Gender, Stress & Coping in the U.S. Military

Volume I

Trauma, Stress & Health: Military Women in Combat, Deployment & Contingency Operations

A Conference to Explore the Effects of Combat, Trauma, & Extreme Environments on Women's Health & Performance

June 16, 17, & 18, 1995

The Airlie House, Airlie, Virginia

19960627 092

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DISTRIBUTION STATEMENT A
Approved for public release;
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DTIC QUALITY INSPECTED 1

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	December, 1995	Final

4. TITLE AND SUBTITLE Gender, Stress & Coping in the U.S. Military. Volume I: Trauma, Stress & Health: Military Women in Combat, Deployment & Contingency Operations

5. FUNDING NUMBERS

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10. SPONSORING/MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION/AVAILABILITY STATEMENT
Distribution Statement A

12b. DISTRIBUTION CODE

13. ABSTRACT (Maximum 200 words)

This volume reports the conference proceedings from "Trauma, Stress & Health: Military Women in Combat, Deployment & Contingency Operations." The purpose of the conference was to explore the effects of combat, trauma, and extreme environments on women's health and performance. This volume derives from discussions with national and international experts to increase the understanding of gender, stress, and coping in the U.S. military.

14. SUBJECT TERMS
PTSD, Post-Traumatic Stress Disorder, stress, military, health, performance, sex, trauma, gender, combat

15. NUMBER OF PAGES
292

16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
Unclassified	Unclassified	Unclassified	UL

Transcription Provided by:

CASET ASSOCIATES
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Fairfax, Virginia 22031

This conference was held as part of Research sponsored by
the Surgeon General, United States Air Force,
as part of the Defense Women's Health Research Program

FY 94

This grant was administered by:

COMMANDER, USAMRMC
ATTN: MCMR-PLF (BAA-DW)
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Other volumes in this series:

Gender, Stress & Coping in the U.S. Military
Volume II: Historical Perspectives on Acculturation
Deployment & Contingency Stresses

Gender, Stress & Coping in the U.S. Military
Volume III: Performance

Gender, Stress & Coping in the U.S. Military
Volume IV: Training, Deployment & Contingency Stressors

Published December, 1995

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PREFACE

Military leaders have long recognized that mission readiness requires both the absence of disease and the presence of mental, physical, and spiritual health. However, little is presently known about the health of military women, particularly as it may be uniquely affected by trauma and war. Such knowledge is essential to meeting the health needs of military women for all mission contingencies. These missions include: peacekeeping and peacemaking activities (e.g., the Sinai MFO Treaty, Somalia); humanitarian aid (care of civilian refugees following the Persian Gulf War; natural and human-made disasters including assistance in Hurricane Andrew, the Los Angeles riots, threats of chemical terrorist attack, and the Oklahoma City bombing); and potential combat. As the number of active duty women increases (approximately 10% in 1995), women are assuming critical positions of responsibility which fully expose them to the hazards of combat and war.

The systematic study of the effects of trauma on women's health is important for women in all branches of service. There is a close interplay between performance, health and psychosocial factors in responding to trauma, disaster, and combat. Understanding the gender-specific responses associated with traumatic stress is important for the development of command policy, training scenarios, and medical care procedures. However, little is presently known about how the health of military women may be uniquely affected by trauma and war.

Available data on responses to various traumatic events can serve as an analog to aid in understanding some of the potential effects of war and combat on military women. The higher base rates of psychiatric illness in women, their greater social supports (although the relationship to unit cohesion in women is less clear), higher distress after exposure to death and the grotesque may be expected to alter responses to combat, deployment, and military contingencies compared to that in men. In addition, differences in fatigue, chronic stress tolerance, effects of sleep deprivation and variation of stress effects across the menstrual cycle can increase or decrease stress tolerance and health effects. Overall, empirical studies in this area is greatly needed.

This volume is the second in our series of publications deriving from discussions with national and international experts to increase our understanding of gender, stress, and coping in the US military. It contains personal observations from a number of distinguished women who currently hold, or have held, senior leadership positions in both traditional and non-traditional fields for women. They provide important insights into the challenges encountered in the transition from an all-male force to a gender-integrated one. The final speakers, civilian historians, provide an outside perspective on the history of women in the military.

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TABLE OF CONTENTS

Page

Acknowledgments xxi

Introduction xxiii

An Historical Perspective on Women in the Army:
Acculturation Stressors Across Time 1
Loree K. Sutton, M.D.
MAJ, MC, USA

Future Battlefield Ecology: Situation, Mission & Execution 9
Craig H. Llewellyn, M.D., M.P.H.
COL MC, USA (Ret.)

Plenary Discussion I 23
Harry C. Holloway, M.D.
COL MC, USA (Ret.)

Gender, Military Stress & PTSD 39
Jessica Wolfe, Ph.D.

Military Women: Health, Stress & Performance 63
David H. Marlowe, Ph.D.
Steven Nice, Ph.D.
James R. Rundell, M.D.
Lt Col, USAF, MC

Discussion Group I - Session I 83
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Discussion Group I - Session II 109
Sidney M. Blair, M.D., Ph.D.
CAPT, MC, USN

Discussion Group II - Session I 133
Harry C. Holloway, M.D.
COL MC, USA (Ret.)

TABLE OF CONTENTS *(Continued)*

Discussion Group II - Session II 161
Harry C. Holloway, M.D.
COL MC, USA (Ret.)

Discussion Group III- Session I 179
Craig H. Llewellyn, M.D., M.P.H.
COL MC, USA (Ret.)

Discussion Group III - Session II 205
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COL MC, USA (Ret.)

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Discussion Group IV- Session II 245
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COL, USAF, MC, FS (Ret.)

Plenary Discussion I 273
Robert J. Ursano, M.D.
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ACKNOWLEDGMENTS

In order to understand the effects of combat, deployment and contingency operations on women's health, the support of a wide array of people and institutions is required. Our gratitude goes to all those who have supported us in this work. The most important are those men and women from all the Armed Services who have participated in studies which expand our knowledge in this area. We are indebted to them for taking time to assist us in these efforts. Our thanks go also to the cadre of military and civilian personnel who authorized our involvement and encouraged our work. We would like to specifically recognize the Surgeon General of the Air Force, Lt Gen Edgar R. Anderson, and Lt Col Daniel R. Brown, Research Programs Officer for the Air Force Medical Operations Agency, for their support.

We are grateful to all the civilian and military experts who shared their observations on military women's health from a variety of perspectives. Their candor and valuable insights will provide guidance on a wide range of topics bearing on the physical and mental health of our military women and men.

Finally, a number of individuals, through their personal support and efforts, have fostered the development of the studies and recognized their importance to both the military and civilian communities. In particular, we wish to thank Drs. James Zimble, Jay P. Sanford, Nancy Gary, Val Hemming, Harry Holloway, David H. Marlowe, M. Richard Fragala, Normund Wong, Sidney M. Blair, James R. Rundell, Michael P. Dinneen and James E. McCarroll. Their vision of the importance of understanding the effects of trauma and disaster on health and their personal and administrative support have sustained out work. We hope that increased understanding of overall and gender-specific stressors involved with trauma and combat stress will enhance the ability of individual servicewomen to care for themselves within an institution that is informed of and concerned with their needs. Educational and preventive measures resulting in servicewomen assuming informed responsibility for their health needs within the context of a supportive group system parallels the process of fostering individual initiative and group cohesion that is essential to mission performance on aircraft, ships, and battlefields.

INTRODUCTION

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This morning I am going to spend just a couple of minutes essentially reiterating some of the comments from last night. Harry Holloway will then make some comments and open it up for discussion. I want to remind everyone of a couple of elements. First, our target is truly the issues of the effects of extreme environments on psychological health and behaviors that put individuals at increased risk. That includes elements that would show up as morbidity, mortality, and also performance decrements that might in fact lead to disturbances that can affect morbidity and mortality.

Let me give you an example that Dr. Fullerton from our group at USUHS observed. She was the first to observe and then publish her observations which were very helpful in DESERT STORM. It has to do with people operating in MOPP (Mission Oriented Protective Posture) gear. When you operate in MOPP gear if, in fact, you accidently put a cut in your protective gear, you will increase your chance of dying. Similarly if, in that time, you decide that you are so anxious that you have to urinate, and you have to run out of the building in order to urinate, you are in big trouble. If you have claustrophobia from your mask, you are at increased risk of being a dead casualty. Publication of those pieces served as a reminder for our medical community throughout Operation DESERT STORM. They were important observations around the behavioral effects that had substantial morbidity and mortality implications for our population.

PTSD (Post Traumatic Stress Disorder) is clearly the paradigm example that I want to keep emphasizing. This is not because it is, perhaps, the most important element of responses to trauma and disaster, but because it is the model of asking questions about who the high risk groups are, what toxins people are exposed to, what the elements that affect the outcome are and how we measure the outcome. I would remind you that in PTSD studies which Dr. Schlenger, Dr. Green, Dr. Marlowe, Dr. Martin and others were involved in, there were substantially greater rates of PTSD in Vietnam that occurred in women by about a nine-fold factor. There were substantially different occupations among women, as you might expect, during Vietnam. Most of the women were nurses. The question is whether or not that represented the stress of exposure to the gross and the grotesque versus the stress of exposure to the threat of loss of life. Is it a toxic exposure element that makes a difference? Is it a response factor, are there physiologic or psychologic factors that make a difference? Is it a recovery environment? What about the issue of how can one metabolize the symptoms, once one gets it? Is one person in a better environment than another to metabolize those? These are all open questions. Similar findings, just to make sure that this is a question of import, were shown by Naomi Breslau looking at a population in Detroit, visiting a health maintenance organization in which women showed higher rates of post traumatic stress disorder than did men. Dr. Breslau has also shown in her particular study, that women were more likely to develop a chronic disorder and post-traumatic stress disorder than were men.

Again, PTSD is not the only disorder of interest. However, it is one in which the ideas have been raised of thinking through the questions of the differences between perception, the difference of exposure to the stressors, the difference of risk groups, the differences of physiologic responses and the difference in coping styles. There is similarity regarding issues of chronic stress. When we think about the war time environment which Dr. Llewellyn was describing yesterday, it is not only acute exposures but it is chronic exposures that are of interest.

Dr. Andy Baum's studies at Three Mile Island showed increased rates of elevated blood pressure and chronic stress exposure as well as more frequent increased rates of elevated blood pressure among women than among men. A similar study completed in Kuwaiti children during Operation DESERT STORM also shows greater rates of cardiovascular reactivity following exposure to trauma in women than in men. There are biological differences between women and men. That is not news. Does it matter during which part of the changes in estrogen and progesterone occurring throughout the menstrual cycle that a traumatic exposure occurs? We know that whether or not memory is encoded and physiological responses are encoded can vary based on cortisol levels. No one has looked at that, and other steroid areas.

Another area of interest is substance abuse. The rates of cigarette smoking in particular, which you may have noticed (they are included in the packet from Dr. Bill Gray's work), are substantially higher among military women than they are in the U.S. population. It is also true that substance abuse is higher in general in women, who are in what are called in the literature atypical occupations.

The question is, why does that occur? Is it due to stressors? Or, perhaps more likely, should we be asking questions about how we propagate diseases between men and women? Do we propagate cigarette smoking between men and women by placing them in the same environment? Is it the same way in which we spread an upper respiratory tract infection? Do we increase the risk factors in various populations through psychosocial elements? Remember that gender is only a group classifying variable. It is no better a group classifying variable than any other group classifying variable that we use, whether that be ethnicity, race or IQ. They all, in fact, are ways to group people together for heuristic reasons, to understand the mechanisms involved to get into much greater detail as to how diseases are propagated, how they develop, and to understand the risk factors that are present.

From the studies of performance (and there is someone here from the performance end), we know well that if one looks at the bell shaped curves of strength in men and women, there is substantial overlap. The question is not men versus women. The questions are about strength levels; high strength levels, low strength levels. That is also true in many disease processes. I remind you that we are using gender as a heuristic group classifying variable.

We know that the rates of depression are two to three times higher in women than they are among men. We don't know why. Is it a recording element? Is it true whether or not you look at clinical populations or whether or not you look at populations in the community? It is something that we need to understand more.

Sleep disturbances are also quite prominent. In work coming out of the data collected by Dr. Dinneen, on the USS COMFORT, which he and Dr. Fullerton and Dr. Slusarcick have been involved in looking at, the data show that the women on board the USS COMFORT report higher rates of fatigue and greater sleep disturbance, although they were in the same environment as the men who were being examined. Why is that true and how does that affect subsequent risk factors for performance break-down as well as for other types of psychological and physical disturbance?

This morning, Dr. Garland and I were chatting. Dr. Garland and Dr. Nice have done some wonderful studies looking at women on board ship. The rate of pregnancy among women on board ships is about 30% per year. That seems high. I don't know what the comparable figure is for women not on board ships. I hope Dr. Nice or Dr. Garland can comment about that. Without a doubt, it is a risk factor for pregnancy, which can bring psychological and physical strengths as well as vulnerabilities.

Suicide rates among men in the Army are lower than those in the U.S. population. Suicide rates among women are the same as those in the U.S. population. Why don't we see the same decrease in suicide rates among women as we do among men?

Dr. Solomon has done some very nice work on the risk factors of single parenthood. We know that single parents may be at particularly increased risk during times of high stress, trauma, and disasters. This is true for multiple reasons, not the least of which is that our single parents, regardless of gender, are frequently stretched. In times of crisis the social support systems are drawn away from them and applied to different areas. There are a higher percentage of single parents among females than there are among males. However, it is not true that there are more single parents among military women in terms of raw numbers. To what extent is single parenthood a risk factor for multiple medical issues?

