the time and manner reasonably designated by the Government.

(l) The Business Associate shall make internal practices, books, and records relating to the use and disclosure of Protected Health Information received from, or created or received by the Business Associate, on behalf of the Government, available to the Government, or at the request of the Government to the Secretary, in a time and manner reasonably designated by the Government or the Secretary, for purposes of the Secretary determining the Government’s compliance with the Privacy Rule.

(m) The Business Associate shall document such disclosures of Protected Health Information and information related to such disclosures as would be required for the Government to respond to a request by an Individual for an accounting of disclosures of Protected Health Information in accordance with 45 CFR 164.528.

(n) The Business Associate shall provide to the Government or an Individual, in time and manner reasonably designated by the Government, information collected in accordance with this Clause of the Contract, to permit the Government to respond to a request by an Individual for an accounting of disclosures of Protected Health Information in accordance with 45 CFR 164.528.

General Use and Disclosure Provisions

Except as otherwise limited in this Clause, the Business Associate may use or disclose Protected Health Information on behalf of, or to provide services to, the Government for treatment, payment, or healthcare operations purposes, in accordance with the specific use and disclosure provisions below, if such use or disclosure of Protected Health Information would not violate the HIPAA Privacy Rule, the HIPAA Security Rule, DoD 6025.18-R or DoD 8580.02-R if done by the Government. The additional requirements of Title XIII of the HITECH Act that relate to privacy and that are made applicable with respect to covered entities shall also be applicable to Business Associate.
Specific Use and Disclosure Provisions

(a) Except as otherwise limited in this Clause, the Business Associate may use Protected Health Information for the proper management and administration of the Business Associate or to carry out the legal responsibilities of the Business Associate.

(b) Except as otherwise limited in this Clause, the Business Associate may disclose Protected Health Information for the proper management and administration of the Business Associate, provided that disclosures are required by law, or the Business Associate obtains reasonable assurances from the person to whom the information is disclosed that it will remain confidential and used or further disclosed only as required by law or for the purpose for which it was disclosed to the person, and the person notifies the Business Associate of any instances of which it is aware in which the confidentiality of the information has been breached.

(c) Except as otherwise limited in this Clause, the Business Associate may use Protected Health Information to provide Data Aggregation services to the Government as permitted by 45 CFR 164.504(e)(2)(i)(B).

(d) Business Associate may use Protected Health Information to report violations of law to appropriate Federal and State authorities, consistent with 45 CFR 164.502(j)(1).

Obligations of the Government

Provisions for the Government to Inform the Business Associate of Privacy Practices and Restrictions

(a) The Government shall provide the Business Associate with the notice of privacy practices that the Government produces in accordance with 45 CFR 164.520.

(b) The Government shall provide the Business Associate with any changes in, or revocation of, permission by Individual to use or disclose Protected Health Information, if such changes affect the Business Associate's permitted or required uses and disclosures.

(c) The Government shall notify the Business Associate of any restriction to the use or disclosure of Protected Health Information that the Government has agreed to in accordance with 45 CFR 164.522.
Permissible Requests by the Government

The Government shall not request the Business Associate to use or disclose Protected Health Information in any manner that would not be permissible under the HIPAA Privacy Rule, the HIPAA Security Rule, or any applicable Government regulations (including without limitation, DoD 6025.18-R and DoD 8580.02-R) if done by the Government, except for providing Data Aggregation services to the Government and for management and administrative activities of the Business Associate as otherwise permitted by this clause.

Termination

(a) Termination. A breach by the Business Associate of this clause, may subject the Business Associate to termination under any applicable default or termination provision of this Contract.

(b) Effect of Termination.

(1) If this contract has records management requirements, the records subject to the Clause should be handled in accordance with the records management requirements. If this contract does not have records management requirements, the records should be handled in accordance with paragraphs (2) and (3) below.

(2) If this contract does not have records management requirements, except as provided in paragraph (3) of this section, upon termination of this Contract, for any reason, the Business Associate shall return or destroy all Protected Health Information received from the Government, or created or received by the Business Associate on behalf of the Government. This provision shall apply to Protected Health Information that agents of the Business Associate may come in contact. The Business Associate shall retain no copies of the Protected Health Information.

(3) If this contract does not have records management provisions and the Business Associate determines that returning or destroying the Protected Health Information is infeasible, the Business Associate shall provide to the Government notification of the conditions that make return or destruction infeasible. Upon mutual agreement of the Government and the Business Associate that return or destruction of Protected Health Information is infeasible, the Business Associate shall extend the protections of this Contract to such Protected Health Information and limit further uses and disclosures of such Protected Health Information to those purposes that make the return or destruction infeasible, for so long as the Business Associate maintains such Protected Health Information.
Miscellaneous

(a) Regulatory References. A reference in this Clause to a section in DoD 6025.18-R, DoD 8580.02-R, Privacy Rule or Security Rule means the section is currently in effect or as amended, and for which compliance is required.

(b) Survival. The respective rights and obligations of Business Associate - under the “Effect of Termination” provision of this Clause shall survive the termination of this Contract.

(c) Interpretation. Any ambiguity in this Clause shall be resolved in favor of a meaning that permits the Government to comply with DoD 6025.18-R, DoD 8580.02-R, the HIPAA Privacy Rule or the HIPAA Security Rule.

Jacqueline Rychnowsky
CAPT, NC, USN, PhD, RN, CPNP
Commanding Officer, Naval Health Research Center

Marcia King
Abt Associates Inc.
Associate Director, Contracts

24 APR 14
Date

April 11, 2014
Date
Appendix H: APA symposium
Co-PI: William Schlenger, PhD
Abt Associates Inc.

Co-PI: John Fairbank, PhD
Duke University Medical School

Co-PI: CDR Dennis Faix
Naval Health Research Center

Co-PI: Charles Marmar, MD
New York University Medical School
Family Study Team

Naval Health Research Center
CDR Dennis Faix, MD, MPH, Dept. Head
Cynthia LeardMann, MPH, Senior Epidemiologist
Evelyn Davila, PhD, MPH, Senior Epidemiologist
Isabel Jacobson, MPH, Senior Epidemiologist
CPT Carrie Donoho, PhD, Research Psychologist
Valerie Stander, PhD, Research Psychologist
Toni Rush, MPH, Data Analyst
Lauren Bauer, MPH, Study Coordinator
William Lee, IT Specialist
Gordon Lynch, Web Developer
Steven Speigle, Data Manager

Abt Associates
William Schlenger, PhD, Co-PI
Nida Corry, PhD
Doug Fuller, PhD
Hope McMaster, PhD

Duke University
John Fairbank, PhD, Co-PI
Lisa Amaya-Jackson, MD, MPH
Ernestine Briggs-King, PhD
Ellen Gerrity, PhD
Robert Lee, MA, MS

New York University
Charles Marmar, MD, Co-PI

Survey operations conducted at NHRC
Scientific Review Panel

- Sanela Dursun, PhD  
  Canadian Department of National Defense
- Cathy Flynn, PhD  
  Office of the Undersecretary of Defense
- Shirley Glynn, PhD  
  US Department of Veterans Affairs, Greater Los Angeles
- Michael Hurlburt, PhD  
  University of Southern California
- Christine Johnson, MD, CAPT, USN  
  Naval Medical Center San Diego
- Patricia Lester, MD  
  University of California, Los Angeles
- Larry Palinkas, PhD  
  University of Southern California
- Penelope Trickett, PhD  
  University of Southern California
- Jennifer Vasterling, PhD  
  US Department of Veterans Affairs, Boston
Outline

- Study Origins
  - Background and Rationale
- Preliminary Studies
  - Stakeholder Interviews
  - Focus Groups
- Survey Methodology and Enrollment
  - Millennium Cohort
  - Family Study
  - Response Rates
  - Survey Measures
- Conceptual Models and Research Aims
- Preliminary Findings
- Proposed FY14 Analyses/Papers
- Deliverables and Successes
- Summary
Study Origins: Millennium Cohort Study

- Study conceived in 1999 after IOM recommendation for a coordinated prospective cohort study of service members
  - Capitalized on new DoD surveillance and health care data
- Objective: To prospectively evaluate the impact of military experiences, including deployment, on long-term health outcomes of US service members
  - To provide strategic policy recommendations that inform leadership and guide interventions

Section 743 of the FY1999 Strom Thurmond Act authorized the Secretary of Defense to establish a... *longitudinal study* to evaluate data on the health conditions of members of the Armed Forces upon their return from deployment.
Study Origins: Family Study

- DoD recommended to conduct research on post-deployment adjustment for family members, and on children who have been separated from their parents by deployment.
- Gap analysis by MOMRP noted that studies of military families are a high priority issue, and identified family well-being as part of the “threats” to a fit force.

“Our ultimate goal is, as it has always been, to ensure that the health and well-being of our military personnel and their families is at the top of our list of priorities. Apart from the war itself, we have no higher priority!”
Study Origins: Family Study

- Multidisciplinary team of investigators at NHRC, Abt Associates, Duke University, and New York University

- Survey operations conducted at NHRC in San Diego

- Study enrollment began in 2011 in conjunction with the enrollment of Panel 4 of the Millennium Cohort Study
Importance of the Family Study

- ~2.5 million service members have been deployed in support of operations in Iraq and Afghanistan
  - >3 million dependents and >2 million children affected by the deployment of a parent
- Military families play an important role in the health and well-being of service members, and therefore a vital role in the Armed Forces’ ability to maintain readiness
  - Critical need to understand and ameliorate the short- and long-term impacts of the current conflicts on families
- The Family Study is uniquely positioned to provide critical data on the health and well-being of families
Overall Family Study Objective

- To prospectively determine the association between military experiences, including deployments, and the health and well-being of military families

  - To provide strategic evidence-based policy recommendations that inform leadership and guide interventions
Preliminary Study: Stakeholder Interviews
Stakeholder Study: Purpose

- Fill a gap in the research on the process of post-deployment adjustment for military families

- Understand the impact of separation and deployment on children, as it relates to access and support for psychological health
Stakeholder Study: Goals

1. Conduct a comprehensive search of the relevant literature

2. Conduct key informant interviews with service members, spouses, and other professionals working with military families

3. Develop an enhanced conceptual model of the functioning of military families to identify key factors that explain positive and negative outcomes & integrates the effects of war zone related PTSD among returning service members with current stressors and resources in post-deployment environment
9 key informant/stakeholder interviews with military leaders and service providers to enhance our understanding of military families

- Informants with both personal and professional roles involving the military were selected to participate
- The individuals were nominated by key stakeholders in the fields of child traumatic stress and military behavioral health and included responses from individuals located in regions across the United States
- Recruitment of participants was conducted via telephone, during which time the study was explained and initial verbal consent was obtained
  - Verbal consent was digitally-recorded for each stakeholder
  - Written informed consent was obtained in person or via fax on the day of the interview
Interview Procedure

• Interviews were conducted in person or by telephone at a location convenient for the stakeholder.