Communication styles are also of interest. Recently there was an article, I believe in the American Psychologist, many of you may have seen it, talking about communication styles and potential risks for the propagation of HIV disorders. The issue being to what extent do males and females communicate in ways that either decrease the risk or increase the risk for the development of HIV?

Another area, separate from the epidemiology of risk and the mechanisms of disease that I want to remind you of, is the question of training. The paradigm that we frequently use to remind ourselves in our group to remember this area is, if you wanted to train men and women both to lift 100 pounds, would you in fact need to train them differently, even though your end point might be exactly the same? Are there different mechanisms of training that need to represent and reflect gender differences in order to reach exactly the same end point?

Women are a large and diverse group. They include immigrants, Native Americans, all ages and all ethnic backgrounds. It is very difficult to generalize. We are going to attempt to do that beginning this morning and we are going to hope that it brings about interesting thoughts in the areas of morbidity, mortality, risk, performance, training and recommendations in terms of medical policy.

A BRIEF HISTORICAL OVERVIEW OF WOMEN IN THE MILITARY

Loree K. Sutton, M.D.
MAJ, MC, USA

DR. URSANO: Our goal is to truly address the issues of health and illness in women as they face the issues of trauma, in particular, the trauma related to combat, deployment, and contingency operations. I will talk a little bit more about that tomorrow morning with a brief but somewhat more formal introduction. This evening, we wanted to provide some dessert for you.

We are going to have two speakers this evening to give you something to think about during your sleep. First will be Dr. Loree Sutton and then Dr. Craig Llewellyn, both of whom are distinguished and exceptionally good friends to the department as well as to the military.

Dr. Sutton, who will speak first this evening, is a Major in the United States Army. She is also an Assistant Professor in the Department of Psychiatry at USUHS (Uniformed Services University of the Health Sciences). She has been very much involved with the Traumatic Stress Center, both in clinical consultation as well as research.

The expertise we have asked her to make use of this evening includes her experiences as one of the division psychiatrists deployed in Operation DESERT STORM and the substantial thought she has given to the role and history of women in the military. She will present a brief historical overview of women in the military to provide you with some points to think about and then we will let Dr. Garland explore that in a little more depth.

MAJ SUTTON: With all of the recent discussion and debate about women's roles in the military, it would be tempting to think that perhaps we are entering into uncharted territory. In fact, American women have served on the battlefield and supported the military since the very beginning of our nation's history. What has changed in recent years is the extent of that involvement, and the degree of integration, starting with the American Revolution. In fact, three to six women were authorized per Army company. These women nursed the sick, cooked, washed laundry, and set up camps. Molly Pitcher was a welcome name assumed by a number of women. The identity is unclear, but the role was certainly hardly an anomaly. A pitcher of cool water was welcome to many a parched throat.

Women also joined the fighting, taking up the weapons of soldiers injured or killed. They spied and they defended local communities. In fact, women even enlisted as male impersonators. I have to believe that the entry physical exams back then can't be as rigorous as they are today. One of the most famous of these women, Deborah Samson, joined the Army with her husband and fought. He was killed; she buried him and continued fighting. In fact, in 1983, she was designated an official heroine of the Commonwealth of Massachusetts.

Moving on to the Civil War, women continued to serve, although not officially, in the armed services. They served in a broad range of unconventional functions; as couriers, spies, saboteurs, and guides. Harriet Tubman comes to mind in her work with the Underground Railroad. They also served as scouts, gun runners and camp followers. Women were promoted to officer rank and recognized for distinguished service until, of course, they were discovered as males.

Approximately 400 women are estimated to have served their country during the Civil War. One of the most noteworthy of these women is a woman named Loreta Velasques. She joined with her husband. She bought a Confederate uniform. She glued on a beard, recruited her own troop of soldiers, and she became a company commander known as Lieutenant Harry C. Buford. She fought in the First Battle of Bull Run. She served as an infantryman. That got old so she joined the cavalry. Then she got wounded seriously enough to get a physical exam. Upon finding out that she was no longer able to serve or to get promoted, she was last seen heading west, searching for gold.

There were other women who also made remarkable contributions. Clara Barton established the Arlington National Cemetery and identified and designated the first 12,000 graves. Dorothea Dix recruited several thousand nurses. The sole criterion for signing up was a willingness to work. Mary Walker was the first physician in the Army Medical Corps. She was taken prisoner during the war and later received a Congressional Medal of Honor. That is, until it was withdrawn in 1917 when the criteria were revised. It was given back again in 1976. Despite these contributions, women were not seen as essential or permanent parts to the military. At the end of the war, all of the women, including the nurses, were sent home in 1865.

In the Spanish American War, over 1,500 women served as contract nurses to help out with the typhoid epidemic. At this time legislation was enacted to grant these women quasi-military status.

In 1901, the Army Nurse Corps was established as an auxiliary unit. For the first time, women could wear a uniform as women. There was no rank, no benefits. There was unequal pay. However, this was considered better than no pay at all. In 1908, the Navy followed suit by establishing their own Nurse Corps.

In 1917 to 1918, women reservists in the Navy and the Marine Corps were granted military rank and status up to the level of E-5 or sergeant. The Secretary of the Navy had anticipated some severe clerical shortages during World War I. He asked his legal counsel, "is there any law that says that a yeoman must be a man?" Unable to find such a law, the Navy went ahead and recruited 13,000 Yeomen (F). These yeomen had a difficult time being assigned because, after all, to be in the Navy, you had to be assigned to a ship. They got around this by assigning these Yeoman (F)'s, as they were called, to tugboats that were lying on the bed of the Potomac River. They had their ship assignments.

The Marine Corps, likewise, was desperate for clerks. They estimated that it would take three women to replace two men. To their chagrin, they found out that the opposite was true. Of these Yeomen (F), several of them earned medals. Two hundred of them were killed.

Thirty-six thousand women served in the Army and Navy Nurse Corps in World War I. They were stationed in field hospitals, trains, bases and ships worldwide, but they did not receive the full military status up to E-5, that is, as did the reservists.

No women were employed as military by the Army during World War I. Unlike the Secretary of the Navy, the Secretary of the Army was unable to overcome his reservations. He was very concerned about the morale injury that might occur to his soldiers, were women allowed to put on uniforms. However, he was willing to accept some WAACS, or Women's Auxiliary Army Corps officers from the UK, as loaners.

In 1920, women gained the right to vote. In 1941, the attack on Pearl Harbor precipitated an acute military shortage, stemming from the U.S. beginning its involvement in World War II.

In 1942, in response to this need, the Army formed its own Women's Auxiliary Army Corps, also known as WAAC. The Navy formed the WAVES, (Women Accepted for Voluntary Emergency Services). The Marine and Coast Guard reserve units for women were established. The Marines called them Marine Women. The Coast Guard had a fancy acronym, not to be outdone by the Army or the Navy. Theirs was SPARS, (Semper Paratus), which means "always ready".

Women remained in separate branches. There was no combat training. Their purpose, after all, was to free a man to fight. Over 350,000 women served in World War II. All were volunteers. Eighty-two women were taken as prisoners of war and later released. Over 1,600 military women received medals during World War II and over 200 nurses died.

Many nurses during this time found that the aviation component across the services was the friendliest to women and the most enthusiastic about their involvement. In fact, almost half of the women serving in the Army served as what was called Air WACS in the Army Air Force, which opened all of its schools except for combat and flying to women. Over 40,000 women served all over the world. In the Navy, one in four of their women sailors served in aviation.

There were other limitations that women faced at this time. They didn't have the same R&R (Rest and Recreation) status, they didn't have the same opportunities to recover following different periods of work in terms of having access to the Officer's club. In fact, if you were a military woman visited by your husband, you were not allowed to share the same tent, unlike the military men who were able to welcome their own wives from time to time. In fact, there was one military spouse whose husband was a captain. He received a message from his headquarters saying: It has come to the attention of this headquarters that you are living with your wife. This shall cease at once.

There were some interesting tests that went on during this time. Before I get to them, I would like to also take note of the group of civilian military pilots called the WASPS, (Women Air Force Service Pilots.) They flew under military rules and disciplines. They logged over 300,000 flying hours during World War II. They did everything except fly aircraft in combat. One of their members received the Air Medal. She flew over 36 different kinds of planes. Thirty-eight WASPS died. They were led by Jacqueline Cochran who was referred to by one of the generals at that time as being the woman who had several times won air races from men who were now general officers of the Air Force. Many of these pilots were commissioned following World War II, but women were not allowed to fly in the Air Force until over 30 years later.

There were some interesting tests going on during this time. In 1942, in the Army, the Anti-Aircraft Artillery Command did some tests in which they found out that the women in the command actually had greater manual dexterity than did the men. They also found that the women were superior at performing repetitive tasks than the men. This study, however, never saw the light of day and the findings were ignored.

In 1943, the Women's Army Corps was formed. You will recall that they had an auxiliary status before, which meant that they had less pay than the WAVES or the SPARS. They had no entitlements for dependents, they had no rank, and they had no legally binding contract. Clearly, this was not favorable for active recruiting and so, a year later in 1943, the Women's Army Corps was formed.

There was also an Army study in 1943 that showed that over four million of the jobs in the Army were actually suitable for women at that time. When it reached the highest level of command, it was sent back for a re-look and it was found that, really, only 1.3 million of these jobs were suitable for women.

In the summer of 1945, at the end of World War II, there were 280,000 women who were currently in uniform: 100,000 WACS; 86,000 WAVES; 18,000 Marines; 11,000 SPARS; 57,000 Army nurses and 11,000 Navy nurses. This is 80,000 more than are currently in uniform today.

In 1948, the Women's Armed Services Integration Act established regular permanent military status for women, as well as combat exclusions for women in the Air Force, Navy and Marines. These restrictions included percentage limits on officers, 10%, and percentage limits on enlisted; 2% of the total force could be service women. Recruitment and career limitations were in place, as well as reduced family benefits. These limitations included the fact that a woman could not be married and serve in uniform. She could not have any dependents. She had to be at least 21, or her parents had to sign. Men could sign at age 17. She could not be pregnant; and having become so, once having joined, she was immediately discharged.

Not to be left out, the Army followed suit, although not under force of law. However, they formulated their own exclusion policy to match that shared by the Navy, the Air Force and the Marines to restrict women soldiers from combat. That is an exclusion that exists until today.

In the Korean conflict, for the first time, many African American soldiers were serving in integrated units. You might wonder, what was the role of an African American service member during this time? Well, in fact, starting in World War II, there had been an active effort to recruit African American women to join the service. They had set a 10% cap but, in fact, the isolation that these women experienced in uniform was such that they were only able to reach 4%. If women in society at large were considered to be at double jeopardy, these African American service women were at triple jeopardy, in that they were segregated within a segregated group. They were not allowed to even socialize or serve with the other women of other nationalities in uniform.

Over 49,000 women served in the military at the height of the Korean conflict, but actually only nurses served in Korea. Recruitment goals during this period fell short because of lack of popular support for this conflict on the home front.

In 1951, the Defense Advisory Committee on Women in the Services, (DACOWITS), was formed to assist with the recruitment of women. DACOWITS currently exists to advise the DoD (Department of Defense) on issues related to women's military service. In 1954, African Americans were fully integrated into the armed forces.

During the Vietnam conflict there was little recruitment for women, partly because there was a surplus of draftable men. Less than 10,000 women actually served in Vietnam, the majority of whom served in nursing and medical specialties. A few thousand women served in support roles in neighboring countries. Many women, however, were exposed to combat conditions. The first Purple Heart was awarded to a woman during the Vietnam conflict. Eight army nurses died in action. Their names are inscribed on the Vietnam Memorial Wall in Washington, D.C.

In 1967, congressional legislation revised the Women's Armed Services Integration Act to remove some of the prior career opportunity restrictions. For example, the percentage limitations I mentioned before were removed. The rank limitation which was capped off at that time at O-5, or lieutenant colonel, was removed. Women were now eligible to compete for flag and general officer ranks. Women at this time were able to receive equal retirement benefits. Separate promotion systems still persisted, as did unequal family member benefits, as well as the bar to service academies.

Incidentally, I might just add, in terms of how this has progressed as far as the flag rank progression, the most recent count from March of this year shows that we currently have 13 flag rank officers combined in the services. At the O-7 level, we have three in the Army, three in the Navy, none in the Marine Corps, and five in the Air Force. At the 0-8 or major general level, there is one in the Army, none in the Navy, one in the Marine Corps, as well as none in the Air Force.

In 1969, Air Force ROTC opened to women. The Army and the Navy followed in 1972 by opening up ROTC. By 1973, an all volunteer force had been established when the draft was ended. The number of women in the services ballooned from less than 2% in 1973 to 12% by December of 1993. This ranges from about 4% in the Marine Corps to almost 15% in the Air Force. Since the establishment of the all volunteer force, roles in both the traditional as well as the non-traditional fields have opened for women. Women Naval aviators first wore wings in 1973; the Army opened aviation in 1974 and the Air Force in 1977, however, not on aircraft used in combat. Women again were viewed as a needed source of personnel substitutes for unavailable men.

Again, as an interesting context for comparison, in terms of some of the international armies and their percentage of women, I have the following figures: The UK currently has women comprising 6% of its fighting force in uniform; Canada 11%; Denmark 3.4%; Norway 2.4%; the Netherlands 1.7%; the former Soviet Union .7%; and Israel 11%. As I mentioned in the United States, overall, the armed services are 12% women.

Moving on to 1975, women were admitted for the first time to the U.S. Coast Guard Academy. In 1976, women were admitted to the rest of the service academies; Air Force, Navy, and at West Point. In 1978, women were integrated into all services and separate women's branches were dissolved. Women for the first time began receiving weapons training, not for direct combat but at least for self defense. Women were first promoted to the general officer ranks. Equal pay, equal benefits, and the same command structure were now in place. Policies restricting the service of married women and requiring discharge of pregnant women as well as those with children under 18 were abolished.