• Interviews lasted approximately 1-2 hours.

• A semi-structured, open-ended topic guide was used to allow participants to expound on topics of particular interest or relevance to them related to how deployment of U.S. service members to the conflicts in Afghanistan and/or Iraq is affecting wellbeing and functioning of the service members’ spouses and children.

• The topic guide was developed by the research team and evolved from a review of the pertinent literature on military families.

• Stakeholders did not receive any incentives for participating in the study.
Stakeholder Study: Analysis

- All interviews were transcribed and cross-checked with recordings
- Analysis was guided by the grounded theory approach
- Stage 1: “open coding” or the naming and locating of “data bits” line by line while noting ideas, potential themes, and generating possible concepts
- Stage 2: “axial coding” in which the “open codes” were categorized and grouped around conceptual commonalities or specific “axes”
- Stage 3: “selective/thematic coding” involved determining how code clusters related to each other and discovering what stories the codes told
- Stage 4: analysis of themes to determine interrelationships and theories regarding the wellbeing and functioning of service members’ spouses and children
Stakeholder Study: Findings

Central Themes

- Deployment
- Physical Health, Mental Health, and Substance Abuse
- Risks and Vulnerability
- Reintegration
- Services & Resources
Stakeholder Study: Findings

Deployment

- Disequilibrium
  - Can lead to resilience when the family is able to restore balance by reducing demands, increasing capabilities, and accommodating the stressors
  - Or families can engage in processes that lead to poor adaptation and distress

- Numerous small and large scale deployments have a cumulative effect on families equilibrium
  - Parental, fiscal, and logistical challenges of the ‘one parent’ family
Stakeholder Study: Findings

Physical Health, Mental Health, Substance Abuse

- Impact on everyone:
  - Everyone is injured, and whether you can see it or not...I’d say that that’s the one great awareness that I have had is that everyone is impacted, and we need to be aware of that because it does touch everything that we do whether it’s the relationship with their family, the relationship with their children...

- Negative impact on resources: communication, negotiation, and coping skills

- Potential for self-harm, neglect, violence

- Physical and mental wounds: impact on children
Stakeholder Study: Findings

Risks and Vulnerability

- How pre-existing stressors or strengths can potentiate or diminish disruption and distress upon a parent’s combat deployment
  - ...the metaphor in the Navy or Marine Corps is sea bag...you’ve got your emotional sea bag that you carry with you, and every new loss and trauma, betrayal, you just throw it in the sea bag, and it just gets heavier and heavier and heavier, and then whenever you start to think about unpacking that sea bag, it’s terrifying
  - I would say a lot of it is related to the health of their parents for risk factors or protective factors....So, the health of the parents, the capacity of the parents, the lack of mental disorder in the parents, the lack of preexisting developmental learning or emotional problems in the children and/or the parents, available resources
Stakeholder Study: Findings

Reintegration

- Adaptation and accommodation over time
- Acknowledging the demands placed on the family system
- Using capabilities and resources to respond accordingly
- Shifting roles and boundaries in the family system

  - For some families this may increase levels of distress, and for others it provides an opportunity for adaptation and accommodation
Stakeholder Study: Findings

Services & Resources

- Family- and community-based resources, as well as individual interventions
  - *Making sure we’re providing a really good support system on community college campuses is absolutely critical for success*

- Need uniform distribution of resources, across types of families, and with Guard and Reserve families
  - *If you’re at all involved in the field, there’s relatively nothing by clinicians for parents on how to deal with deployment, how do you help your kid with deployment? ....Tons of stuff for spouses, tons of stuff on kids, but parents are completely invisible to the DoD, to the VA, and really to society. I don’t think people get what it’s really like to make that sacrifice and have your child go off into harm’s way.*
Stakeholder Study:  
Future Family Study Research Directions

8 recommendations related to data analysis and future research directions:

1. Explore differences in outcomes based on years of experience of service members and age/developmental status of children

2. Explore deployment conditions that mediate or moderate outcomes, including number, duration, and tempo of deployment; extent of combat exposure, experienced or observed injury, and observed death

3. Utilize complementary military data sources (e.g., medical records) in order to contextualize what families report with respect to stress, coping, communication, and well-being
Stakeholder Study: Future Research Directions

4. Evaluate differential outcomes of deployment and reintegration across service branches, including active duty, National Guard, and Reserve Component

5. Examine how prior traumatic experiences affect outcomes for service members and their families

6. Investigate reasons for increases in child maltreatment and family violence during reintegration

7. Examine the unique stressors related to deployment to understand potential similarities or differences compared to the stressors of single parent families with limited resources

8. Explore the impact of outreach programs to veterans and family members where they are (e.g., schools, workplace, college campuses) during deployment and reintegration to provide supports
Preliminary Study: Focus Groups
Focus Groups: Goals

- Explore risk and protective factors associated with the process of post-deployment adjustment for family members.

- Develop an enhanced conceptual framework that identifies the primary pathways through which service member deployment can influence both family and service member outcomes following deployment.
Focus Groups: Methodology

- 4 focus groups:
  - 2 with spouses/partners (n=24)
  - 2 with parents (n=18)

- Each group ~ 90 minutes

- Participants: parents and spouses/partners of deployed and non-deployed OIF/OEF service members

- Inclusion criteria: Adults ages 18 and up; Adequate proficiency in English to be able to participate in a group discussion

- Exclusion criteria: Participants with psychotic symptoms
Focus Groups: Recruitment

- Vet Centers in the four boroughs (Manhattan, Bronx, Queens, and Brooklyn), Mental Health Service of the Manhattan, Bronx and Brooklyn Veterans Affairs Medical Centers, affiliated satellite clinics and other regional VA medical centers, Veterans Service Organizations, military, national guard, and reservist agencies and organizations.

- Active recruitment also took place at social service agencies, community mental health clinics, community organizations, local professional organizations, etc.

- Recruitment methods included: flyers, in-person presentations, website advertisements, informational letters, newspaper advertisements, internet postings, contact with and referral from relevant clinicians, and informational sessions about the research.
Focus Groups: Recruitment

- Interested participants contacted our recruitment coordinator who obtained initial information from the potential participants to assess eligibility
  - Those who were eligible were invited to the focus group sessions

- We screened a total of 62 people

- 47 met the eligibility criteria and were invited to a focus group session
  - A total of 42 people came and participated in the focus groups

- Compensation: $75 gift cards
Focus Groups: Methodology

- Verbal Consents

- Brief Demographic Questionnaire (age, gender, ethnicity, level of education, marital status, number of children, and information about the military service of their family member)

- Group discussion

- The note taker observed the sessions in order to record the order in which participants spoke and note any gestures or other behaviors
  - In addition, the focus groups were audio taped to assist with notes
Focus Groups: Methodology

- Group discussion focused on three main domains: 1) pre-deployment phase; 2) deployment phase; and 3) post-deployment phase

Facilitating questions on the topics of stress and resilience factors in military families:

| 1. What are the main challenges that a military family faces? |
| 2. Could you give example of a challenge or a conflict in your family in the past two weeks? |
| 3. When you are faced with that challenge, where do you go for help? |
| 4. What kind of things would make it easier for your family to deal with the problems? |
Focus Groups: Data Analysis

- We conducted qualitative data analyses using the transcribed audio tapes and notes taken during the focus groups.

- We identified common themes that emerged during the group discussion and grouped them by categories.
Focus Groups: Results
Spouses/Partners

<table>
<thead>
<tr>
<th>Family Member’s Demographic Characteristics</th>
<th>M(SD) / Range or N(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Characteristics</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>31.1(8.0)/(22-49)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>21(87.5%)</td>
</tr>
<tr>
<td>Male</td>
<td>3 (12.5%)</td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>23(95.8%)</td>
</tr>
<tr>
<td>Widowed</td>
<td>1(4.2%)</td>
</tr>
<tr>
<td>Divorced/Separated</td>
<td>0</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
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<tr>
<td>Caucasian</td>
<td>10(41.7%)</td>
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<tr>
<td>Hispanic</td>
<td>6(25.0%)</td>
</tr>
<tr>
<td>African American</td>
<td>6(25.0%)</td>
</tr>
<tr>
<td>Asian</td>
<td>1(4.2%)</td>
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<tr>
<td>Any Children (Yes)</td>
<td>11 (45.8%)</td>
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<tr>
<td>Number of Children</td>
<td>1.9 (.9)/(1-4)</td>
</tr>
<tr>
<td>Number of people you live with</td>
<td>2.5 (1.5)/(0-6)</td>
</tr>
</tbody>
</table>
### Focus Groups: Results

#### Spouses/Partners

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>M(SD) / Range or N(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Education</strong></td>
<td></td>
</tr>
<tr>
<td>High School/GED</td>
<td>4(16.7%)</td>
</tr>
<tr>
<td>Some College/Tech School</td>
<td>7(29.2%)</td>
</tr>
<tr>
<td>College Grad/Professional Training</td>
<td>7(29.2%)</td>
</tr>
<tr>
<td><strong>Years in Service</strong></td>
<td>6.8(3.6)/(2-16)</td>
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<tr>
<td><strong>Military Service</strong></td>
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<tr>
<td>Army</td>
<td>12(50%)</td>
</tr>
<tr>
<td>Marine</td>
<td>4(16.7%)</td>
</tr>
<tr>
<td>National Guard</td>
<td>4(16.7%)</td>
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<tr>
<td><strong>Service Location</strong></td>
<td></td>
</tr>
<tr>
<td>Iraq</td>
<td>18(75%)</td>
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<tr>
<td>Afghanistan</td>
<td>2(8.3%)</td>
</tr>
<tr>
<td>Both Iraq and Afghanistan</td>
<td>2(8.3%)</td>
</tr>
<tr>
<td>Non-War Zone</td>
<td>2(8.3%)</td>
</tr>
<tr>
<td><strong>Deployment Status</strong></td>
<td></td>
</tr>
<tr>
<td>Active Duty</td>
<td>13(54.2%)</td>
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<tr>
<td>Reserves</td>
<td>4(16.7%)</td>
</tr>
<tr>
<td>Discharged</td>
<td>5(20.8%)</td>
</tr>
<tr>
<td>Retired</td>
<td>1(4.2%)</td>
</tr>
</tbody>
</table>
Focus Groups: Results
Spouses/Partners Themes

Pre-deployment Stressors:

- Time demands of the military service
  “They are respectful and everything but there is no family time. When they want you there, they want you there. And, you know, it doesn’t matter if it’s your honeymoon, your baby just got born, it doesn’t matter. You are there, so, that was always a big issue.”

- Mood fluctuations of the spouse related to the anticipation of deployment

- Instability and feeling uprooted because of frequent relocations
Focus Groups: Results
Spouses/Partners Themes

Deployment Stressors:

- Concerns about physical safety of the service member
- Communication difficulties
- Isolation, and loneliness
  “Like a joke between me and my friends are, ‘if you get pregnant, expect to go through your pregnancy alone.’ And it is not funny, but that is how we put it…. That is how our little motto goes. ‘Plan to go through everything by yourself. Plan to go through your anniversary by yourself.’”
- Effects of parenting and children
  “You know, I got so used to being and doing everything on my own that it’s like, you know, we’re women, this is what we have to do, we have to multitask.”
Focus Groups: Results
Spouses/Partners Themes

Post-deployment Stressors:

- Mental health and adjustment problems
  “And when he came back from Iraq, he was a zombie, and I couldn’t get anything out of him at all until he would get drunk until the point of not knowing where he was or who he was talking to and then he would tell me everything. .. I was really worried that he was just not going to come back from the fog that he was in and it took a really long time before I felt like he was himself again.”

- Change in intimacy and emotional climate
  “I twisted my ankle yesterday, and he’s like: “Oh, I saw worse things in Iraq…. I did shots, I did bullet wounds, and this is nothing, it’s a level 2 sprain… just walk it off!”

- Readjustment Problems: Transition from the structured military life to collaborative family life and civilian life
  “He has been out for a year and a half and he hasn’t taken on a single commitment that has lasted more than 2 weeks. …everybody else is working nine to five and he seems to be kind of terrified of the concept of committing to anything serious because what he knows is being on call and working 18-hour days. He doesn’t have a sense of what a normal day-to-day life is like…”

- Differences in goals and aspirations for the future

- Lack of information about or access to resources
Focus Groups: Results
Spouses/Partners Themes

Resources/Coping:

- Mental health services (e.g., individual and family therapy and counseling)
- Group forums for spouses
- Friends
- Religious community and church
- Self-help books and journaling
- Several spouses stated that they used the services provided at Fort Hamilton and utilized services provided by the VA

Level of knowledge about available services and the level of initiative about obtaining those services varied greatly among the participants
Focus Groups: Results
Parents

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>M(SD) / Range or N(%)</th>
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<tbody>
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<td><strong>Age</strong></td>
<td>51.3(6.4)/(43-68)</td>
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<td><strong>Gender</strong></td>
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<tr>
<td>Female</td>
<td>14(77.8%)</td>
</tr>
<tr>
<td>Male</td>
<td>4(22.2%)</td>
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<tr>
<td><strong>Marital Status</strong></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>10(55.6%)</td>
</tr>
<tr>
<td>Widowed</td>
<td>0</td>
</tr>
<tr>
<td>Divorced/Separated</td>
<td>7(38.9%)</td>
</tr>
<tr>
<td><strong>Race/Ethnicity</strong></td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>10(55.6%)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>4(22.2%)</td>
</tr>
<tr>
<td>African American</td>
<td>2(22.2%)</td>
</tr>
<tr>
<td><strong>Any Children (Yes)</strong></td>
<td>18(100%)</td>
</tr>
<tr>
<td><strong>Number of Children</strong></td>
<td>1.9 (.8)/(1-3)</td>
</tr>
<tr>
<td><strong>Number of people you live with</strong></td>
<td>2.1 (1.8)/(0-5)</td>
</tr>
</tbody>
</table>
# Focus Groups: Results

## Parents

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>M(SD) / Range or N(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Education</strong></td>
<td></td>
</tr>
<tr>
<td>High School/GED</td>
<td>1(5.6%)</td>
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<tr>
<td>Some College/Tech School</td>
<td>8(44.4%)</td>
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<tr>
<td>College Grad/Professional Training</td>
<td>9(50%)</td>
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<tr>
<td><strong>Years in Service</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.9(1.8)/(1-3)</td>
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<tr>
<td><strong>Military Service</strong></td>
<td></td>
</tr>
<tr>
<td>Army</td>
<td>8(44.4%)</td>
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<tr>
<td>Air Force</td>
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<td>6(33.3%)</td>
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<td>3(16.7%)</td>
</tr>
<tr>
<td>Both Iraq and Afghanistan</td>
<td>0</td>
</tr>
<tr>
<td>Non-War Zone</td>
<td>1(5.5%)</td>
</tr>
<tr>
<td><strong>Deployment Status</strong></td>
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<tr>
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<tr>
<td>Discharged</td>
<td>6(33.3%)</td>
</tr>
<tr>
<td>Retired</td>
<td>0</td>
</tr>
</tbody>
</table>
Deployment Stressors:

- **Service Member’s safety**
  
  "You know, they are men over there. Men and women. But to us, they are children. They are our children and it is so hard because we want to protect them and we don’t want them to go through these horrible things… But we also know that it is necessary."

- **Lack of control**
  
  "Angry at the military for taking my son! “
  “It’s because they belong to the government.”"
Focus Groups: Results
Parent Themes

Post-deployment Stressors:

- Mental health and adjustment problems
  “Our kids are coming back damaged.”
  “You have to be more like a Psychiatrist than a parent”

- Developmental and personality changes
  “He doesn’t really hang out with the family anymore. It’s almost like he is not as sociable anymore."

- Unemployment and underemployment
  “I have been going around saying that he’s just being lazy ever since he came back from the military… I am starting to think that it is something more than that because I am starting to worry that he has problems being around people, crowds, and… things of that nature…"

- Perceived lack of resources or difficulty accessing resources
Focus Groups: Results
Parent Themes

Resources/Coping:

- Peer support groups (formal and informal; live and online)
- Therapy and counseling
- Family and friends
- Self-care
- Church, religion and spirituality

Several parents reported that they obtained information about available resources through the New York National Guard, the Yellow Ribbon, and the Family Readiness Group.

Level of knowledge about the available resources and the ability to access the services varied greatly among the parents.
Focus Groups: Summary of Findings

- Mental health and physical health problems of service members
- The effects of the adjustment problems on family climate and marital relationships
- The effects of military service on children
- Service members’ difficulty finding employment post-deployment and its affect on the family
- Family members’ limited knowledge about how to provide service members with support during their readjustment despite their desire to do so
- Inadequate resources available for the families
Focus Groups: Summary of Findings

- Family members listed several coping strategies (peer support groups; individual and family therapy and counseling; family and friends; self-care and self-help books; church, religion and spirituality)

- The level of knowledge about the available resources and the ability to access the services varied greatly among the participants

- Some participants obtained information about available resources through the New York National Guard, the Yellow Ribbon, the Family Readiness Group, and other organizations, and received VA services

- Others were much less informed and expressed their frustration with the lack of resources
Focus Groups: Recommendations for Interventions

1. Increase the connection of the families to social organizations and other community resources

2. Make individual and family therapy and counseling readily available for the family members

3. Provide psychoeducation about the common mental health problems faced by the service members in relation to the deployment and their potential impact on family members
   - Educate the families about ways to cope with those symptoms and disseminate information about services available

4. Improve the dissemination of information resources, including benefits and public assistance programs available to service members, veterans, and their families
Focus Groups: Recommendations for Interventions

5. Provide individualized resources to parents and spouse/partner’s through identification of needs pre-deployment, during deployment, and post-deployment

6. As a preventive strategy, provide education prior to deployment on ways to open communication, avoid isolation, anxiety reduction skills, and healthy coping skills

7. Streamline and shorten the packets given to the families; facilitate the distribution of information through formal and informal presentations (e.g., through schools, churches, etc.); send out pamphlets to the families; and utilize other strategies to improve outreach
Focus Groups: Recommendations for Family Study Survey

- The goal: Explore risk and protective factors associated with the process of post-deployment adjustment for family members to inform the Family Study survey
- The results suggested several important areas of investigation:
  - Deployment-related stressors related to spouses/partners’ mental health and medical problems
  - Impact of deployment on family climate
  - Impact of deployment on marital relationships and symptoms
  - Impact of deployment on children’s functioning
  - Mental health problems of service members observed by the spouses (e.g., PTSD, anxiety, substance abuse, sleep disturbance, etc.)
  - Sources of support for family members during deployment
  - Utilization of resources in the process of adjustment to deployment
Survey Design and Methodology

Millennium Cohort Family Study
The Millennium Cohort Study was launched in 2001 in collaboration with all US military services and the Department of Veterans Affairs, prior to the conflicts in Iraq and Afghanistan.