In 1980, the DOPMA, the Defense Officer Personnel Management Act, put women for the first time on the same promotion list as men. In 1988, women were first assigned to mixed gender crews. The Air Force women were permitted to join the crews of aircraft with spy and surveillance missions, as well as Minuteman and Patriot missile systems. Security jobs were also open to women for the first time. The Army opened positions on missile crews and units closer to the battle front as well as on peacekeeping forces. The Marine Corps offered women training in battle skills, survival, and defensive combat operations. They also offered selected security positions overseas. The Navy opened sea assignments to women in the combat logistics force. Women were also allowed to command sea vessels for the first time.

In 1983, we had the Grenada Invasion. The Air Force women served on air crews that air lifted troops and supplies. Army women served in various support functions. In 1989, there was the Panama Invasion. Attention was drawn to women's exposure to risk, although they continued to be officially barred from combat. This brings to mind the story of a company commander who took fire, did the appropriate things, commanded her company, and then got back to headquarters and was told that she couldn't continue with her company because, after all, she was officially barred from combat. Over 800 took part in the invasion, over 150 were in hostile areas.

Moving on to 1990 and 1991, in the Persian Gulf War, women again performed very well. As the Secretary of Defense said, "we could not have won the war without them." Women during the Persian Gulf War numbered 41,000 or 7% of the United States deployed forces. Thirteen women died. Major Marie Rossi, a helicopter pilot, was quoted by CNN two days prior to her death. She said, "I think if you talk to the women who are professionals in the military, we see ourselves as soldiers. We don't really see it as men versus women." There were 21 women who were wounded in action during the Persian Gulf War. There were 2 prisoners of war, including Major, now Lieutenant Colonel, Rhonda Cornum, whose perspective we are very, very pleased to have this weekend.

Dr. Cornum is a Uniformed Services University graduate. She served as an Army flight surgeon during the Persian Gulf War. She was described by her superiors as "the finest aviation medical officer in the Army." I quote now a higher source, her mother, who said, "God, she's tough. She could always do anything, and she still will." She certainly is. Such superlative performance renewed the controversy over combat exclusion following the Persian Gulf War.

In 1993, women were allowed to serve in combat aviation and in combat ships. The Secretary of Defense ordered the services to review and to justify the exclusion of women from all other combat jobs. In 1994, essentially all jobs, except for those in the combat arms, Special Forces, and on submarines, opened to women. These number, in terms of percentages, 92% of the career fields now open; 80% of the total jobs in the military are now open to women.

In reviewing this somewhat dizzying walk through history, it seems to me that at least five critical components emerge: role, responsibility, risk, rank, and respect. As you have heard, from the beginning of our country's history, women have performed virtually every role imaginable - officially when possible, unofficially when necessary - and have taken on the commensurate responsibilities attached to those roles. There is risk, certainly. In fact, one might argue that being anywhere near a battlefield without combat training or weapons or the means to defend oneself is a far riskier proposition than being in a tank, or with an infantry company. Until the official roles and responsibilities are opened, rank will necessarily continue to be limited. Finally, there is respect. Despite the enormous progress that has taken place over the last 200-plus years, women remain second class citizens in the armed forces, a status that is a significant source of stress, with potential implications on performance and health.

In closing, I would like to quote Dr. Cornum from her book. As a little girl, she remembers reading about a husband and wife who were seated in a garden. The wife says to her husband, "if I can do anything that a woman can do and you can do anything that a man can do, together, we really can do anything." I think there is a corollary for the military. That is, if I can do anything that I can do, and you can do anything that you can do, then together we can do anything and truly be all that we can be.

DR. URSANO: Thanks,Dr. Sutton. You have now begun to notice that you are all in danger, since you are all experts. At any given moment you may find your name called out, with attributions made or with things that we connect you with. You may or may not connect yourself with those. We apologize and yet, at the same time, one of our goals is for all of you to get to know each other. You are truly a group of outstanding experts. Over time we hope that you will bump elbows and take advantage of all the ways of getting to know what each of you are doing and where your backgrounds are at. Please take advantage of taking my name in vain. The next time you are standing next to someone you don't know at all, you can comment to them, "Ursano said that I am supposed to ask you what you did this week," and let them tell you about what is sitting on their desks, because all of you have very exciting things there.

Having now been in this business of trying to think about women and trauma in a very heavy way for about 12 months, I also want to underline the issue that, throughout those 12 months, everyone in our group who has struggled with the issue of making sure that we didn't put our foot in our mouths, has not been able to prevent it. That includes men and women. There is no way to avoid falling into the traps of stereotypes and the way in which

our language leads us in certain directions. I want to first state that everyone here is able to make those mistakes because I give a blanket apology for all of them. Please recognize that we recognize that all of you respect each other and recognize the strengths and abilities of men and women, so that we can have an open discussion. We could approach this from the Lake Woebegon direction and just assume and appreciate that, in fact, for the next three days all the women here are strong, all the men are handsome, and all the children will be above average.

FUTURE BATTLEFIELD ECOLOGY: SITUATION, MISSION & EXECUTION

Craig H. Llewellyn, M.D.
COL, MC, USA (Ret.)

For those of you who don't know Dr. Llewellyn, he is a good friend and a very distinguished professor and retired Army officer. He is Chairman and Professor of the Department of Military Medicine and Emergency Medicine at USUHS. He was schooled at Yale and Harvard, is a fellow of the American College of Preventive Medicine, the American College of Epidemiology. He began his career as a flight surgeon, spent a huge number of years working with the Special Forces, and commanded a number of the major laboratories within the Army, including the Research Institute for Chemical Defense. He has served on advisory boards to the White House, the National Institutes of Health, NASA, and most recently was visiting professor to the Royal Society of Medicine in London.
It is a pleasure to have him talk to us this evening about the Future Battlefield: Ecology, Situation, Mission, and Execution.

DR. LLEWELLYN: First let me say, it is a pleasure to be here, to be able to participate with all of you. Secondly, I think I have a somewhat easier task than Dr. Sutton. She had an enormous amount of material to cover, and I congratulate you on how that was done. It is very useful for all of us.

I get to speculate about the future, to burden you with some of my biases, and offer some opinions. I am going to identify people who have influenced me who are in this room: Dr.Harry Holloway over a number of years, Dr.Rick Manning, Dr. David Marlowe for sure, and my friend Dr. Greg Belenky.

I chose the topic, Future Battlefield Ecology, because of something that stuck in my mind from Dr. Dave Marlowe's writings in the past. He has referred in some of his presentations to the ecology of the battlefield. My approach to this is going to be a little bit different. In the first place, I want you to share my difficulty in applying the epidemiologists' or the health care providers' definitions to ecology.

Generally we think of ecology from the standpoint of agent, host and environment. The environment that I am going to show you is an enormously confusing one. To say that the military and the whole state of the military and armed intervention is in a period of flux right now is probably an understatement.

The next point has to do with, what are we talking about as far as agents are concerned? Are we really talking about war or are we talking about preparing militaries for what some current thinkers say is the appropriate role? That role is never to fight, only to deter, which sounds kind of silly to me; that, in fact, is coin of the realm in some of the major think tanks at the present time. It harkens back to Sun Tzu, his principles of war being that the smart general is able to defeat the enemy without ever fighting.

Are we going to talk about conflict from the standpoint of somewhat peaceful competition, or is it really going to be in terms of the spectrum of conflict, or the operational continuum as it is now called, which is the way that the war fighters, the killers, talk about it? When we talk about the host, are we talking about individuals? Clearly we have to talk about individuals. I am not going to focus on women, per se, in this. I leave that to you to put that into the context that I am going to put to you.

I submit to you that when we talk about battlefield ecology, that host has to include units. As an epidemiologist, I am stuck with my early training which says, "one looks at a universe and one is as interested in those who have the attributes as those who do not." A unit can be viewed as a particular universe. Or one could look at an entire service of the military. Are we going to talk about the Army, the Navy, the Air Force, the Marines, et cetera, or ultimately about militaries in a generic sense? I don't know. I leave that part up to you.

In the military, when one wants to try to communicate succinctly at a staff level and then translate how one is going to talk to who actually has to carry out the mission, we start with situations. Some of those of you with military background know this as the acronym METTT, Mission, Enemy, Troops, Terrain, and Time available. Situation is the beginning of that, and another way of looking at the situation is, what is going on. Mission is what we want to do about what is going on. Execution is how we are going to do it.

At the present time, based on my readings of joint publications, of what comes out in the Joint Staff Quarterly, is that not just on the medical side but also the combat arms side, there is no agreement on mission. That is not unusual because, in point of fact, institutions like the military do not have the luxury of defining their own mission. That is defined from the National Command Authority, by Congress, and in many ways by the body politic.

At the present time, there is the expectation that a greatly reduced military will somehow leverage high technology to be able to be all things to all people. I am going to show you some of what all those things are. This is one of the ways to look at how to define the ecology of the battlefield. Some things aren't going to change. For example, the U.S. is going to remain a maritime power that is increasingly dependent upon overseas sources of strategic material.

We would like to think in terms of strictly having our military strategy focused on a battlefield where we will be the good guys, and trying to help democratic regimes, et cetera, et cetera. Don't ever forget that the principal driving force for most strategy has to do with the fact that we, along with our principal allies and potential adversaries, are very much dependent upon other people's resources. This is where some of those resources are, and it also indicates where some of the potential regional flash points are. As you scan around the map, (this is from a couple of years ago), you can see that these are the things that are reviewed on CNN at least once a week. Not to be surprised, one might then also recognize the concept of local choke points. This is a concept that has been the basis for U.S. maritime strategy, and British maritime strategy, for at least 150 years. We will, in fact, have to remain prepared to now deploy military personnel to potential battlefields in many of these areas.

Just to give you some feel for what it means to have a choke point which could be interdicted by, let's say, the submarine technology which the former Soviet Union is now making available at bargain basement prices to a number of regional powers. Notice the U.S. imports and exports which simply come from the Caribbean, a choke point which has been approached by a variety of unfriendly fleets with great regularity.

Now I want to shift gears from some of the drivers of national strategy to what is war at the present time. This slide is a depiction of war; there are two leaders, and one of them says, "my people will get back to your people." We used to conceive of war that way. As a matter of fact, we conceived of it somewhat in that way even in the Persian Gulf.

This is a slide that has been almost worn out in a variety of staff colleges. This is the way the military looks at the ecology of conflict, now called the operational continuum. This is the conflict spectrum. What it shows on the vertical axis is the probability of occurrence, and across the horizontal axis, the shift from low to medium and then to high intensity. In fact, the most probable kind of conflict is low intensity conflict. You get into considerable debate within the military at the present time, in that what was thought not to be a big risk before, (mid-intensity conflict), is now the basis for the so-called 733 roles and missions study. That has recognized the potential for a number of regional powers to pose major threats to us, and the reason for regional powers to be able to do this.
One of the main reasons is the increasingly wide distribution of ballistic missiles. The estimates are at the present time that at least 15 different developing countries have a significant ballistic missile threat. We are not talking about long range, only something like 30 to 300 kilometers; enough to scare the hell out of an expeditionary force that may have to deploy into their areas.

Nuclear war, the high intensity war, or the high intensity war without nuclear involvement, is the kind of thing we were focused on during the Cold War days; the Warsaw Pact coming through to Fulda Gap, and we had a number of set piece battle plans so that we could delay them and then ultimately to win. I would submit to you also that what I am going to show you about DESERT SHIELD/DESERT STORM is also a set piece battle plan that in some ways was played out for a number of years and is still being played out by battalion sized units at the National Training Center out in California. If anything, the resistance put up against U.S. forces in the Gulf is less than what the opposing force puts up out at the National Training Center.

To press on with this a little bit, in looking at risk, the risk is inverse to the probability of occurrence as far as threat to national survival. Because it is extraordinarily difficult to keep either the Congress or the body politic interested in things that do not threaten vital U.S. interests, ultimately a threat to the national survival, we are going to go through the peacetime doldrums for a considerable period of time into the future.

This is not a current slide. The only reason I show this is that some of these so-called wars that have ended have the potential for flaring again. I am sure a number of you in this room have at least seen a review of a recent book which in fact talks about post-modern war and what that may be like. Fighting can become an end in itself and probably will with the withering away of the nation states. For people in a number of areas around the world, fighting is infinitely preferable to the lack of any sort of satisfying pursuit within their own geographic area.

It is highly unlikely that anybody is really going to fight wars any more. If we are not going to have war, to create armed disorder, all you need is an armed citizenry at arms with itself. War is more than slaughter, mayhem and senseless destruction. Much of the military violence in the world is nothing more than large-scale disorder, banditry or worse. Uganda, Lebanon, El Salvador and Afghanistan are examples of disorder. A war is fought to a conclusion. Disorders may go on for hundreds of years. Wars are fought by powerful and expensive armed forces. Disorders are fought with whatever deadly force is handy, plus the legendary hearts and minds. I like the dig at the end there. There is no indication that any attempt to win the hearts and minds of any population has ever been successful as a way to either thwart insurgency or to win war.

You are entitled, at least, to see some of the definitions, particularly for low intensity conflict. Peace is defined as cultural, political and economic competition. Low intensity conflict is political and economic conflict. Now, one has to ask, isn't that what capitalism is about? Isn't that what we are seeing with the U.S. and Japan and the World Trade Organization at the present time? I am not sure, but the military views that as the beginning of low intensity conflict, and then a progression through national and sub-national conflict, and finally overt limited conflict.

It is not until you get to the mid-intensity conflict that identified government military units are fighting on both sides. When you think about the places where we have been recently, or where we still are, Haiti and Somalia, it is difficult to say that it is anything other than low intensity conflict. Yet the potential for it to become very high intensity in a short period of time is there. It was the dramatic shift over one weekend in Somalia from low intensity "peacekeeping" to "let's-try-to-catch the warlord," with 18 American deaths and 88 casualties, that turned everything around; the decision was made that we were coming out of there.

There is a certain degree of comfort for both the political arm and the military to focus on low intensity conflict, because it has become very, very clear within the last five years, and probably even the last decade. That is, there is little, if any, tolerance within the body politic of the United States, and most likely within NATO, to have anything other than no-dead wars, a term used by the Chief of the French General Staff just about nine months ago. Now, unfortunate happenings in peacekeeping situations and so forth, maybe some of that can be tolerated. It does not appear, and the military is in the position of grudgingly admitting, that whatever kind of future battlefield the military is going to be on, a very high priority is going to have to be given to avoiding casualties at all costs. That is such a dramatic shift from anything that has to do with what militaries are about, that it is not clear whether militaries can survive that kind of attitude.

Here is a list of missions within the low intensity conflict spectrum, and then it matches forces against them. Notice peacekeeping. It says the force that should do that is military police, a naive view, I think at best. It was announced today that there would be a rapid reaction force put together to try to rescue the peacekeepers in Bosnia. The peacekeepers there are hoping that there will be NATO air support if it will make things better for them, and no NATO air support if it is going to cause them to be hostages.

What point am I trying to make with all of this? If one looks through the forces over here, military police, there are large numbers of women in all military police units at the present time, and in military intelligence; not in most of these Special Operations strike groups.

When we get down here then to the counter-insurgency area, engineers, medics, signals, civil affairs, psychological operations, intelligence and logistics, - these are all areas which, as Dr. Sutton pointed out, have been opened up and are continuing to open up to women within the force. It is also increasingly clear, even to a group that is as pacifist as the International Committee of the Red Cross, that nobody is safe any more. I attended their war surgery course. Believe it or not, the International Committee of the Red Cross conducted a war surgery course. The reason is that their principal overseas missions are no longer focused on refugees. They are no longer focused on being sure that prisoners of war get equal treatment. The overwhelming demand is for somebody to take care of the casualties not only of wars but of the leftovers of wars.

The leftovers, and you probably read about this in Cambodia and all over the world, are caused by anti-personnel mines. There are millions of them that are only found by people walking on them. The people who are walking on them in general are the young males and females who are going out to work, to earn a livelihood, to try to farm, and so forth.

What has happened with the ICRC's personnel overseas in the last three years is, they have sustained more deaths from hostile actions directed at them, not inadvertent but directed at them, than in the entire past history of the International Committee of the Red Cross. They are increasingly interested in having some kind of protection when they go out and do these things.

This is from a recent House organ publication. Grudgingly, military exercises now include peacekeeping operations; learning to wage peace. This is 25th Infantry Division soldiers who had, as an add-on to their assault from long distance and light infantry training, some exposure to the problems of trying to do peacekeeping operations. For example, there were people simulating demonstrations, such as one might see in Haiti, and there were opportunities for them to try different ways to work with them. This is a direct quotation, "We learned what it takes to conduct peacekeeping operations: negotiating skills, patience, and a whole lot of common sense." Some of that has been applied at Haiti, but it certainly is not generically useful in what has been labeled peacekeeping over the last three or four years. These are the kinds of things we will probably be tempted to dabble in increasingly in the future.

I want to examine some technological changes that influence battlefield ecology. Two areas, sensors and lethality, are growing closer and will shortly merge as one. This fits into another set of terms which are fairly contemporary. The first one is known as RMA, (Revolutions in Military Affairs), coined only within the last year, now being exploited by think tanks all over the United States. There are various task forces being put together to look at these RMA phenomena.

It is entirely true that there is enormous potential for new technology, some of which has been demonstrated. For example, if you look at the sensor development here, you can see the sensor range over time as time has gone on now with the remotely piloted vehicles. The range in meters has gone up exponentially. One of the major deployments reported in the press, in the wake of the hostage taking in Bosnia, was the Tier One Predator System. I had never heard of the thing before, but I did know about remotely piloted vehicles. The Predator System is something that, from 10,000 feet, is virtually undetectable by radar, but which can transmit actual motion picture quality images. They thought that this might be useful for identifying where the peacekeepers were being chained to various and sundry military installations, raising the possibility of doing commando raids to go in and get them. I would submit to you that it is possible tonight but for sure tomorrow, to go to a variety of hobby shops and to Circuit City, and to put together your own remotely piloted vehicle. There are, in fact, ground controlled small aircraft with gasoline or electrical motors and you can buy a rapid fire camera. You can time it for when it is going to go off. It will take a bunch of pictures for you; fly out, take pictures and come back. If Saddam Hussein had done that in the Gulf War, it is entirely possible that the huge left hook which General Schwartzkopf will be associated with throughout history would have turned into a bloody massacre. One major air strike from his remaining aircraft, while this huge force was moving across the front from close to the border in the sea coast all the way out Tapline Road, had there been any indication of that, such a tempting target would have been hard to pass up.

That is not an insight only on my part, but has clearly been identified by many of our potential adversaries. What we have to deal with is the fact that these increased point weapons ranges and the multiple launch rocket systems, are technology that is now for sale all around the globe. One of the largest purveyors is also one of the countries that we have not considered to be a major threat because "we will never get into another ground war in Asia." However, the principal purveyor of much of this is China. You don't have to think very far to see what the benefit might be to the People's Republic if, in fact, there are a number of regional threats that they don't have to make themselves but which they can arm, in the same way that we arm our surrogates all around the world. We may have to respond to those in places like the Middle East and Africa and so forth. Now what happens when militaries are faced with those kinds of issues?

This slide shows battle casualty rates per day and how they have dropped from the 30 Year War through Napoleonic times. Well, Napoleon got to levee en masse and created what is now known as a target rich environment with these huge forces that he was throwing about willy nilly. The American Civil War caused another blip in there because of consistent stupidity on the part of both sides as far as not recognizing the increased range and accuracy of rifle muskets. Why World War I did not do the same, I think, has to do with how long it went off, because these things even out if you have a nice long war. In World War II, notice that the losers lose somewhat more than the winners do. By the time you get to World War II and the 1973 October War, we are down to fairly low rates on a daily basis.

Why are the casualty rates so low? Because we are now unwilling, first, to tolerate anything beyond this kind of average rate casualties per day. This is for a battalion, and that is where the fighting is done. By the time you get up to the division level, the bulk of people at division are not exposed to combat, or at least were not at that time. The new technology means the division, front to rear, will be exposed. Not only will that be exposed, but so will the ports of entry; for example, the poor people from the activated reserve unit who had just gotten off the plane and happened to be sleeping where a SCUD fell down in Saudi Arabia. The depth of the battlefield is going to increase dramatically. This dispersion that has occurred can be shown perhaps better through this kind of slide. If you look from antiquity or the Napoleonic Wars up to the October War, and then look down here at square meters per man, notice what the dispersion has become.

Where are we going with that in the U.S. military at the present time? There was just a report of one of these revolutions in military affairs groups reporting that what will happen in the future is that we will have these highly mobile, highly lethal small groups that will run around the battlefield and call in, using high tech communication and global positioning devices, very precise missiles on specific targets. Of course, they will have to move quickly because otherwise they will become targets, unless we assume that we are the only ones who have that kind of technology.

The size they are talking about is more than a squad and less than a company. Squads are 12 people, companies are 160 to 200 people. The thing that it brings to mind is the movie, "Aliens 2". The heroine has along with her, to defeat the aliens, this Marine squad which has new and increased fire power. It is, I think, one third female. The two point people, and the ones who control the most significant weapons are women. They are without any kind of logistical tail because they have all been sent into orbit to go to this space station. They have very sophisticated internal communication, all kinds of skills from hand-to-hand combat to using vaporizer rays, and so on. Their communications break down, and then they are reduced to the same method of not only communicating but trying to maintain unit cohesion. That usually has occurred on battlefields where a leader has to run around and talk to all the individuals and try to move them on his or her own, as the case may be.

I am trying to remember who made the quote, but I think it was Bradley who said he had never seen a crowded battlefield. Of course, he wasn't around at the time of Gettysburg and some of these other dreadful encounters.

You can think in terms of what dispersion means in terms of individuals feeling supported or alone. You might also think of what it means to have very small, mobile groups which are using high technology, and therefore are very much dependent on high level, technical skills from each member of the team. My experience with this was on a low level of technology within a Special Forces aid attachment with two officers and ten enlisted men. The loss of two people could, in fact, reduce that team's ability to execute operations by almost 50%. Simply getting a new one of those didn't necessarily mean that he fit into the team or that he was going to survive his first encounter with the enemy. Replacements are at an enormously increased risk compared to people who have already survived in combat for some time.

What this slide says at the top is, nerve, blister, blood, choking, and biological agents. This is a list from before the break-up of the USSR, as to whether there was confirmed use or stockpiling, or suspected use or stockpiling. If you look down through this list of nations, I think you can get the sense that possession of chemical weapons and biological weapons and the ability to produce them is not associated only with highly developed countries. In fact, both chemical and biological weapons are known as the poor man's nuke. Technology that is used for the production of insecticides can easily be turned to the production of chemical weapons.

Delivery systems. This is a cross walk between these different kinds of systems for delivering these things and the various agents themselves. Now, that is not terribly surprising, but I ask you to think about that in the context of what we have learned from open literature publications over the last five to six years. Syria has a missile and disbursible mine manufacturing capability. It came from China and Pakistan has a number of capabilities in the same area. Increasingly, countries are able to make these delivery systems. It appears that as computer technology becomes globalized and as hackers around the world are able to use the Worldwide Web and other approaches to get into what were thought to be secure repositories of technical information, that most of the technology that we have that relates to precision guidance systems is going to be accessible to a number of countries all around the globe. These are the kinds of missiles that the Chinese are making and that the Russians have and are selling, they can be found in the armamentarium of many powers that we would not have thought to be any kind of threat to a western army in the past. Of course, many of these are extraordinarily simple.

This looks somewhat like the U.S. multiple launch rocket system. It is a very crude kind of approach to doing that, but it can deliver biological or chemical weapons and biological or chemical weapons and high explosives over a huge area.

This is just to give you some idea of the ranges involved for these different systems. Artillery missiles and ground missiles, these ranges are now increased, as I mentioned, up to at least 300 kilometers, in some cases up to 1,000 kilometers. That is one of the reasons that you will hear so much about pressure for a missile defense as part of the funding for the Department of Defense at the present time.

What really seems to have gotten a number of people's attention is the open meetings held between the surviving U.S. and Russian military personnel who had their hands on the levers of power during the Cuban missile crisis. The Russians had the capability and the warheads in Cuba at that time to deliver small hydrogen warheads against the entire east coast of the United States. We didn't really believe that they did until they came and essentially sat down at the table and said, "oh, yes."

Now, let's talk about another approach to battlefield. Those of you who are on active duty or who read the military literature know that for at least the last 10 years, the U.S. doctrine for fighting has been called Air/Land Battle. It is not Air/Land Future. This is essentially a revolutionary approach because it means that the Air Force and the Army are going to coordinate on what they are going to do. The reason for doing that is that it was clear that within the Warsaw Pact, the way they would attack NATO was in successive waves. This would be the first echelon. The second echelon would be coming on behind it.

We are not talking about a couple of thousand. We are talking about 100,000 troops in this echelon. Another 100,000 to 150,000 behind that, and a third one behind that. It became very clear that the only way one could fight outnumbered and win was to see very deeply; to find deep targets, to have the force up here that is on the forward line of troops, to try to stop this and attrit it somehow, while you looked for a way to maneuver around on the flanks and to take out these successive echelons. It is a variant on this which has been practiced by the U.S. and NATO troops for an extended period of time and, in fact, was used in the Gulf War.

That is still the way we train. Here is the theater of war in DESERT STORM, Iraq. Here is Kuwait. The deception surrounding this was fantastic, the way the press bought off on the initial deployments, and being allowed to know what the initial deployments were. There was great agonizing over how the U.S. was going to go right up the middle and bleed themselves dry on the Kuwait line and so on.

This is what I meant by the great swing across the front which was completely undetected. It could have been detected very easily, in order to get enough troops out here to then make this kind of enormous sweep in a very short period of time. This was set piece battle, marvelously executed. The bad guys probably used less than 5% of the capability that they had. The outcome would probably not have been different if they had behaved differently. It is just that we would have had a lot more dead and wounded.

I would like to comment on that. We are never going to fight DESERT STORM again. It is a maybe once in a century opportunity to have an enemy set himself up in the desert and just sit there and wait for you while you deliberately take out all his communication, command and control and attrit him from the air over an extended period of time. Then you mobilize your reserve components, you somehow get the sea lift and the air lift on loan because you don't own it in the military, and slowly get the people in country. Then you make up for the training that they have not had at all, particularly the medical people but a lot of the others also, by not initiating combat operations until you have trained people up. Your opponent has to be a fool to give you time to do that. The other reason we will never do this again is that the one U.S. Corps which performed so magnificently over there, sort of made DESERT STORM a stop on the way home to be disbanded. It doesn't exist any more. It couldn't be put together again in any short period of time.

We rode to war in these kinds of things. They protect very nicely but they also provide a concentration of potential casualties inside. The bad guy has a way to defeat you in the way that we were able to defeat the Iraqis. Then multiple casualties will occur inside these because they are crude vehicles.

Now we are getting down to look at the individual. This slide is talking about combat stressors: mental cognition, physical environment, mental environment, and mental and physiological problems. You probably can't read a lot of these but it is about heat, cold, wetness, vibration, noise and heat. Over here we have information, too much or too little, sensory overload versus deprivation, ambiguity, uncertainty, isolation, fears, anxiety, and grief. All those things are weighing on this troop. Notice how this trooper is garbed. He has no protective vest on. This is probably his protective mask, which most people don't like to put on and practice with at all. He has the M-16 that could have been from Vietnam or a number of wars.