Cohort members are surveyed every ~3 years to examine how deployment and other military occupational experiences affect the long-term physical and mental health of military members and veterans.

The Millennium Cohort Study has completed 4 cycles and enrolled more than 200,000 Service Members.

Panel 1: 77,047
Panel 2: 31,110
Panel 3: 43,439
Panel 4: 50,052

Of those enrolled:

- 58% deployed in support of the operations in Iraq and Afghanistan
- 47% Reserve Guard
- 43% have separated from the military
Panel 4 of the Millennium Cohort Study includes a probability sample of military service members (active duty, Reserve, and National Guard).

*Oversampling for women and married service members*
Design and Methodology

Web Survey

Study Website
www.familycohort.org
Referred Spouse Contact: Rolling Sample
June 2011 - July 2012

- 50% response rate
- 3,581 spouses enrolled

Emails were sent biweekly.
Service Member Referral Rate
June 2011 - July 2012

- 35% referral rate
- 7,063 referrals

- Pilot study completed
- Added a pre-consent page
- Redesign of pre-consent and consent pages
- Survey 1 mailed
- Survey 2 mailed
- Automated voice message
- Follow-up email to pre-incentive
- $5 Starbucks pre-incentive

Large format postcard introducing the Family Study

Survey 1

Survey 2

Automated voice message

Follow-up email to pre-incentive

$5 Starbucks pre-incentive

34.55%
Panel 4 of the Millennium Cohort Study includes a probability sample of military service members (active duty, Reserve, and National Guard).

*Oversampling for women and married service members*
Enrollment of Non-Referred Spouses Begins July 2012

- **Eligibility:**
  - Spouses of Panel 4 married responders that “skip” the referral page or completed a paper survey

- **Developed modified survey:**
  - Paper Family survey developed
  - Items requiring secondary consent (Your Spouse’s Behavior) were removed

- **No Email Address:**
  - Mail only marketing campaign
Spouse Categories

- **With referral**
  - Email available
  - Rolling enrollment

- **Without referral**
  - Three random groups created from “newly” eligible spouses (July 17, 2012)
    - Group A (n=2,478)
    - Group B (n=2,477)
    - Group C (n=4,954)
  - Rolling enrollment
    - After July 17, 2012
Survey Methodological Approaches

Group A: Push to Web
1. Magnet picture frame and card mailer (week 1)
2. Postcard reminder (week 2)
3. Sample survey with $5 card (week 5)
4. Letter reminder (week 6)
5. Paper survey sent FedEx or USPS priority (week 9)
6. Postcard reminder (week 10)

Group B: Push to Paper
1. Paper survey with magnet picture frame included (week 1)
2. Postcard reminder (week 2)
3. Paper survey with $5 card (week 5)
4. Letter reminder (week 6)
5. Paper survey sent FedEx or USPS priority (week 9)
6. Postcard reminder (week 10)

Group C
Via FedEx or Priority Mail

$5
BECAUSE FAMILIES SERVE TOO
A STUDY OF HOW MILITARY SERVICE MAY AFFECT THE HEALTH AND WELL-BEING OF MILITARY FAMILIES

Thank you for considering our request for this family study.

Via Fedex or Priority Mail

$5

DEANIE DEMPSEY
Wife of the Chairman of the Joint Chiefs of Staff

A NOTE FROM

THE FAMILY STUDY
BECAUSE FAMILIES SERVE TOO
A STUDY OF HOW MILITARY SERVICE MAY AFFECT THE HEALTH AND WELL-BEING OF MILITARY FAMILIES

WELL-BEING

Now, we would like to ask you about your mental health. These questions are about how you feel and what you think about your life, and they should take about 5 minutes to answer. Please answer them honestly, even if your answers are different from your friends or family. Your responses will not be shared with anyone else without your permission.

21a. In the past year, have you had an anxiety attack—suddenly feeling tense or scared?

- Yes
- No

21b. When you have an anxiety attack, do you feel able to cope with it?

- Yes
- No

21c. When you have an anxiety attack, do you feel attached to your family?

- Yes
- No

21d. When you have an anxiety attack, do you feel happy with your life?

- Yes
- No

Please complete this survey and return it in the pre-paid envelope.

STARBUCKS COFFEE

Our survey cycle is wrapping up soon. Please accept a token of our appreciation after completing this survey.

Families deserve support in every aspect of their lives. To learn more about the Military Family Study, visit www.familymilitary.org or call 1-800-455-8045.
Spouses without Referral (no email): Experimental Groups A & B

Group A (832/2,478)
Group B (729/2,477)
Spouses without Referral (no email): Group C

Same as ‘A’ with last mailing a paper survey vs. postcard

GROUP C
1,072/4,954

Paper: 0
Web: 1,072

C1 Magnet Mailer (Week 1)
C2 Postcard Reminder (Week 2)
C3 Sample Survey with $5 Starbucks card (Week 5)
C4 Deanie Dempsey endorsement letter (Week 6)
C5 Survey sent FedEx (Week 9)
C6 Survey sent Priority mail (Week 12)
Additional Participant Contacts

- Holiday Greeting Card
- Welcome to the Family Study Card
- $10 post-survey incentive gift card
  - Choice of Subway, Starbucks, or Shutterfly
- Postcards for:
  - National Military Family Month (November)
  - Month of the Military Child (April)
Final Study Population

- **63% response rate for referred spouses**
  - Email augmentation for bi-modal recruitment
  - Rapid invitation after Service Member enrollment

- **25% response rate for non-referred spouses**
  - Mailed paper requests without email augmentation
  - Time delay between Service Member enrollment and spouse invitation

- **84.6% completed survey via web (N=8,421)**

Married Military personnel with 2-5 years (24-60 months) of service

- **N = 125,000**
- **Step 1**
  - 23% enrolled in the Millennium Cohort Study
    - **n = 28,802**
- **Step 2**
  - 29% provided permission, 21% denied
    - 50% did not respond
    - **n = 22,522**
- **Step 3**
  - 44% enrolled in Family Study
    - **n = 9,954**
Survey Sections

- Physical Health
- Mental Health
- Coping Skills
- Life Experiences
- Modifiable Behaviors
- Military Service (Dual Military)
- Marital Relationship

- Spouse’s Deployment
- Return and Reunion
- Spouse’s Behavior
- Military Life
- Family Functioning
- Children
- Demographics
## Measures

<table>
<thead>
<tr>
<th>Standardized instrument used</th>
<th>Topics covered</th>
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<tbody>
<tr>
<td>Medical Outcomes Study Short Form 36-Item Survey for Veterans (SF-36V)</td>
<td>Physical, mental, and functional health</td>
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<tr>
<td>Patient Health Questionnaire (PHQ)</td>
<td>Depression, anxiety, panic syndrome, binge-eating, bulimia nervosa, and alcohol abuse</td>
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<tr>
<td>Posttraumatic Stress Disorder (PTSD) Checklist-Civilian Version (PCL-C)</td>
<td>Post-traumatic stress disorder</td>
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<td>CAGE questionnaire</td>
<td>Alcohol problems</td>
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<td>Insomnia Severity Index (ISI)</td>
<td>Sleep</td>
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<tr>
<td>Family Adaptability and Cohesion Evaluation Scale (FACES IV)</td>
<td>Family communication and satisfaction</td>
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<tr>
<td>Quality of Marriage Index (QMI)*</td>
<td>Relationship with Service Member</td>
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<tr>
<td>Adverse Childhood Experiences (ACE)*</td>
<td>Childhood experiences of spouse</td>
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<tr>
<td>Strengths &amp; Difficulties Questionnaire (SDQ)*</td>
<td>•Behavioral screening for children</td>
</tr>
</tbody>
</table>

*Adapted versions of these instruments were used.
**Complementary Data Sources**

**Civilian Spouse**
- Civilian Inpatient / Outpatient Care & Behavioral Health
- Military Inpatient and Outpatient Care
- Pharmacologic Data
- Medical History
- Mortality Data

*Spouses of Active Duty service members*

**Service Member**
- Survey Data
- Demographic Data
- Recruit Assessment Program
- Military Inpatient and Outpatient Care
- Civilian Inpatient and Outpatient Care
- Pharmacologic Data
- Medical History
- Deployment Data
- Environmental Exposure Data
- Immunization Data
- Department of Veterans Affairs
2011-12 Family Survey: Spouse Model

**Spouse**
- Demographics
- Life experiences
- Health-related behaviors (physical activity, tobacco/alcohol use, sleep)
- Resiliency and vulnerability factors (coping skills, employment, social support, life experiences)
- Marital status and satisfaction

**Spouse Outcomes**
- Anxiety/panic
- Depression
- Aggression
- Substance abuse
- Somatization
- PTSD

**Military Factors**
- Component (active duty, Reserve/Guard, separated)
- Service branch
- Pay grade
- Deployment factors (frequency, duration, dwell time, combat)
- Military status (single, dual)

**Service Member**
- Demographics
- Mental and physical health
- Social functioning
- Personal growth
- Health-related behaviors

**Family Factors**
- Family communication/functioning
- Child health and well-being outcomes
- Child developmental stage/s in household
- Family composition
- Deployment return and reunion
- Service use
- Stress of Military Life

**Spouse Outcomes**
- Functional health
- Provider diagnoses
- General health
- Body weight
- Fatigue/sleep

**Direct and Indirect Factors**
- Prevention strategies
- Clinical practices
- Training
- Policy
2011-12 Family Study: Child Model

**Parental Factors**
- Demographics
- Marital status (married, divorced, separated, widowed)
- Marital satisfaction
- Mental health
- Physical health
- Social functioning
- Health-related behaviors (physical activity, tobacco/alcohol use, sleep)
- Resiliency and vulnerability (coping skills, employment, social support, life experiences)