This is what is currently in the works. This is to turn this trooper into a more efficient and lethal element on the battlefield. I ask you to look at what I am going to show you in a minute. This is what is going to be fielded during the 1990's. It has to do with infrared night vision, laser sighting and also infrared sighting on the weapon itself. There is a little bit of change in the clothing.

The 50% solution, so called, will come in 2000, and then in the year 2005, they will have Land Warrior 21. This is what the 21st Century land warrior is going to have. Look at these things: intrasquad voice data communications, integrated computer radio GPS (Global Positioning System) with digital maps and overlays, and a data gateway to the command and control and communications, high tech systems.

Plus they realize that people don't shoot very well in combat. I know I never did. It doesn't matter how well you train soldiers. They get very nervous and they all shoot high. As a matter of fact, you can see pictures from Vietnam and elsewhere of Marines in Hue, for example, firing over a wall by putting the weapon up on top of the wall not looking, just kind of hosing down the area. Makes sense to me. What they are coming up with, though, is what is known as the objective individual combat weapon. Probably most of the people in the room have used cameras with the laser or sonar range finders. You have to push down a little bit on the button and then it flashes and tells you, yes, it has focused. Well, they are going to use that on this new weapon. What it will fire will be automatically adjusted by the weapon to burst at the point where the laser has sighted. They know that you are not going to get people, even with weapons that fire very quick three-burst rounds at a target. You are not going to target them very well. You can imagine being in some get-up like this, having this kind of babble coming in to you and at the same time having a color heads-up display showing you a variety of things that are going on. You are also responsible for what it is that you actually see. There is going to be microclimate cooling. It doesn't say anything about how you are going to deal with normal bodily functions. With all these tiny little rapidly-moving units, who is going to feed them, unless they have solar panels that are on the back that will provide fuel. There has got to be fuel in some way for the vehicles that are going to move people around.

Survivability and combat identification means being able to identify that you are a good guy so no other good guy shoots you. I would submit to you that not infrequently, people pull triggers before they pay any attention to what the identifiers are. Multi-threat warning devices are real scary. I have seen some of this demonstrated. It is the kind of thing that you get different beep tones that let you know if a mine has been detected. It is almost like what is on some of the jets, if you read Captain O'Grady's description of being in a cockpit and realizing, because a beeper started to go off, that a radar had locked onto him. That has been around for a long time. Now we are going to do it to these individual troops.

They are going to have medical monitors. This is a little wrist watch kind of gizmo that is supposed to tell you whether they are alive or dead so that you don't waste time trying to recover the dead ones. It is also able to identify whether they are in shock or not, and provide guidance from afar. The ultimate, I think, ridiculous application for this is so-called virtual reality surgery where, in fact, the surgeons all stay home. I find it humorous also, but if we are going to talk about battlefield ecology, you need to know that millions of dollars are being invested with major defense contractors to look at just exactly these issues.

What I am trying to do is dispel any notion that you have about the military from something like "Platoon," which I think was just a superb rendition of how terrifying combat is at night. Nobody knows where they are and all those sorts of things. At least those men were not encumbered with a lot of the things that we are talking about putting on people. Nor were they threatened with the possibility that there might be somebody who might not be able to read or write but might know how to use a laser designator, and by getting that thing on the vehicle that you are in, from a great distance, a huge exploding round can come and lock in and blow it away. It doesn't matter if it is a hospital or a helicopter. If you can't read and also if red crosses no longer have much meaning on the battlefield, how can you identify what you are not supposed to shoot at. It is not a charming or promising picture. Those of you who look at the Washington Post op ed page may want to go back to today's because Steve Rosenfeld had a nice piece that related to a Major Peters' article that is in Parameters. Parameters is the house organ for the Army War College, it comes out on a quarterly basis. Major Peters is a former enlisted person who is now an infantry officer who I think makes some good points and makes some other ones I don't agree with. The good ones have to do with thinking in the same way that our diplomats think, that our signals mean anything to people from a different culture. For example, the signaling we did to North Vietnam by a little bombing here and a little bombing there made no sense. Are you kidding me, why would that make any sense? It might to the French if we were bombing them; we come out of the same context. Similarly, a signal in Bosnia, dropping a little bomb, what are the Serbs going to do?

He is complaining that the same mentality is now being indulged in by military planners, most of whom are civilian. What they are saying is that with these high tech systems we are going to sterilize war. In fact, the munitions are so precise that you would be a fool to contest with us. That probably makes sense for another industrial power. There aren't many of those that we might contend with anyway. It probably makes no sense whatsoever for the bulk of the countries, or non-countries as the case may be, because the nation/state is withering away around the world.

I think that is a valid point for him to raise. What he says is that the military, and the Army in particular, should go back to doing the country's dirty work. What he means by that is, the military should become much more heavily involved domestically in controlling crime, the war against drugs, and policing the borders, which sounds almost like vigilantism to me.

The issue of the civil/military interaction creates a whole other aspect of potential battlefield. Domestic counter-terrorism is a frightening thing to contemplate. President Clinton had a big initiative. An assistant secretary of defense position was created to use the military to rebuild the bridges and repave the roads and a variety of other things around the United States. The kinds of things that the Civilian Conservation Corps and other folks did during the depression. This has now gone quite far. Pennsylvania has a camp for 200 kids from around the country that the military will run and support. Another big task is sinking old battle tanks to create artificial reefs for fish. There is delivering dental care to people on the fringes of Alaska. Many of these things probably need to be done. The real issue is whether it is appropriate for the military to do them. Secondly, what does it do to this military host, whether it is the individual, or the unit, or the entire service, to have a great confusion of roles and to be able to focus on what is battlefield and what is not.

I haven't even brought up what the rules of engagement are going to be on any particular battlefield. Dr. Dave Marlowe made the point to me just last night that on several of his recent visits and encounters, commanders had been absolutely astounded at how we still have the most intelligent or best educated group of troops on active duty in the U.S. The all-volunteer force has attracted a lot of people who are high school graduates who want to go on to college. The commanders have been so impressed by how well they had stuck with rules of engagement that are virtually impossible to follow. For instance, the kinds of things in Haiti where they were supposed to stand by and not intervene in anything. I think it is dramatic and marvelous also. We have seen the same thing in Panama, after the rapid taking down of the Panamanian Defense Force.

I would submit to you that if the expectations of people in the military are that on a future battlefield the folks that they are going to be dealing with will essentially agree to play within those bounds, then what happens is, instead of it lasting 100 hours it is less than 24. We stayed longer than that, but the real threat period was shorter. How many years were we in Vietnam? When the locals begin doing things that are beyond the rules, the supposedly non-combatants are planting mines or they are shooting at you or you think they are shooting at you, I think the wheels can come off as far as controlled behavior and staying within the rules for engagement are concerned. I don't think that the advent of high technology and its applications within our lifetime is going to solve a lot of the issues that occur in a battlefield ecology and will occur there in the future.

I like the quotation from Major Peters which says, "We seem to be spending a great deal of time thinking about the kind of war we hope to fight in the future, instead of the war (I call it the battlefield ecology) that we cannot avoid." I think we need to keep that in mind while we are talking about the issues that are the topic here. I would submit to you that while our focus is women in the military, that many of these same issues must be looked at from the male/female colleagues in the same unit perspective. I thank you for your attention.

DR. URSANO: Thank you, Dr. Llewellyn. I was reminded, while you were speaking, that everyone should go home and not to worry about what they say tonight, or about any small planes that might fly overhead. It seems to me there used to be an ad to advertise the National Guard that said, "sleep safely, the National Guard is on duty tonight." There is method to the madness and I just wanted to remind you of the broad overview of this before we adjourned for the evening. You will note that Dr. Llewellyn's topic was the ecology of the battlefield. For those of you who are far away from either preventive medicine or biology, you will remember that ecology was that issue of trying to understand what was inside the forest and the composition of its various niches; which trees were present in which areas, and which animals were present in which areas, so that one had a view of what was in the forest from the macro level before one waded into it.

It is in that process that one is trying to understand what are the stressors, what are the toxins, what are the groups that are exposed, what are the high risk groups and then, subsequently, what are the outcomes of those particular types of exposures? As we move further, we will be asking that specifically about the effects on women. You have been hearing about some of the toxins. This audience, you all, are experts in multiple areas on the questions of toxins, either from first-hand experience, from operational decisions, or from research that you have been involved in. Those range from the question of what happens to nurses, to what happens to troops, to what happens on ships, to what happens on planes, to what happens to the people who fly the planes, drive the ships, and run across the ground.?

To put some of you on the spot and encourage you to chat, I would remind you that Dr. Ed McCarroll has probably done more work looking at people who have looked at the grotesque and dead than anybody else in the field; that Dr. Mike Dinneen was on the COMFORT and can tell you about the worries about how chemical and biological warfare agents would be sprayed on board the USS COMFORT, and the way in which that affected medical care personnel in that environment.

The questions are to translate that ecology into the medical health issues of what are the risk factors, what are the high risk groups, and what are the outcome variables of importance to either research, to policy, to recommendations for training, or for issues of medical health care? I look forward to seeing you all tomorrow.

PLENARY DISCUSSION I

Harry C. Holloway, M.D.

With that short preamble, I would like to ask Dr. Holloway to begin our discussions this morning. I think most of you know Harry, who had a distinguished career in the Army before retiring. He is the past Chairman of the Department of Psychiatry at the Uniformed Services University. He is also the past Dean of the School of Medicine. He is presently the Associate Director at NASA for Life Sciences and Microgravity. That title, despite the fact that he is a psychiatrist, should indicate to you the breadth of his understanding and the breadth of his commitment to understanding the issues of health and performance in extreme environments.

DR. HOLLOWAY: First, this is a plenary discussion and there are at least two issues that I want to resolve here, but I don't plan to resolve them, I want you to resolve them. Secondly, what am I doing here and why am I making these remarks?

I don't now if I am up here because I am agnostic as a fundamental character trait, or to provide a kind of cane rattling view of the world. I am one of the few people here who can look at most of the senior people here and remember them as junior officers. I have that unfortunate characteristic. Or am I here fundamentally as sort of a person who is supposed to be incendiary to stimulate and do something else?

In any case, I hope that this is, indeed, a discussion, and that there will be exchanges about that. I notice Dr. Bell started to have a comment earlier. Did I catch you beginning to respond to the military pregnancy issue?

DR. BELL: We did a survey in 1987 and found that 10% of the Army women were pregnant, regardless of their marital status.

DR. HOLLOWAY: I think we now begin to hear some of the opportunity that is available here, but one of the questions is, what are we supposed to accomplish? Dr. Ursano, as I understand it, the focus that this group needs to produce for you are recommendations about research, about medical care, about training, and policy; to develop policy with regard to women's health and illness issues affected by combat trauma, contingency planning and deployment. That assignment is in itself extremely broad, but also it seems to me potentially distorting. Here I am playing off one of your last remarks. Your remark was that focusing on gender can be a distorting lens, if I may generalize on that. The overall statement of whether we are developing policies for health and illness that are applicable across gender and applicable in terms of health is one way of organizing this overall task, or whether there is specificity with regard to gender that must be factored into the system in another way; it seems to me this is one of the areas for discourse here.

An area for discourse is introduced by the remarks that we heard from Dr. Llewellyn last night. Dr. Llewellyn talked about wars and the ecology of the battlefield and since we are talking about contingency planning, what do we do with armies? The minute we begin to talk about doing new things with our armies (that is, not fighting on the plains of Europe or not worrying about rockets falling from the skies or those other long core visions of the Cold War) the issue is what will the new task of the military be? Will the military be asked, as part of these objectives in some way, to carry out commercial, fundamental relief operations within the United States? Certainly that would be a new role for the U.S. Army. That is not right. The U.S. Army built the roads in the Northwest Territory. The assignment of the U.S. Army, during the early years of this republic, summarized in a book called The Broadsword and the Axe, was to cut down trees and create public roads.

Maybe we ought to use it as a constabulary force? Certainly that is absolutely wrong. We aren't going to have that as a military. The post-Civil War military of the United States especially in the west and including the Navy was largely constabulary. It was very focused on this continent, but at the end of that time, of course, it was quite internationalistic. On the Navy side is the philosophy that you heard Dr. Llewellyn talk about.

Should we ask troops to go out and do jobs to partially support themselves rather than live off the taxpayers? Certainly we have done that in the past. We have oral histories of troops who organized themselves in the 1920's and the 1930's who described some of their principal sources of income as apple picking and helping bring in crops. They were given time off so that they were able to perhaps raise their $20 to $30 a month pay.

There aren't very many models historically that do not describe roles given to the military. The new element that we are asked to look at here is a new demographic group coming into the military. That, in itself, is likely to produce certain kinds of controversy, particularly in a nation in which current political trends are toward very conservative social values.

In my role as Associate Administrator of the Office of Life and Microgravity Sciences in NASA, I also am responsible for the biologic sciences that are planned in orbit. We are currently in the process of writing a science policy for NASA. We got our first round of public responses just, in fact, four days before this meeting. This is current data. Those come from the people in the National Academy and the leaders of science in America. One of the things that there was objection to and that they want us to understand is controversial, is the idea that we encourage within our science program the recruitment of people of color and women. They said it is a controversial idea; it ought to be stamped out; we ought to only have quality. These are not settled issues.

That suggests one other thing about some of the examples that were cited by Dr. Ursano. When we begin to move new demographic groups into areas where they have not previously worked, it is said they are in the same area and therefore are experiencing the same exterior stressors. Right? It is not right at all. The fact is that the person who comes from the under-represented group is experiencing a very different environment in terms of any analysis of a very complex world as opposed to those who are traditionally expected to be there.

The services have worked quite hard on the issue of (and, unfortunately, at this meeting we might have worked harder on it) bringing people of color into the service. I recall a time when, in the integrated Army of the 1950's, a black soldier could not get a reasonable haircut because there were not people prepared to provide those services. It certainly was not required. We had never done it before and we won't do it now. What is the message for that person who would become a part of this organization? What does this say to that person in terms of how they are accepted? I use this as an example of the kind of thing that we are likely to be confronted with as we begin to raise these questions of what is happening in the environment with regard to women coming within the occupational gambit? Furthermore, the assumptions we make about the nature of that occupational community is, in itself, likely to change in radical ways.

Dr. Llewellyn talked to you last night about technology. I would like to say a few words from the perspective of working for an organization that applies middle level and some high level technology and how that is likely to affect some of the jobs in the services. The one area that I thought was not addressed is what the overall political structure itself is likely to be in terms of projecting itself into the atmosphere of war; what the economics are likely to be. Someone should take those two topics and say a few words about them. They are my words and certainly open to various kinds of controversy in terms of my interpretation.

First, what will entering into contingencies and going to war mean in the future? It is going to mean that politicians providing leadership within the democracy are absolutely critical to the organization of all of our military concepts because our military is set up for civilian control. The people who are going to be providing that control will be in the position of young men. Gidius wrote the most popular military manual of the late Roman empire and of the Middle Ages. One of his lines was, "trust not young men who show enthusiasm for war, but who have never seen it." We will have people providing the political leadership who have never seen war, have never served in the military, and whose visions of that will be what was choreographed in combat episodes in "Platoon," some of which is largely untrue. You are going to have both of those things operating in terms of the information basis. Here we are thinking about contingencies of wars as being the extension of politics, whereby it will lead us to many deployments in which the consequences of those deployments will be extremely unclear to political leadership.

When I think about an operation, I am likely to think of logistics. Well, I will tell you, logistics is providing for the overall wants of those individuals; how you are going to maintain them in the environment so that they can carry out their roles. Training is essential.

To a person who has read about these things, frequently if you simply say you want an operation, it will happen. Not so. It has to do with the kinds of expectations that are projected into the men and women who carry that out. I will ask you to begin thinking about that, and what that imposition of various roles is likely to be.

The example that Dr. Llewellyn gave us was bomb experts and experts with regard to gases from the military who can now begin to operate within the police mode. We will break down the posse comitatus roles. What Dr. Llewellyn said was, we don't want the military involved in those particular areas. The U.S. military wants to avoid this. In the absence of external enemies, and the same political setting a republic looks to re-organize its enemies in terms of internal enemies. I think any of you who listened to the testimony just last week of the militias, began to hear those kinds of statements. One man in that testimony said, "Senator, there were 80 tornadoes in middle America caused by the government." I happen to follow the literature on tornadoes as an old Oklahoman and I think the real figure is more like 210 per year, not 80. The fact is that there are all kinds of events that will be attributed in various ways. As these various enemy groups split apart, could we fight, and could militaries be deployed among ourselves? It certainly never happened before in this country. I mean, we all know that Robert E. Lee was an absolutely loyal officer because he was going to West Point? He was a traitor. He fought against this country. We fought against him. The overall issues of where we deploy men and women and supporting groups in that area is likely in itself to have a contract both challenging and disturbing.

The second issue is economics. That is certainly an under-developed one and I hope we have lots of discussion. There will probably be some more views of that in this audience of very talented experts that are better than those that I give. One of the things highlighted in Dr. Sutton's excellent lecture is bringing women into the services really in a rapid way in the early 1970's and continuing since then. In the early 1970's, recruiting women was really a necessity to maintain good strength in the absence of a draft. By the end of the 1970's (and I remember one period where I was working very intensely with the Pentagon on this issue), the capacity to repair tanks of the U.S. Army that had just come on line in the late 1970's was completely dependent on women power in the military. At the time we had real problems recruiting soldiers in a very tight market. On the male side, they had a sufficient capacity to learn these technical new systems and to manage them. Women, at that time, represented really a marvelous brain reserve for the support and operation of what was our critical combat arm.

What is the future going to look like with regard to economics and manpower? Between now and the year 2000, within my own organization, NASA, we will fire 55,000 people. In this next year, it is my understanding that Lockheed Martin will be letting between 30,000 and 50,000 people go as they go through their restructuring. Only two companies are expected to survive of the military industries. Boeing will be down-sizing by some 37,000 workers next year. I am talking about an industry that I know, the aerospace industry, and the only reason I am talking about it is that it is not by itself. There are not other jobs for these people. The overall era in which you have huge unemployment, largely in the technical area, favors the recruiting of a good Army, a good Air Force, and a wonderful Navy, because the other jobs are gone. These are all demographic trends that are likely to be happening. If the overall trends continue in terms of employment, it is very difficult to see how there will not be a glut on the employment market between now and the turn of the century.

What will the economic consequences of that be? It is simply unknown. In the meantime, experience has shown (and now I come to the technology portion) that the technologies that are coming on board and that are being predicted within the military are probably not too likely to occur. You know, we frequently make fun of those men back in the Civil War. They spent a whole era trying to figure out what the new rifles would do. Are they any dumber than we are? Do we make all those better judgements today, based on new weapons and new weapons deployments? Do we understand those things when the people of that era and of that time did not?

I just leave those to you as questions because, as you probably have guessed, I am suspicious that we are not all that much smarter. We feel smarter. We look at them in retrospect and say, "ah, hah." All we have to do, though, is look at our own lives and look at some of the predictions that some of us have made. We may see a skew of the facts. The overall problems that face us may not be that those technologies aren't very good, but that the technologies that are coming out that are going to affect the military are remarkable.

Some of the technology I am working with very explicitly has to do with micro-machines. Some of these micro-machines are as small as five atoms, or angstrom size. They can be injected. We are thinking about the medical applications in part, but fundamentally these are being developed by companies who plan to use them to repair large super parallel computers. That is what these things would do. The ones that are now operative are of the micron size, that is one/seventh the size of a red cell in your blood. They are injectable. They are also things that can be used to absolutely wreck information systems, operating systems, airplanes, boats, tanks; those systems that we deploy. These kinds of weapons systems, in and of themselves, constitute a new and developing higher end of that technology. The overall developments in hybrids between biotechnology and these mechanical technologies have some frightening potentials if one projects oneself beyond the year 2010. The problem is that we are coming into a technology rich environment partly created by the Cold War. Many of these technologies are coming in from the cold, if you understand my language, and as they do, they are radically changing things.

By the way, are they going to be available to third world nations? Absolutely. I can tell you that the smartest rocket engineers whom we had a chance to have in classes and talk to are the Chinese. I can tell you that in terms of developing technology markets these are huge markets that will become the center of future industrial development. If you look at the maps you see remarkably unstable areas. The third world nations constitute overall developing threats. I can go through those. I can discuss the former Soviet Union and then you can go through a list of the current trouble spots, the Caucasus, the former Yugoslavia, et cetera.

Now in all of this, this structure is likely to be further influenced by what is the nature of the world order. The world order from the viewpoint of behavioral scientists would probably be more appropriately described as world disorder. I must say that in my opportunities to work for the UN and on UN staffs, I am absolutely convinced that is the appropriate descriptive. This is a hugely under-developed creaky apparatus; this is my view, not someone else's. Its likelihood of having disastrous consequences in terms of not having a reasonable replacement is, in fact, quite scary.

Now, let's come back to the health issues and how the military is likely to be deployed. Maybe they will be deployed in Tulsa, maybe they will be deployed in the Caucasus. Maybe our next contingency operations will have to do with earthquakes in South America. Therefore, in the need to project our political power, we deploy people. What thoughts can we bring to the issue of research, medical care, training and command about these issues? What are likely to be the pressures and other factors that are operating? Here I probably should give a bit of truth in labeling. I have seldom been accused of having too much optimism; I am generally free of it. When I say the following, this comes back to the issue now of women, of families, and of other structures. What are the impacts going to be of the current political trends in the United States of responding or thinking to respond to those structures? If I am a total free market economist, and I have got more people than I need, what is the cheapest way to manage that problem? If you don't think that it will occur to somebody that it is to kick you out and be done with you, let me then disabuse you of that particular consideration. That will immediately become one of the primary ways of approaching it. What is this likely to do? Well, what is the cheapest way to kick people out? If we can, what we like to do is get the USDA (United States Department of Agriculture) approval stamp on the hip of that piece of beef that we want to deliver; that wonderful discharge. Who gives that stamp? The psychiatrist, the doctors? Let's make a condition that will relieve us from the legal consequences. If I go talk to lawyers, there are two things that you can always hear. One is, sue the doctor. The other is, let the doctor do it. If you can keep it in that channel and keep it out of courts, we can save a lot of money that we have to pay, in terms of its overall operation.

That brings me to another concern I have about this particular meeting, and that is that if we hang up women as that piece of beef, we may be putting people at risk. There is an old medical principle of "do no harm." I ask us to think about that. As we isolate these categories, we also are drawing targets for folks who may not have simple motivations. The statement may be a wish to make a statement about their relationship to their interest. Why do I think that is particularly important in this particular discussion? I don't think it is too hard to figure out. What is going to happen is that, as the world has less and less focused threats, people will become more and more uncertain about themselves and more uncertain about where they fit. The best way to handle that, or one of the simplest ways to handle that, is to organize all of that into a core vision of the internal enemy; eternal and internal. Of course, those of you who have looked at the history of sexism and the use of gender designators to disadvantage populations can recognize that has happened in the past. Each time I begin to forget it, I simply take off of the shelf my book, Malus Malapractorum, a manual for the destruction of women in the Middle Ages, and remind myself that this is a constant and continuing thing. Making out and establishing one's position by finding a particular minority to attack is not something that has just arrived yesterday. It is a continuing and a prominent way to achieve position and to achieve stability and to find a clearer definition of one's own identity. If one were able to create a particular population, then that could happen.

I would like to go back to some of the data that you cited, Dr. Ursano. You said women in Vietnam had X times the amount of exposure to trauma. Most of the women were nurses. If you were a nurse practicing in Vietnam, your chances of being exposed to a severe traumatic situation is "one." Your chances if you are a standard grunt, or even a person like myself working in Vietnam of being exposed to that same thing is "one in twelve, one in fifteen." Some of those people are there for a year and have minimal exposure. Our overall troop designator in combat is just that, a helpful but crude designator, based on memory.

I remember a study we did at Walter Reed that was never published. It was done by one of the chief residents, in which we examined the number of people who were coming into the psychiatric unit for post traumatic stress symptoms, using the women coming into the same clinic who had not served in Vietnam as controls. They turned out to have a higher rate of post traumatic stress than the soldiers that we were doing our measurements on. That clearly shows that population is more subject and more biologically sensitive to traumatic stress. Did anyone ask those women what their trauma history was, what their history of child abuse was, or their history and experience of rape or sexually intrusive behavior was that stands as an equivalent of that? Not a soul. Nobody asked that question.

My point is that in dealing with these enormously complex, multi-causal issues and the attribution of things to a biologic base, (and there have been lots of developments in this area in biology and certainly Arieh Shalev and some of his collaborators have been important in that business) in understanding that physiology, we still have not drawn that physiology down to a first principle level. It is still phenomenological. When we look at many of these categories that we are going to be sorting women out by, we have to deal with a bunch of dots counting symptoms. The history of medicine is not so convincingly wonderful with regard to its clear vision of how it defines disease to provide anyone any assurance that this constitutes a good scientific base for understanding something; at least not to me, although you may have other views and may want to express them.

Those are all, it seems to me, lists of dangers as we come into the issue of recommendations for research, recommendations for medical care, and recommendations for training and command. When I first went to Walter Reed as a psychiatric resident, I watched a not very well designed but interesting experiment that happened just by chance when I first arrived. In an attempt to control violence, the Walter Reed psychiatric unit, back in the 1950's, had a violence ward. That is where they were going to control violence. Of course, you couldn't hardly step onto the violence ward without getting hit. There were fights going on all the time. A new chief arrived and he said, "we don't need to suggest to people to be violent, let's close the place." All of a sudden, the same people who were violent last week were out there running around the world looking sometimes irritated, sometimes confused, sometimes sick, but not violent.

When we set up a women's campaign, we must be very careful. We need to think about who needs to be trained and what are the consequences of that as a specialized program. When we begin talking about single mothers and a set of responsibilities separate from single fathers, I don't need to tell the people here that if we had an ethicist speaking right now he would tell me that is ethically unsound. That is ethically unsound because it does not apply the principle of consistency. You can't get a consistent logic out of it. So, it fails one of the primary tests.

The overall question is whether or not we can extend beyond that ethical question to, "is it necessary and, if we are going to provide child care, is that structured for single parents or single women?" Is that the justification that is going to come forward? I have to tell you that there are plenty of people in Congress right now that have never heard of an Army that has to take care of its children. They have never heard of that. Remember about those people who have never experienced war? They have never heard of that and they will say we ought to cut that right after you cut the travel budget. They will always cut the travel budget first but that will be the second thing they cut.