**Military Factors**
- Component (active duty, Reserve/Guard, separated)
- Service branch
- Rank/pay grade
- Deployment (frequency, duration, dwell time, combat)
- Military status (single, dual)

**Family Factors**
- Family communication/functioning
- Family composition
- Proximity to a base
- Service use
- Stress of military life
- Deployment return and reunion
- Child developmental stage/s in household

**Behavioral**
- Parent observations (close friends, TV consumption, stealing, attention, temper, lying, fighting, fears)
- Parent reported provider diagnoses (conduct disorder, oppositional defiant disorder)

**Parent Reported Service Use**
- Inpatient/outpatient counseling (self-help groups, day treatment, residential, individual therapy)
- State services (welfare, foster care, case-management, incarceration)
- School services (counseling, special education)

**Health and Well-being**
- Parent reported provider diagnosed psychological and physical conditions

**Direct and Indirect Factors**
- Child Outcomes
- Prevention strategies
- Clinical practices
- Training
- Policy
Research Aims

**Aim 1:**
- Service Member Deployment
  - Non-deployed
  - Non-combat Deployed
  - Combat Deployed
- Spouse and Child Health & Well-being

**Aim 2:**
- Service Member Readjustment
  - Mental Health Issues
  - Alcohol Abuse/Misuse
- Spouse and Child Health & Well-being

**Aim 3:**
- Service Member Deployment and Readjustment
  - Resiliency and Vulnerability Factors
- Spouse and Child Health & Well-being

**Aim 4:**
- Service Member Factors
  - Support Factors
  - Employment Factors
- Marital Quality and Family Functioning

**Aim 5:**
- Foundation Studies
  - Methodology, Non-response Analyses, Baseline Characteristics, Instrument Reliability And Validity

**Aim 6:**
- Spouse Factors, Child Factors, and Family Functioning Factors
- Service Member Outcomes
Objectives

1. Compare emotional, behavioral, and medical issues of spouses of service members deployed with and without combat to spouses of service members who have not yet deployed.

2. Compare behavioral issues of children of service members deployed with and without combat to children of service members who have not yet deployed.

3. Examine number and length of service member deployments in relation to spouse mental health outcomes.

4. Examine number and length of service member deployments in relation to child behavioral outcomes.
Objectives

1. Explore the association between service member mental health and spouse mental health and distress (alcohol misuse/abuse, tobacco use, aggression)

2. Investigate association between service member alcohol misuse/abuse and spouse mental health and distress

3. Determine relationship between service member readjustment issues and spouse somatic symptoms (body pain, headaches, dizziness, sleep issues)

4. Assess association of service member readjustment issues with child behavioral outcomes
Objectives

1. Explore social support (friends, family, neighbors, co-workers)

2. Investigate support services (return and reunion programs, mental health and primary care providers, clergy)

3. Investigate the stress of military life (multiple PCS moves)

4. Explore family characteristics (number and age of children in the household, children with special physical or mental health needs)

5. Investigate spouse adverse life events (child and adult)

6. Assess employment factors (rank, job codes, work status, dual service)

7. Investigate proximity to military services (GIS residency data)

8. Explore self-mastery (personal power over life’s outcomes)
Objectives

1. Assess deployment experiences and service member readjustment (issues and growth)

2. Explore service member injury, physical component score, and number doctor diagnosed conditions

3. Assess service member alcohol misuse/abuse or tobacco use

4. Examine social support (friends, family, co-workers) and support services (return and reunion programs, mental health and primary care providers, clergy)

5. Explore employment factors (service member gender, rank, and occupational code; work/family conflict; work status; dual service)
Objectives

1. Examine methodology and target enrollment population

2. Conduct non-response analyses to ensure adequate representation of spouses

3. Examine baseline characteristics of Family Study enrolled sample

4. Assess validity of assessment measures and instruments
Objectives

1. Describe spouse related factors (health and well-being, support service use, modifiable behaviors) that are associated with service member health and well-being outcomes

2. Explore spouse related factors (health and well-being, support service use, modifiable behaviors) that are associated with the military members’ length of service and separation

3. Determine child related factors (health, behavior, well-being, number in household) that are associated with the military members’ length of service and separation

4. Explore the association between family communication and satisfaction and service member health and well-being

5. Describe factors associated with the health and well-being of service members in dual military families
Preliminary Findings

Millennium Cohort
Family Study
## Demographics of MilCo Family Study (N=9,954*)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n*</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>8,629</td>
<td>87%</td>
</tr>
<tr>
<td>Race/ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White, non-Hispanic</td>
<td>7,738</td>
<td>78%</td>
</tr>
<tr>
<td>Black, non-Hispanic</td>
<td>417</td>
<td>4%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>908</td>
<td>9%</td>
</tr>
<tr>
<td>Mean age in years of spouse = 29 (SD 5.8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Currently married</td>
<td>9,785</td>
<td>99%</td>
</tr>
<tr>
<td>Have children</td>
<td>6,271</td>
<td>63%</td>
</tr>
<tr>
<td>Mean # of children = 1.7 (SD 1.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age of children (of 11,055 children reported)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;= 2 years</td>
<td>4,863</td>
<td>44%</td>
</tr>
<tr>
<td>3-5 years</td>
<td>2,868</td>
<td>26%</td>
</tr>
<tr>
<td>6-11 years</td>
<td>2,162</td>
<td>20%</td>
</tr>
<tr>
<td>12-17 years</td>
<td>857</td>
<td>7%</td>
</tr>
<tr>
<td>18 and older</td>
<td>305</td>
<td>3%</td>
</tr>
</tbody>
</table>

### Education

- High school or less: 1,287 (13%)
- Some college/Associate degree: 4,608 (46%)
- Bachelor’s degree or higher: 4,036 (41%)

### Employment

- Full-time or part-time job: 4,576 (52%)
- Not employed: 907 (10%)
- Homemaker: 3,270 (37%)

- **Spouse† deployed since 2001**, of 1,761 spouses who ever served in military: 886 (50%)
- **Sponsor‡ deployed since 2001**: 7,399 (75%)

*Total population may vary by variable due to missing data;
†Spouse = Family Study participant
‡Sponsor = Millennium Cohort Panel 4 participant
First Glance at the Data: Spouse Mental Health Screening (n=9,954)

- Alcohol abuse (PHQ): 7%
- Alcohol misuse (CAGE): 13%
- Panic/Anxiety (PHQ): 10%
- Major depression (PHQ-8): 5%
- PTSD (PCL-C): 8%

Mean score = 3.76 (PHQ)
Mean score = 24.95 (PCL-C)
Quality of Marriage Index

Have a good marriage (n=9,954)

- **Strongly agree**: 61%
- **Agree**: 26%
- **Neither agree or disagree**: 6%
- **Disagree**: 3%
- **Strongly disagree**: 4%
Children

Families with a Child(ren) Currently Experiencing a Behavioral, Emotional, or Learning Problem (n=3,710*)

*Families with only children 2 years old or younger were excluded
### Service Member Characteristics

<table>
<thead>
<tr>
<th></th>
<th>Family Study Responders(^*) n (%): n =9,930(^†)</th>
<th>Married Military Population with 2-5 Years of Service(^‡) n (%): N = 347,481</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>8,627 (87)</td>
<td>290,468 (84)</td>
</tr>
<tr>
<td>Female</td>
<td>1,303 (13)</td>
<td>57,012 (16)</td>
</tr>
<tr>
<td><strong>Race/ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White, non-Hispanic</td>
<td>7,997 (81)</td>
<td>228,623 (66)</td>
</tr>
<tr>
<td>Black, non-Hispanic</td>
<td>519 (5)</td>
<td>41,167 (12)</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>398 (4)</td>
<td>14,524 (4)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>745 (7)</td>
<td>43,873 (13)</td>
</tr>
<tr>
<td>Native American</td>
<td>153 (2)</td>
<td>6,885 (2)</td>
</tr>
<tr>
<td>Other</td>
<td>118 (1)</td>
<td>12,409 (4)</td>
</tr>
<tr>
<td><strong>Age (years)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17-24</td>
<td>1,793 (18)</td>
<td>107,124 (31)</td>
</tr>
<tr>
<td>25-34</td>
<td>7,062 (71)</td>
<td>213,148 (62)</td>
</tr>
<tr>
<td>35-44</td>
<td>923 (9)</td>
<td>22,574 (6)</td>
</tr>
<tr>
<td>&gt;44</td>
<td>152 (2)</td>
<td>2,340 (1)</td>
</tr>
</tbody>
</table>

Total population may vary by variable due to missing data.

*Responders include those that responded to either the paper or the web version of the survey.

†Total sample size includes only Family Study responders whose service member completed the P4 Millennium Cohort survey.