What do we do about that? How do we communicate? We are talking about research, medical care, training and policy (that last one is one that this group ought to think lots about, because of the fundamental structure that you have to deal with). There are several of us here who have involved ourselves in various ways in the arts that at least intend to heal. Are there issues with regard to prevention that can be brought forward? Prevention is, in my view, with possibly the exception of childhood vaccination, never well left in medical hands. If you want to see a great prevention program, then drink the water. Who assures that there is a healthy environment with regard to water? The engineers do that. They build it. They make sure it is everywhere and they have standards. They don't say that it is a difficult and complex issue that requires X number of judgements about so and so, et cetera, et cetera, et cetera; and you first must establish rapport. That is not what they say. They say, "this many parts per million of chlorine, ozone, fill out the blanks," and then we get into a battle about what else it costs. Preventive programs really grow, particularly in the military in my experience, out of its structure and its organization. The best British general in World War II, and arguably one of the best generals that has ever been around in command is General Slim. He wrote a wonderful book, for those of you who are interested in getting some history on this, called Defeat into Victory. He discusses the overall problem of his realization that he was going to get no replacement troops, and the only replacement troops he would get would be those in which he prevented disease.

His doctors told him, particularly with regard to strep and typhus, I believe, that they couldn't really get a hold of this; that they couldn't get the bushes cut down and all the other things cut down, and the cooks organized in this way. With regard to the malaria discipline, they said they couldn't get all of the nets up and the rest of that. He said, "after I listened to them talk, I said to them, 'yes, I understand you can't do that, but I can.'" After the first few times of one of his commanders suffering with regard to not practicing these things, there was a wonderful commitment to this particular approach. You saw the drops in disease rates in his overall Army. This is prevention; that is what I am talking about.

Let's think about the way in which we can translate our language into that kind of thing. Here, PTSD as well as some of the other categories may represent a real danger. Diagnoses are created for various reasons. One of the reasons I am interested in having a diagnosis of PTSD, frankly, is so that a patient is validated in coming to seek help, understands how to seek help, and understands the physician/receptor site. That is a plus.

The same thing that causes me to focus on that as a disease category may be ineffective in the prevention category. I know how to prevent PTSD in war. Stop fighting. Maybe I start worrying about exposures to trauma, conditions, leadership and other structural things; that is where I worry about prevention. Then my question becomes a little different than the one that Dr. Ursano claims, which is very nice from a science and research point of view. That is, from the science and research point of view, I get a category that allows me to focus and create a good operational language and a whole operational discourse for PTSD. However, the outcomes of trauma are broader than that. The outcomes of things related to PTSD are broader than that. I need to be able to define those, to translate them into these policy terms, that may be able to affect overall lengths.

This leads me to a prejudice, and I will state that prejudice right now. Largely I think that the assumption should be that the null hypothesis is right. If it is not, I think it makes a difference. If you begin with that as a premise, then your preventive program that operates for women should operate for men. If they operate differently, one of your first questions should be, how have I prejudiced the situation? What blindsided me that has created a problem for one population or the other. An example is the same way that for year after year and probably to this day we create for the African American soldier various kinds of problems coming from the dominant culture. We don't notice them, and then attribute to that population a problem. The problem may very well not lie in that population, but in our incapacity to see the correct and appropriate variables and to see the way in which we, in a specialized way, created that particular population as an at risk population.

It is obvious, it seems to me, in the military. If I get a man in the Air Force and I put him in a high performance aircraft and fly him through hell, I put him at risk. Surprise, surprise. I have put him at risk, no matter what the gender. I have put her at risk, I have put him at risk. I have put anybody flying that aircraft at risk. Now, that means that I can make policies with regard to how I build aircraft, how I establish operational trainings and how I define adequacy and role that may have heavy impact on the variables that we are being asked about here with regard to trauma. That makes the question a very broad and a very demanding question.

I am going to stop talking for a bit and invite you to join in a discourse about these issues, about your uncertainties about what our task is, or our conference is, or anything else that moves you in this particular area. Let's move to a dialogue mode this last half hour.

LTC CORNUM: I was so happy to hear Dr. Holloway say all those things because I was thinking maybe I was paranoid. I always worry when I am asked to talk about women's issues because I don't think they are different. Dr. Ursano very clearly said that we are just one other group, whether we also use race or IQ or religion or something else. We are very different, in that no one is suggesting that we get rid of anything else based on those classifications, but they are suggesting that we limit women. No one suggested that we get rid of all the men from Croatia who are coming to the States but they are suggesting that we limit women. So, I have to worry about that.

When we are trying to find ways to justify spending money, I think what is worrisome is when women were doing better than men in the military, Dr. Ursano compared them to their civilian counterparts. However, when they are doing worse than men in the military, he compared them to men in the military. I think that is setting them up to look not only different but worse. I think that is a problem.

DR. MARLOWE: A couple of observations. I would really like to thank you for having opened what I consider to be one of the critical issues that should be dealt with at this meeting and subsequently. That is the issue of culture and gender, the issue of attribution to a gender category, many cultural assumptions about women, their behavior, their vulnerabilities, that have no standing biologically when one looks at women's behaviors in other cultures. I think it is very important that we lay out our covert assumptions about what women are, the roles they should play, how they should play them, and the way in which these assumptions affect our concepts of women in the military. We can argue it for Elaine Donnelly and her ilk, but we seldom do it for ourselves. I would like to pick a couple of things.

One is the exposure of women to death and trauma, which we consider to be probably much worse for them than men. Of course, in most of the world women are the people who take care of the dead. They lay them out, they wash them, they clean them, they wrap them in their winding sheet, they prepare them for burial, and they watch the bodies bubble as people pray over them. Having lived in the third world, I have watched this a number of times. It is a normal part of life routine. In Native American groups, the League of the Iroquois is a very good example. The primary and most loved task of women was torturing captives to death, flaying them alive, watching them scream, flaying them a little more and, while they scream, bouncing the little kids and feeding them popcorn, while everyone had a good time.

I think we have to be very, very careful about imposing sets of assumptions that from my reading of history are essentially those of the upper middle class and above in the 19th century. Those assumptions and the behavior of the majority of human beings as they have existed as biological entities through time are not necessarily consistent. I am simply glad the issue is opened.

DR. LLEWELLYN: I would just like to discuss a couple of things that Dr. Holloway said. There is an analogous situation which is described in DESERT SHIELD/DESERT STORM to the black soldier being unable to get a haircut after the military was integrated, and that is women trying to get gynecologic care. I think we need to look at our assumptions about the types of services that are, in fact, projected with deployed forces. The packaged medical support for forces in the field focuses on taking care of trauma in young males. Consequently, there are few if any OB/GYN specialists who are in the forward hospital units.

The people who are available to provide care at the first levels at which a patient can encounter a physician, essentially a battalion level, (we are talking about groups of three or four companies, 700 to 800 people), or at brigade level, where three battalions have been put together, are all a pre-hospital environment with very austere conditions. The best one could hope for out there is that there might be somebody who had finished training in family practice. In fact, most of the people who are in those positions are what are known as GMO's, General Medical Officers. What does that mean? They finished PGY-1, their internship, and then are doing their operational tour. For a female soldier to be able to find somebody with more than the level of understanding of gender related problems (and I am talking about specific kinds of disease problems), some understanding beyond what a medical school graduate has in a deployed military force, you have to get beyond the first two echelons of care. You may, in fact, have to go 30 miles to the rear to first encounter a hospital where there might be one person with those kinds of skills, because OB/GYN specialists are not put into the forward surgical hospitals. The issue of forced packaging by medical specialty is something that was only looked at grudgingly in the aftermath of the Gulf War.

The other thing is the assumption that the medical system projects in times of deployment, which focuses on trauma, which is that their major workload with deployed forces is diseases and non-battle injury. Combat does not produce a lot of medical workload with a high regularity in our deployed forces; hopefully.

There are some issues then attendant to whether or not there is equality in access to care. There is not necessarily any kind of equality in access to appropriate care; anybody who actually has the specific additional knowledge to deal with even very common problems with women. Those things are not taught very well in medical schools, in general.

Now, a different area of consideration, Dr. Holloway cited Bill Slim's book, Defeat into Victory. Ron Bellamy and I wrote a paper comparing Slim to Rommel. Slim being the man who had the insights into how command, in fact, is the basis for prevention, and Rommel blowing it in North Africa because he paid no attention to those things. That focuses us on prevention, not just of disease, but also prevention of decrements in performance. This is not original with me, several of the people we have had come to speak to our senior medical students about medical problems of women in deployed settings have raised this as something that should be debated. The issue is should we, in fact, consider the policy of suppressing menstruation in women who would be deployed? Should we approach that from the same standpoint that we do saying people should take malaria chemoprophylaxis? I hold no brief for doing that. The fact is that nobody is even considering it when, at the same time, there are people complaining that PMS or just the intrusion of the normal menstrual cycle can have some impact on women's ability to do the job and function in the unit. Everyone looks beyond that at the fact that the basic logistics load for supporting troops in the forward area does not include sanitary napkins or tampons. When females are deployed to the field, they are told to be sure to bring these things themselves because they won't be available through normal supply channels. There are many non-subtle indications of the fact that as an organization, the military is not prepared to provide equal support and equal access.

I think one has to be careful about what Dr. Cornum brought up and what was at the end of my talk last night. I do believe that many of these are considerations that have to do equally with males and females in military settings. I realize that there are risks for women as a group in the military, if a whole array of specific questions and additional kinds of support and so forth are identified that the Department of Defense should address, because it then makes it very easy to single them out for negative action. We have to be very careful about not making assumptions about how helpful our insights of various policies and recommendations may be. One of Dr. Holloway's favorite aphorisms, for as long as I have known him, is that no good deed goes unpunished. That is particularly true in big bureaucracies and in the military.

DR. WOLFE: I am an outsider, so I run the risk of being one of those politician types who have never been to a war. Dr. Holloway, consistent with what you were saying, I very much wonder if we can't see this whole issue not as a woman's issue, but as a work force and workplace issue. When you were talking about achieving top operational performance (this is not a good analogy), but it is very hard for me to believe that the head of a GM plant worries about whether or not there is enough Tampax on the work floor. It seems to me that it is a given that whatever requirements his or her force has are structured into an engineering fashion and broken into the operational performance for that plant. What that brings us back to is an issue of who is the work force and how, then, do we help the work force to attain the most optimal performance?

I am very glad that you did highlight the issue that gender is simply one variable on which we classify people. We could classify them just as easily on height, for example. Why should that be an issue? Much of the decision making and policy making that has taken place to date, I believe, in the military, as in the U.S. corporate work force, has been based erroneously on this assumption that biology and gender are somehow intrinsic characteristics that we can use that have some outstanding significance. I believe the significance is really only what we attribute to them.

DR. HOLLOWAY: I would add one thing to your description and the GM comparison that may be worth keeping in mind. The GM worker comes to work for a specific period of time, plus overtime. Particularly in deployment, we are talking about a 24-hour period and we are also talking about a political statement. We were discussing some aspects of the organization of the Chinese Army, and the organization of the Russian Army. The Russian Army frequently does not carry part of its logistics. We presume that it would either kill or seize from the civilian force, people who were there, the sufficient support to operate. We presume that our troops will not do that as an operational category, that they go with the logistics into a particular area. That has been a long-term policy. That is also a political statement that is being made. That is the only other dimension I would add.

Your point, I think, was a very good one. For instance, in most of the literature that I looked at here, it talks about health problems. In fact, when you make policy in the Pentagon, you look at days lost, and days lost is not health. Actually, Bishop, some time ago, did a study looking at men and women for days lost and they were pretty equivalent, the difference being there were more days lost for men having to do with adverse actions or orthopedic injury, and there were more days lost for women for fundamentally urinary or gynecologic problems.

Col CAYTON: Is that excluding pregnancy?

DR. HOLLOWAY: No, it was not excluding pregnancy. As a matter of fact, pregnancy was a part of that study in its overall inclusion. I might add that one of the things that may have made that study invalid for generalization, (and this is the whole question for agnosticism) is that was a period of time when drug use was heavier in the Army. If drug use is occupying five to ten percent of your casualty rates and was almost all men, then you have a huge number of days lost from that category which is much lower in women, and therefore an advantage for women. It is these kinds of circumstantial variables that, at a given time, can distort a given category, because of the image that you are carrying in your mind of what is happening.

My current boss, Dan Golden, gives instructions to all of us who are in Associate Administrations, "what I want you to do is think about the ideal employee of NASA. Once you have got that firmly in mind, I then want you to write down the requirements of roles. Don't hire those people that live in your mind. Hire the people who will do this particular job; don't hire the people in your mind." I have mentioned the objections that were coming to us about recruiting; the thing about recruiting in science, for minorities and women into those ranks. It is quite interesting, because that was heavily pushed by my colleagues in astrophysics and in astronomy which, by the way, now have a very large developing work force of women. They were looking for a diverse population, their reasons being that we cannot have true objectivity in our science. As we consider distant galaxies, places we have never been, operating with forces that can be only understood in quantum terms what we must have is people who bring different cultural prejudices, so that we can even out the assumptions that people would project into this complex mathematical and chaotic environment to understand that physical world out there. The overall argument that exists here is not one that says, "this is a good thing to do because it is a wonderful social movement." The argument is in fact, on the scientific side, for the requirement of diversity for the task. Now, is that correct or incorrect, how did we learn about it? I just wanted to introduce you to that bit of reasoning because that is going to be part of our national development.

DR. MARLOWE: A couple of things. Let's remember we are in an evolving situation in terms of the force. While we may not be doing certain things, the Australians routinely deploy with Tampax when they deploy a force for a peacekeeping. I think we have to look at something else, which is the culture of military medicine. There is another book entitled, Crisis Fleeting, which demonstrates how Merrill's Marauders were totally destroyed by the absolute refusal to deal with medical sustenance of the force including the very simple preventive things. It isn't a women's issue, it isn't a men's issue. It is an issue of the way we think when we deploy people into a combat zone.