‡Married military population data from 31 Oct 2010.
<table>
<thead>
<tr>
<th>Service Member Characteristics</th>
<th>Family Study Responders* n (%)</th>
<th>Married Military Population with 2-5 Years of Service‡ n (%)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>n = 9,930†</td>
<td>N = 347,481</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some college or less</td>
<td>6,932 (70)</td>
<td>300,312 (87)</td>
</tr>
<tr>
<td>Bachelor’s or higher degree</td>
<td>2,997 (30)</td>
<td>44,875 (13)</td>
</tr>
<tr>
<td><strong>Service Branch</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air Force</td>
<td>2,722 (27)</td>
<td>59,329 (17)</td>
</tr>
<tr>
<td>Army</td>
<td>4,581 (46)</td>
<td>164,201 (47)</td>
</tr>
<tr>
<td>Coast Guard</td>
<td>278 (3)</td>
<td>6,325 (2)</td>
</tr>
<tr>
<td>Marine Corps</td>
<td>937 (9)</td>
<td>58,201 (17)</td>
</tr>
<tr>
<td>Navy</td>
<td>1,412 (14)</td>
<td>59,425 (17)</td>
</tr>
</tbody>
</table>

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†Total sample size includes only Family Study responders whose service member completed the P4 Millennium Cohort survey.
‡Married military population data from 31 Oct 2010.
### Service Member Characteristics

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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n = 9,930†</td>
<td>N = 347,481</td>
</tr>
<tr>
<td>Military Component</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active Duty</td>
<td>7,140 (72)</td>
<td>254,291 (73)</td>
</tr>
<tr>
<td>Reserve/Guard</td>
<td>2,790 (28)</td>
<td>93,190 (27)</td>
</tr>
<tr>
<td>Military Pay Grade</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enlisted</td>
<td>7,423 (75)</td>
<td>316,432 (91)</td>
</tr>
<tr>
<td>Officer</td>
<td>2,507 (25)</td>
<td>31,049 (9)</td>
</tr>
</tbody>
</table>

Total population may vary by variable due to missing data.
*Responders include those that responder to either the paper or the web version of the survey.
†Total sample size includes only Family Study responders whose service member completed the P4 Millennium Cohort survey.
‡Married military population data from 31 Oct 2010.
Proposed FY14 Analyses/Papers: Foundation Studies (Aim 5)

- **Nonresponse analyses using Panel 4 members**
  - Detailed electronic demographic data available for invited Panel 4 military personnel
    - Use logistic regression to estimate propensity model for providing spouse referral
    - Use logistic regression to estimate propensity model for spouse participating in the Family Study

- **Identify potential bias within Family Study**
  - Only limited information can be obtained on military spouses (e.g. age, gender, race/ethnicity)
    - Compare characteristics of Family Cohort participants to all other spouses in the military
    - Compare Family Study participants to non-responding invited spouses
    - Compare referred spouses to non-referred spouses
    - Compare web responders to paper responders
Proposed FY14 Analyses/Papers: Foundation Studies (Aim 5)

- Perform analyses to compare baseline characteristics of Family Study participants whose Panel 4 spouses **did** deploy with those whose spouses **did not** deploy
  - Understanding these differences would be useful for future substudies where stratified analyses might be performed
Proposed FY14 Analyses/Papers: Primary Analyses

- Aim 1, 2, & 3: Explore the association between service member readjustment and/or deployment and the health and well-being of spouses and children
  - An Examination of Parental Stress, Coping, and Child Psychosocial Functioning Among Families of Deployed and Non-Deployed Service Members
  - Determine the factors associated with depression among military spouses

- Aim 6: Contribute data to the service member cohort study on spouse and child factors that are associated with service member health and well-being, as well as length of service
  - Association of Marital Quality/Satisfaction with Service Member Well-Being
Deliverables and Successes

- Enrolled ~10,000 spouses
- Developed and implemented marketing and survey strategies to improve response rates
  - Invited spouses with and without referral
  - Implemented a highly effective 6-step mail approach
  - Used a sample survey to encourage web survey response
  - Introduced a paper survey (second mode to respond)
  - Tailored messages to spouses
  - Obtained endorsement from Deanie Dempsey
  - Utilized pre-incentives (magnet, $5 gift card)
- Scanned and verified all paper surveys
- Cleaned and verified all survey data
- Created final dataset
- Linked Family data with married Service Member
Deliverables and Successes

- Improved Family Study Website
  - Now includes guidelines for researchers interested in collaborating and using data
- Paper in press describing the overall study design
- Completed first draft of paper comparing two methods for enrolling participants
- Developed cognitive interview protocols to improve FY14-15 study materials
- Completed survey revisions of the 2014-2015 follow up cycle
- Received IRB approval for 2014-2015 survey
- OMB approval pending
- Developed and approved a streamlined collaboration protocol
- Executed DUA between NHRC and Abt Associates to share data
Summary

- The Family Study is the only prospective service-wide military study that collects information on the service member-spouse dyad
  - Determines the impact of service member’s military experiences on family outcomes
- Ability to explore important subpopulations
  - Reserve and National Guard families, dual military families, and male military spouses
- Upcoming analyses will provide critical data for DoD leaders and policymakers to more fully understand the impact of military service on families, and provide information for the development of preventive and interventional programs
Appendix I: Conceptual Models
The Millennium Cohort Family Study: a prospective evaluation of the health and well-being of military service members and their families

NANCY F. CRUM-CIANFLONE,1,2 JOHN A. FAIRBANK,3 CHARLIE R. MARMAR4 & WILLIAM SCHLENGER5

1 Deployment Health Research Department, Naval Health Research Center, San Diego, CA, USA
2 Department of Medicine, Naval Medical Center San Diego, San Diego, CA, USA
3 Department of Psychiatry and Behavioral Sciences, Duke University Medical Center and VA Mid-Atlantic Mental Illness Research, Education and Clinical Center (VISN 6 MIRECC), Durham, NC, USA
4 Steven and Alexandra Cohen Veterans Center for Posttraumatic Stress and Traumatic Brain Injury, Department of Psychiatry, New York University Langone Medical Center, New York, USA
5 Abt Associates, Durham, NC, USA

Key words
psychology, family, military, epidemiology, mental health, deployments

Abstract
The need to understand the impact of war on military families has never been greater than during the past decade, with more than three million military spouses and children affected by deployments to Operations Iraqi Freedom and Enduring Freedom. Understanding the impact of the recent conflicts on families is a national priority, however, most studies have examined spouses and children individually, rather than concurrently as families. The Department of Defense (DoD) has recently initiated the largest study of military families in US military history (the Millennium Cohort Family Study), which includes dyads of military service members and their spouses (n > 10,000). This study includes US military families across the globe with planned follow-up for 21+ years to evaluate the impact of military experiences on families, including both during and after military service time. This review provides a comprehensive description of this landmark study including details on the research objectives, methodology, survey instrument, ancillary data sets, and analytic plans. The Millennium Cohort Family Study offers a unique opportunity to define the challenges that military families experience, and to advance the understanding of protective and vulnerability factors for designing training and treatment programs that will benefit military families today and into the future. Copyright © 2014 John Wiley & Sons, Ltd.
well-being of US service members (Crum-Cianflone, 2013). Shortly thereafter, the conflicts in Iraq and Afghanistan began, and over the past decade more than 2.5 million service members have deployed in support of these operations, with over one million experiencing multiple deployments (data from the Defense Manpower Data Center [DMDC], 2012). The impact of the long and repeated deployments on service members’ health and well-being has been the subject of multiple studies (Hoge et al., 2004; Hoge et al., 2006; Milliken et al., 2007; Grieger et al., 2006; MHAT-V, 2008), including within the Millennium Cohort Study, which has prospectively evaluated the impact of these military experiences on long-term mental and physical health outcomes of service personnel (Crum-Cianflone, 2013; Smith et al., 2011; Smith et al., 2008; Smith et al., 2009; Jacobson et al., 2008; Wells et al., 2010).

During the past two decades, military service members have been more likely than ever to be married and have children (Department of Defense, 2010). As such, military families have also been touched by the recent conflicts, with an estimated three million dependents and two million children affected by the deployments to Operations Iraqi Freedom and Enduring Freedom (Department of Defense, 2010; Office of Secretary of Defense, 2012). Although families do not directly experience the combat or environmental exposures during deployments, they are at high risk for experiencing the impact of combat-related injuries, including post-traumatic stress disorder (PTSD), traumatic brain injury, and other behavioral conditions among returning service members (Calhoun et al., 2002; Griffin et al., 2012; Manguono-Mire et al., 2007; US Military Casualty Statistics, 2013; Ben et al., 2000). In turn, the support or distress with which families respond directly impacts the service members’ health and well-being (Tarrier et al., 1999; Solomon et al., 1988), and ultimately the fitness and readiness of the military force (Department of Defense, 2012).

Although much of the existing research suggests that exposure to deployments and war zone stressors are associated with negative sequelae including high rates of concurrent mental health problems (de Burgh et al., 2011; Mansfield et al., 2011; Mansfield et al., 2010; Lester et al., 2010; Eaton et al., 2008; White et al., 2011; Chandra et al., 2010; Flake et al., 2009), other research has also shown that many service members and their families are resilient (Wiens and Boss, 2006; Bonanno et al., 2012; Cozza et al., 2005). Hence, systematic documentation of both negative and positive outcomes associated with military experiences, along with detailed analyses of vulnerability and resilience factors will provide a foundation for informing the development of prevention strategies and documenting programmatic needs of current and future US military families.

Despite the fact that the impact of the recent wars on military families has been defined as a national priority, significant gaps in knowledge remain. In 2007, the Department of Defense (DoD) recommended the conduct of research studies on post-deployment adjustments of family members, including children who were separated from their parent(s) due to deployment (Secretary of Defense, 2007; p. 11). The report declares, “Our ultimate goal is, as it has always been, to ensure that the health and well-being of our military personnel and their families ….” This declaration is supported by other academic, professional, and military organizations identifying research on military families as a high-priority issue (American Psychological Association, 2007; Siegel et al., 2013; US Army Medical Research and Materiel Command, 2013). Although studies on military families have been conducted, most have examined spouses and children individually, rather than concurrently as families (Mansfield et al., 2011).

**Overview of the Millennium Cohort Family Study**

Based on recommendations for comprehensive, systemwide research on military families and with the success of the Millennium Cohort Study (n > 200,000 participants in the first four panels), the Family Study was designed to evaluate the interrelated health and well-being effects of military service on families, including the service member, spouse, and children. The Family Study is a DoD-sponsored study designed by a multidisciplinary team of investigators at the Naval Health Research Center (NHRC), Abt Associates, Duke University, and New York University, with survey operations conducted at NHRC. The initial study protocol was extensively peer reviewed by experts in the fields of military family research, longitudinal survey design and implementation, health outcomes research, and military organizational structure and functioning. An independent scientific review panel composed of academic researchers, DoD researchers and military service members, and Department of Veterans Affairs (DVA) representatives provides advisement on the design and conduct of the study.

The Family Study includes both male and female spouses of active duty, Reserve, and National Guard personnel from all five service branches (Army, Navy, Air Force, Marine Corps, and Coast Guard) of the US military. Because the Family Study is nested within the Millennium Cohort Study, it provides exclusive data on a large cohort of service member–spouse dyads, providing the most comprehensive study of military families to date. As such, the Family Study is uniquely poised to provide strategic data to inform leadership and guide interventions to improve the lives of military families.
Family study objective
The Millennium Cohort Family Study’s primary objective is to evaluate prospectively the associations between military experiences (including deployments) and service member readjustment on families’ health and well-being. Studying the health of military families in a large sample of service members surveyed pre- and post-deployment allows for temporal sequence of associations that can be utilized to answer critical scientific, operational, and policy questions. These data can also be utilized in the development of training and clinical interventions that protect against and/or treat adverse health outcomes among both military spouses and children.

Study participants
During its first decade, the Millennium Cohort Study enrolled three large panels of service members (cumulative n > 150,000) using a complex probability sample design with the US military roster as the sampling frame. The three samples were designed to represent collectively all who served in the US military from 2000 moving forward. Enrollees are assessed at baseline and approximately every three years for a planned 67-year period (Crum-Cianfone, 2013).

Enrollment of military spouses for the Family Study was initiated within the most recent Millennium Cohort survey cycle (fourth panel, 2011–2013), in which a fourth panel representing military members with 2–5 years of service were invited to join the study, with the goal of enrolling approximately 60,000 new service members. Military service members were randomly selected from all service branches and components from the military roster in October 2010 provided by the DMDC. The cohort was oversampled for married and female service members to ensure adequate numbers of spouses, including male spouses, for enrollment into the Family Study. We estimated that more than half of the newly enrolled Millennium Cohort participants would be married, and that approximately 10,000 spouses of these service members would enroll in the Family Study.

Among the enrolled military spouses, we estimated that 50% would be married to a service member who had deployed to the conflicts in Iraq and Afghanistan at least once, and the other half would be without deployment experiences. Because a subset of service members were assessed prior to deployment, this design will support between-subjects comparisons (outcomes for spouses of deployed versus non-deployed service members). We also anticipated that a sizeable proportion of the service members will deploy at some time after their baseline assessment, creating the opportunity for a prospective study of the impact of deployment on military families that supports within-subjects comparisons (outcomes for spouses before versus after service member deployment). A sampling strategy supporting both kinds of comparisons substantially strengthens the ability to identify causal factors for both positive and adverse family outcomes.

Study methodology
Enrollment in the Family Study initially utilized a four-step enrollment process: (1) invitation of a probability sample of military service members to participate in the Millennium Cohort Study, (2) referral of spouses to the Family Study among married new enrollees of the Millennium Cohort, (3) invitation of referred spouses to complete the Family Study survey online, and (4) enrollment of the spouse in the Family Study. Although there were notable strengths of this referral process (obtaining spousal contact information from the service member and secondary consent for his or her participation), there were limitations. The service member was offered a single opportunity to refer his or her spouse at the end of the Millennium Cohort survey, which may have resulted in lower than expected referral rates. In addition, because participation in the Family Study initially required agreement from the service member, there were concerns regarding potential referral biases. Thus, the study’s survey methodologies were modified early in the data collection period to include spouses both referred by their service members as well as by direct invitation to join the study. Those invited directly to join must also have been married to a service member who enrolled in the Millennium Cohort study, but referral by the service member was not required for these spouses. In addition, the Family Study, which initially began as a web-based survey, was expanded to include a paper version of the survey. Prior research documents that survey respondents may prefer one data collection mode over another, and that offering a second mode (e.g. paper survey) may reach different types of respondents and therefore may reduce response bias (Groves, 2006; Millar and Dillman, 2011; Dillman et al., 2009). A similar approach has been utilized in the Millennium Cohort Study.

The survey methods for the Family Study were modeled after the work of Dillman (Dillman et al., 2009) and designed to encourage all invited spouses to complete the survey to ensure a broad range of experiences were captured. Referred spouses received both postal mailings and e-mails to encourage participation. Since e-mail addresses for the sample of spouses invited directly to join the study were not available, an implementation method consisting of a mail-only campaign was designed. This
sequential postal approach involved six separate mailings conducted over a 10-week period and consisted of (1) a card inviting the spouse to participate through a website link along with a pre-incentive (picture frame magnet); (2) a follow-up postcard reminder; (3) a sample of the survey, which highlighted questions from various sections of the survey and a pre-incentive $5 gift card; (4) a letter encouraging participation endorsed by Deanie Dempsey, the wife of the Chairman of the Joint Chiefs of Staff; (5) a paper questionnaire with a postage-paid return envelope delivered via express mail (e.g. Federal Express, US Postal Service Priority Mail); and (6) a postcard reminder. The first four mailings encouraged participation on the internet, while the fifth mailing introduced the option of completing a paper survey. In addition to the six postal mailing approach, when an e-mail address was available (i.e. a service member referred his or her spouse and provided an e-mail address), reminder e-mails were sent that included a convenient link directly to the web survey. This strategy, referred to as “e-mail augmentation” was designed to reduce participant burden associated with responding (Millar and Dillman, 2011). Mailings were discontinued when the participant enrolled in the study or declined to participate, or at the end of the survey period.

This sequential mailing approach was utilized for several reasons. First, we wanted to clearly communicate the value of the Family Study (e.g. follows families over time as they experience the unique challenges associated with military life) and its relevance to military spouses. Each mailing was designed to carry a unique message and was intended to reach different groups of spouses. Second, we communicated via e-mail messages when possible and provided the option of a web-based survey to reach a population that may be highly mobile due to frequent military relocations. Further, web-based technology is associated with the advantages of reduced time and costs associated with processing paper surveys, and for implementing complex skip patterns and reducing erroneous responses. Third, instead of offering a simultaneous choice of survey response modes in our initial communications, which has been shown to have potential negative consequences on survey response rates (Dillman et al., 2008; Griffin et al., 2001), we offered a single choice at a time and utilized a carefully sequenced series of communications. Prior research has shown that using a paper response option late in the contact sequence may not only increase paper response, but also increase web response rates (Dillman et al., 2008; Messner and Dillman, 2011). We also tested during the study survey period an alternate six-item postal mailing approach that offered only one mode for completion (paper); however, this approach was more costly and did not yield higher response rates.

Several additional strategic approaches were utilized during the study to enhance participation rates. The Family Study uses a logo, the “Family Tree,” on all e-mails and postal mailings to make study communications easily recognizable. The oak tree was chosen to serve as a symbol of courage and strength, and to prime thoughts of family lineage. In order to mitigate concerns regarding the legitimacy of the research, approvals from the NHRC Institutional Review Board (NHRC 2000.0007), Office of Management and Budget (OMB Approval Number 0720-0029), and a Report Control Symbol number (RCS Number DD-HA (AR)2106) were provided on study materials and the study website. Finally, because of the sensitive nature of some of the questions on the survey, communications assured spouses of the confidentiality and security of the information provided. Particular emphasis was placed on assuring both participants of the Millennium Cohort and Family Studies that their spouses would not have access to their survey responses.

Because military families’ experience changes over time and to maintain methodological consistency with the Millennium Cohort Study, spouses will be followed longitudinally (for 21+ years) and requested to complete a follow-up survey approximately every three years. Follow-up will continue even if their spouse separates from the service or their relationship status changes (i.e. separated, divorced, or widowed).

**Study data: survey instrument and ancillary databases**

The Family Study Baseline Questionnaire comprises approximately 100 questions, some with multiple components and associated skip patterns. The specific questions within the survey are based on a conceptual model created with four main domains: (1) spouse physical health; (2) spouse mental health and adjustment; (3) spouses’ reports of their children’s mental/physical health and functioning; and (4) family functioning, and protective and vulnerability factors (Figures 1 and 2).

The questionnaire is divided into 14 specific areas, allowing for the grouping of similar questions and time frames. The areas include the spouses’ demographics, physical health, mental health, coping skills, life experiences, modifiable behaviors, military service (for dual military families), marital relationship, their service members’ deployment, return and reunion experiences after deployment, their service members’ behavior, military life, family functioning, and their children’s health and well-being. Information on the children is reported by the spouse and includes data on behavioral and emotional development at...
the level of the individual child as well as aggregate data of children’s mental health and service use. Open text fields are also included in the survey to allow participants to share health and other concerns not covered by the survey. Follow-up surveys will allow for longitudinal capture and temporal sequencing of the changing nature of the spouses’
experiences (e.g. relocation, separation, deployment, parenthood) and health symptoms, and their trajectories over time. Similar to the Millennium Cohort Study, the Family Study survey instrument allows for modification over the years to address emerging concerns.

Standardized, scientifically validated instruments are incorporated into the survey because of their reliability and validity, and to enable future comparisons with other populations. Many of these instruments also mirror those contained within the Millennium Cohort Study to allow for direct comparability of measures between the service member and spouse. Examples of standardized instruments include the Medical Outcomes Study Short Form 36-Item Health Survey for Veterans (SF-36V), from which mental and physical component scores are calculated as a measure of functional health. The PTSD Checklist – Civilian Version (PCL-C) and the Patient Health Questionnaire-8 (PHQ-8) are utilized to screen for PTSD and depressive disorder, respectively. Additional validated measures of alcohol use, sleep, eating disorders, childhood experiences, marital relationship, and family communication and satisfaction are included. Assessments of the children include components of the Strengths and Difficulties Questionnaire (Table 1).

In addition to the Family Study survey data, spouse responses can be linked to the service member’s information, including physical, mental, and behavioral health as well as military-related experiences collected as part of the Millennium Cohort Study survey. In addition to the subjective survey responses, the data can be linked to numerous official DoD data files including military and medical records (Table 2). These include medical care (medical diagnostic codes, vaccinations, and pharmaceutical prescriptions) used by the service member and spouse through the military treatment facilities or the military insurance program (TRICARE). Additionally, data on service members’ deployments, occupations, injuries, environmental exposures, and other military events (e.g. disciplinary actions, promotion, and separation) can be investigated. For dual military families, spouses have the same data sets available as members in the Millennium Cohort Study (Table 2). Together, these data create the most robust research data set in existence to address the impact of military service experiences on the health of both service members and their families.

Data analyses

Data analyses of the Family Study will focus on six main research objectives that provide the framework for utilizing the data to provide substantive findings to the DoD. These objectives include (1) evaluate the associations between service member deployment (e.g. combat exposure, deployment duration and frequency) and the health and well-being of spouses and children; (2) determine the associations between service member readjustment issues (e.g. PTSD, anxiety, depression, alcohol misuse/abuse) and the health and well-being of spouses and children; (3) examine factors

| Table 1. Standardized instruments embedded within the Millennium Cohort and Family Studies Baseline Survey |
|-------------------------------------------------|-----------------------------------------------|
| Construct                                        | Inventory                                   |
| Physical, mental, and functional health          | Medical Outcomes Study Short Form 36-Item Health Survey for Veterans¹ |
| Modules on common types of mental disorders: depression, anxiety, panic syndrome, somatoform symptoms, alcohol abuse, bulimia nervosa, and binge eating | Patient Health Questionnaire² |
| Posttraumatic stress disorder                     | PTSD Checklist – Civilian Version¹          |
| Alcohol problems                                 | CAGE questionnaire¹                         |
| Sleep                                            | Insomnia Severity Index¹                    |
| Adverse childhood experiences                    | Adverse Childhood Experiences²,³            |
| Marital satisfaction                             | Quality of Marriage Index²,³                |
| Family communication and satisfaction             | Family Adaptability and Cohesion Evaluation Scale²,³ |
| Behavioral screening questionnaire for ages 3- to 17-year | Strengths and Difficulties Questionnaire²,³ |

¹Survey instrument present in both the Millennium Cohort Survey and the Family Study Survey.
²Survey instrument currently present in the Family Study Survey.
³Adapted version of the instrument was utilized.
related to resiliency (e.g. communication, psychological growth, social support, service use) and vulnerability (e.g. stress, adverse life events) that moderate the association between deployment experiences and service member readjustment issues, and the health and well-being of spouses and children; (4) identify factors that are important for marital

Table 2. Complementary data sources

<table>
<thead>
<tr>
<th>Type of data</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service member physical, mental and behavioral health; military-related experiences</td>
<td>The Millennium Cohort Study</td>
</tr>
<tr>
<td>Medical record data from military medical facilities worldwide and civilian facilities covered by the Department of Defense (DoD) insurance system (TRICARE)</td>
<td>Standard Ambulatory Data Record (SADR)</td>
</tr>
<tr>
<td>Immunization, deployment (location and dates), and contact data</td>
<td>Standard Inpatient Data Record (SIDR)</td>
</tr>
<tr>
<td>Pharmaceutical data from military medical facilities and civilian pharmacies for medications paid for by TRICARE</td>
<td>TRICARE Encounter Data (TED)</td>
</tr>
<tr>
<td>Service and medical data from time of enlistment to separation</td>
<td>Defense Manpower Data Center (DMDC)</td>
</tr>
<tr>
<td>Injury data from in theater</td>
<td>Pharmacy Data Transaction System (PDTS)</td>
</tr>
<tr>
<td>Environmental Exposures</td>
<td>Career History Archival Medical and Personnel System (CHAMPS)</td>
</tr>
<tr>
<td>Links occupational codes between the military services and civilian counterparts</td>
<td>Joint Theater Trauma Registry (JTTR) and the Navy-Marine Corps Combat Trauma Registry</td>
</tr>
<tr>
<td>Health symptoms and perception, as well as exposure data</td>
<td>Expeditionary Medical Encounter Database</td>
</tr>
<tr>
<td>Medical status and resource utilization</td>
<td>Total Army Injury and Health Outcomes Database (TAIHOD)</td>
</tr>
<tr>
<td>Mortality data</td>
<td>Health Enrollment Assessment Review (HEAR)</td>
</tr>
<tr>
<td>Medical benefit eligibility and insurance, dates of service, military occupation and locations, centralized immunization data</td>
<td>Armed Forces Medical Examiner System (AFMES)</td>
</tr>
<tr>
<td>Spouse</td>
<td>Defense Enrollment Eligibility Reporting System (DEERS)</td>
</tr>
<tr>
<td>Medical record data from military medical facilities worldwide and civilian facilities covered by the DoD insurance system (TRICARE)</td>
<td>Social Security Administration Death Master File</td>
</tr>
<tr>
<td>Pharmaceutical data from military medical facilities and civilian pharmacies which medications are paid for by TRICARE</td>
<td>Birth and Infant Health Registry</td>
</tr>
<tr>
<td>Mortality data</td>
<td>Standard Ambulatory Data Record (SADR)</td>
</tr>
<tr>
<td>Children</td>
<td>Standard Inpatient Data Record (SIDR)</td>
</tr>
<tr>
<td>Data on pregnancies and birth outcomes (e.g. birth defects)</td>
<td>TRICARE Encounter Data (TED)</td>
</tr>
<tr>
<td>Medical record data from military medical facilities worldwide and civilian facilities covered by the DoD insurance system (TRICARE)</td>
<td>Pharmacy Data Transaction System (PDTS)</td>
</tr>
<tr>
<td>Pharmaceutical data from military medical facilities and civilian pharmacies which medications are paid for by TRICARE</td>
<td>Birth and Infant Health Registry</td>
</tr>
</tbody>
</table>

1If child born during active duty service time.  
2Based on if consent for medical record review is provided.
quality and family functioning (e.g. work/family balance, modifiable behaviors, communication); (5) examine trajectories of study outcomes over time and conduct methodological studies (as described later); and (6) evaluate the associations between spouse and child health and well-being with service member health and military-related outcomes. Analyses will involve a mix of univariate and multivariate statistics, including modern methods that take account of the complex sample design and the statistical dependence (clustering) inherent in longitudinal (repeated measures) data.

Methodological studies are planned to ensure that spouses enrolled in the Family Study are representative of the overall spouse population among military personnel with 2–5 years of service. As previously mentioned, survey methodologies were utilized to maximize participation and reduce response biases. Similar to the Millennium Cohort Study (Smith et al., 2007a, 2007b, 2007c; Littman et al., 2010), a series of methodological analyses will be conducted. These will include assessments of service member responders compared with non-responders of the fourth panel of the Millennium Cohort Study; characteristics of spouses (and their service members) among enrollees in the Family Study compared with non-enrollees; referred versus non-referred spouses; and enrolled spouses compared with all spouses of military members with 2–5 years of service. Because the study sample consists of military service personnel and their families, data on demographics (age, sex, race/ethnicity), education level, occupation, and military service characteristics (e.g. rate/rank, branch, component), and number of children are available for comparison. Additional methodological studies will emulate those conducted by the Millennium Cohort Study to include assessments of paper versus web responders and early versus late responders during the survey cycle. In addition, the internal consistency of measures, and the reliability and validity of self-reported data will be determined, including comparison of self-reports with objective measures in official DoD records.

**Dissemination of study findings**

Study findings from the Family Study will be provided to the DoD and DVA, and can be utilized for the development of interventions and policies to improve the lives of military families. This study will provide critical information on the relationship between service members’ military experiences and readjustment issues on the health and well-being of military spouses and children. Additionally, study results will be communicated to the broader clinical and research communities as well as to our study participants through submission of manuscripts to peer-reviewed publications, newsletters, and other study-related communications. In addition, the Study’s website (www.FamilyCohort.org) provides a list of presentations and aggregate data of the characteristics of the study participants to date, and will be updated periodically to include publications and new study findings. Social media (e.g. Facebook and Wikipedia) may also be utilized for future communications.

**Significance of the Millennium Cohort Family Study**

The Millennium Cohort Family Study represents the first study of its kind by providing critical data on the service member–spouse dyad over a 21+ year time period. Given the extended follow-up of spouses over time, this study presents a distinct opportunity to evaluate both the long-term effects of military life on families and the impact of future conflicts. Unlike most studies on military families, the Family Study longitudinally evaluates military spouses, service members (via the Millennium Cohort Study), and their children both during and after service time. Because many of the challenges of military service may only occur after separation, this study is poised to provide critical data regarding the ongoing needs of military families.

The Family Study is also unique in its ability to explore the impact of military service on important subpopulations, including Reserve and National Guard families, dual military families, and female deployers along with their male military spouses. Previous studies of spouses have largely been limited to a single military branch and/or the female spouses of male service members. Further, Reserve/National Guard families may experience unique challenges, including short notification prior to deployments, loss of civilian jobs, changes in medical coverage, and a relative lack of support resources compared with active duty families. Because of these differences, Reserve/National Guard families may be impacted by deployment and service member readjustment in ways that active-duty families are not. Similarly, approximately 48% of married military women and 7% of married military men are in dual military marriages, which may present with challenges including prolonged separation and overlapping deployments (Department of Defense, 2010). Finally, as an increasing number of women serve in the military, it is important to evaluate the effects of maternal deployments on children, and examine male spouses in studies of family functioning in order to elucidate potential sex differences.

**Conclusion**

The past decade of conflicts highlights the importance of understanding the impact of war on military service members and their families. The Millennium Cohort Family Study represents the only comprehensive epidemiologic study of the health of military families that longitudinally evaluates.
>10,000 service member–spouse pairs over a 21+ year period. This study includes US military families across the globe from all service branches and components. Understanding the associations between service members’ deployments and other military experiences on the health and well-being of their families is critically important for the DoD, DVA, and society. Advances in the understanding of the challenges that military families experience along with protective and vulnerability factors will benefit military families today and into the future.

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This study was been approved by the appropriate ethics committee/institutional review board and has been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki and its later amendments.

Declaration of interest statement

All authors report no conflicts of interest and no financial relationships with commercial interests.

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