DR. HOLLOWAY: Dr. Marlowe reminds me of one of my favorite stories; part of my misspent middle age. I was sitting in Thailand working with the Thai Army fairly extensively, and I became very good friends with a Thai general who was a physician in the Thai forces. He took me aside to talk to me about women in the U.S. Army (this is in the 1960's) and he said he had some questions to ask me. He didn't want to do that in a public meeting. He said, "you know, we have had women in the Thai Army for many, many years." I said, "yes, yes, I know that." He said, "I notice -- is it true that I hear that in your Army that if women become pregnant you discharge them?" I said, "yes, that is what our policy is." He said, "don't your generals know that women get pregnant?" A telling question, I would suggest, in which the assumptions are laid out for an experienced group that has been dealing with the problem for some time. Of course, it is not often that we go and examine how successful other armies are with that same policy in a comparative sense; not a cultural sense.

COL BELENKY: Dr. Wolfe mentioned specifically, and it was mentioned implicitly, the issue of performance in the combat environment. Coming from my area of research, which is sleep deprivation, in which we are primarily interested in performance, we measure performance in individuals and we are moving toward looking at performance in groups. I have been thinking a lot about tank groups, Bradley Fighting Vehicle crews, Aegis missile crews or command centers, and so on. I have been thinking about those sorts of environments and those tasks. There is a nice book by Hutchens, a cognitive anthropologist at the University of California at San Diego, Cognition in the Wild. It is not actually quite in the wild, but it is in its natural setting. He looks at cognitive operations on the bridge of a Navy helicopter transport, and he looks at the operation of the bridge crew as a computational system. He looks at all the tasks and how the social interactions configure.

My feeling is this. As important as all these issues of logistics and so on are, battles are won and lost at a small unit level. Certainly this has always been true, and you can get flavors of that from SLA Marshall or John English in his book on infantry. So we really need to look increasingly at performance of crews of weapons and crews of various sorts. I am saying that because there is kind of a lions and tigers mentality; men in groups, the sort of pseudo-anthropology that is done on male bonding. This may be real or not. Certainly there is an implication that operating in small combat groups is something that men do better than women. There is a folk belief that this is the case. Looking objectively at what goes on in a tank crew or a Bradley Fighting Vehicle crew, it is very difficult for me to see how that could be the case. How could there be anything gender specific about the tasks that are being done there? Basically, as Dr. Wolfe said, the issue is performance.

In A teams, as I understand it, basically the way people get in is the group tries them out. In the Second World War, you found out if someone was a good operative by throwing them into the operational situation and seeing how they did. The Israeli Army looks at test scores and peer ratings. Peer ratings are very important in terms of judging how well people would do in a situation. You couple that with the issue that more and more operational environments are becoming virtual as in the AWACS. Nobody looks out the window and says, "oh, look, there is one over there." They are all looking at screens in virtual environments. The Aegis missile crew has a command center and the Navy has spent a lot of money making it. It is an entirely virtual environment. What you see is a convergence between the actual real operational environment and the simulated environment because they are looking more and more alike.

It seems to me that in terms of the basic issues of women in combat, the basic issue is performance of these small groups. This, in fact, has been tested empirically. We have it within our means not to do it in the old way. Running a tank involves certain tasks. There is short-term memory and long-term memory, and all these sort of artificial parsings which don't mean very much in terms of actually how the brain operates. You can actually take people, put them in the situation, and see what happens. The Army actually did this, comparing the newer M1-A1 tanks with the older M-60's, thinking that technology was going to impose a terrible burden on crews and only very intelligent crews could operate the M1-A1. They basically selected dumb and smart tank crews. They had equivalent amounts of training. They put them in the two tanks and had them maneuver. What they saw was that, in fact, the high tech tank largely washed out the differences in the performance of the crews. The higher tech systems actually imposed less of a cognitive burden on the crews involved and intelligence made less of a difference. The ability to abstract and to think of things in a slightly different way was less important.

The medical issues are important, but they seem to me to be somehow secondary to the issue of performance. If you can demonstrate, and I think you can, that the performance in the true operational environment at this point in history is gender neutral, then you have a solid foundation for then making whatever other adjustments are necessary.

The issue of upper body strength, arm strength, neck strength, and so on are important technical issues. However, they certainly don't disqualify anybody. If you look at these traits of physical strength, they are normally distributed; we are talking about mean differences between two groups. For any given man, you will find a woman who is stronger, and for any given woman it is the same thing with the very small differences. MacAbee and Jacqueline did this wonderful survey in 1974, at Stanford, surveying all the literature on performance tests and psychological differences between men and women. They found basically small mean differences that we are all familiar with in verbal and spatial skills; women being slightly better on verbal, men being slightly better on spatial. These mean differences in large populations overlap, and these are probably differences that don't really make a difference, especially in the current operational environment where so much of the spatial processing, if it is that, is done for you. There probably are biological differences, not just in size and strength, but in brain organization. Again, I doubt these make a practical difference in the operational environment.

Judy Rappaport had a wonderful study in Science in which she studied normal IQ male dyslexics; in other words, dyslexic males who didn't have a history of birth trauma, who obviously had a normal IQ and therefore presumably were sort of intrinsically dyslexic, as opposed to the result of some physical trauma. What she found was basically in these normal IQ dyslexic males, both hemispheres were wired up like the right hemispheres. Her article was titled, "Two Right Hemispheres and None Left."

As fascinating as these things are, and as much light as they may or may not shed on our evolutionary path, they probably make very little difference in performance in the population and environment of the here and now. I would start with that and then build upon that up to the support necessary to basically sustain the work force, as Dr. Wolfe suggests.

DR. HOLLOWAY: I want to thank you all for engaging with me in a conversation about this. As people have spoken up, I find myself completely in agreement with them. I would leave you with a last message, formulated by Cromwell and given to that great contentious Parliament that he brought together in a period of English history, in which he said: "Gentlemen, I ask you to consider deep within your bowel you may be wrong." I would only modify it by saying: "ladies and gentlemen." Thank you.

GENDER, MILITARY STRESS & PTSD

Jessica Wolfe, Ph.D.

DR. URSANO: It is a pleasure to welcome Dr. Jessica Wolfe. She is both a good friend and an esteemed colleague. Many of you will know her from her connections with the Veterans Administration (VA), where she has been widely associated with the issues of Vietnam veterans and the study of Vietnam veterans.
More recently she has honed her work to the questions of women, in particular, as Director of the Women's Health Sciences Division within the National Center for PTSD (Post Traumatic Stress Disorder). She is an Assistant Professor at Tufts University. She recently served on the merit review board for the Veterans Administration and has served on many distinguished advisory committees. It is a pleasure to have her with us to talk about gender, military stress, and PTSD.

DR. WOLFE: This is a somewhat difficult group for me to speak to because I realize there is a mix of military and civilian people, medical personnel, non-medical personnel and health and mental health professionals. It is a mixed audience and that presents a challenge. That is what we are here for. I have been involved, with the help of Dr. Marlowe, Dr. Martin, Dr. Gifford and others, increasingly in the study of women in the military. This always comes up as an important topic, as we were discussing this morning. Why should we even study women in the military? Isn't it really gender as a characteristic that we are looking at, and if we are talking about gender, what do we mean by that? Can gender really be treated more as just a variable by which to aggregate people into groups and, if so, what correlates or which characteristics associated with gender in our society ought to be of interest to us?

I am going to show you two things this morning. One is bad news and one is good news. I want to end up with the good news. The bad news is going to be a brief walk through post-traumatic stress as it pertains to women, including bits and pieces of others' research. Some research will be from Dr. Schlenger from the Research Triangle Institute, some from mine and other colleagues that have been mentioned here today, all of which show unfortunate things. What does it show? It shows that women have higher rates of post-traumatic stress like symptoms, as they do with depression and anxiety in many studies done in this country, than comparable men. I want to show how that relates to some war time and deployment experiences, as well as the military environment in general, including during peacetime. However, I want to end up with the good news which suggests that we don't know what that means, but I think I have some ideas. The ideas relate to performance, the workplace and the work force as a context, and an environment. Much of the research done to date in the area on gender in the military has not looked sufficiently at workplace and contextual factors, which have a huge amount to do with the stresses that people are exposed to - some of which may be gender associated - and with subsequent outcome. If someone will remind me at the end, I will show some qualitative data that I have from a DESERT STORM study involving men and women and effects of unit cohesion and leadership as well as some information I have from the Marines whom I spent time with at Quantico recently.

Everyone here is probably an expert in military history, so very briefly, in terms of the definition of post-traumatic stress, this disorder has been around for at least several thousand years and is described in early soldiering records of war in The Iliad and The Odyssey. It is referenced in more recent English literature at around the time of Shakespeare. All of you know it as being more classically defined in terms of Male Combatants Wartime Experience. The first time we talk about it, it is really known as combat fatigue or shell shock. I am actually going to be talking about post-traumatic stress, as Dr. Ursano mentioned earlier, as only one possible outcome of military experiences for men and women. There obviously are many others that could be addressed. By 1992, the American psychiatric community is beginning to classify what we now know as PTSD, but they are terming it as a stress reaction. In the late 1960's, it is sort of classified backwards in my mind as an adjustment disorder. I now begin to think that this actually may have a more normalizing tendency, and one that may be preferable for us today, than as a disease entity. It is in the 1980's when we get to the refinement of post-traumatic stress more as we know it today, with the most important characteristics being that it was placed in the category of an anxiety disorder and that it is based on exposure to a highly unusual event outside the realm of usual human experience. In the DSM-IV, the event would be markedly horrific, fearful, or distressing to almost anybody. It can involve the witnessing of a traumatic stressor, as well as experiencing it by yourself directly.

Very briefly, since most of you know this, these are the current DSM-IV criteria from the American Psychiatric Association for PTSD. It is the only psychiatric classification or syndrome which requires the occurrence of an external event to happen to somebody. In other words, it is not sufficient simply to have the symptoms; that makes it different than almost all the other psychiatric problems that we know about. Basically, as I said, it involves the witnessing or direct exposure of a catastrophic life stressor. The most recent revision is that your response must involve intense fear, helplessness or horror. Exposure alone is not a sufficient criterion. It is of interest to us as clinicians and researchers because we have an interest in who may be exposed without developing a stress reaction.

There are three primary symptom clusters, and I won't spend too long on these, because they are familiar to most people. The first symptom cluster has to do with re-experiencing symptoms. It is known most colloquially in the lay literature as flash backs which, in fact, have been shown in research to be exceedingly rare. Much more common are recurrent and distressing recollections of the traumatic event when you don't want to be thinking about it. That can be in the daytime in terms of intrusive thoughts, or commonly in nighttime during sleep, as nightmares.

The second symptom cluster for PTSD relates to avoidance and has to do with emotional numbing and behavioral avoidance of cues related to the original stressor event. It is typically manifested in trying to avoid feelings or thoughts about the stressor, or conversations associated with it, or an actual behavioral avoidance; a staying away from people or places that remind you of the event. It can also have a component of psychogenic amnesia. The emotional numbness in this criteria is typically seen as a vastly diminished emotional response to things. Frequently it is an inability to feel positive emotions, such as happiness, joy, or loving feelings toward a loved one, and either a numbness or a broadly restricted range of affect. It may also have depressive features, like a sense of a foreshortened future, or that there is no future life for me.

The last criterion for PTSD, which is of great interest to a lot of us today has to do with physiological responses and deals with the autonomic nervous system. Increasingly, research suggests that people who develop a bona fide post traumatic stress reaction may have actual psychophysiologic changes that result in some of these problematic symptoms: a chronic difficulty falling or staying asleep, pronounced irritability or outbursts of anger, very well known hyper-vigilance in the environment especially when it is not required or indicated, and a pronounced or exaggerated startle response which is not within your volitional control. These are thought to be some of the manifestations of the more biological or neurobiological aspects of the post-traumatic stress syndrome. They are demonstrable in laboratories if you expose somebody to neutral versus trauma-related cues, and then do things like measure their heart rate, reactivity, their skin conductance, or their sweat response. Interestingly, the vast majority of research on this criterion has been done on men, primarily male combatants in this country from the Vietnam War. Very little research has been done on it in women. We have very little knowledge, except by self report and a very few studies on child abuse, about how women respond on the D criterion in terms of hyper arousal. What I would suggest to you is that the DSM's criteria were based largely and originally on wartime experiences involving more traditional kinds of combat; largely through the experience of men.

Finally, you have to have all the symptom criteria. You have to have a certain amount in B, C and D lasting more than a month, and you have to demonstrate significant functional impairment as a result of this.

There are now acute forms of the disturbance. If it is less than three months, it is acute. If it is chronic, it is considered to have lasted for three months or more. There are instances where individuals develop a delayed onset response where they do not show symptoms for at least six months after the stressors. We know surprisingly little about men who develop delayed onset post-traumatic stress. I will suggest that is an issue actually for us to be thinking about, particularly in terms of gender. There is, in the DSM, an acute stress reaction, which is an immediate reaction you get within one month of exposure to a major catastrophic stressor in your life and which, if it subsides, does not necessarily go on to develop into full-blown PTSD. My understanding from colleagues is that at this point we have very little understanding of who progresses from an acute stress reaction to more chronic or actual forms of PTSD. Acute reactions are prominent among many of us after a life threatening event. Typically in the majority of people, those reactions will subside within the first month or two.

Now I want to introduce very briefly a model that I use in thinking about post-traumatic stress reactions, and this applies to men as well as to women. I think most clinicians and researchers in the field, both military and civilian populations, do try to think about a model like this, which is basically a person-by-event interaction model. What I would suggest is that there are important individual characteristics to be considered in terms of what kind of a response you have to stress, and then there are certain event characteristics that we know are more likely than not to predict adverse rather than good outcomes. Some of the important individual characteristics, things that people bring to the situation, have been looked at in terms of age, your coping ability, your family background, for example, whether or not you have a previous family history of mental health disturbance, and social support. Low levels of social support have been found to be associated with poorer outcome after stress in both men and women. Disposition, hardiness as a temperament or trait characteristic, has been associated with better outcome after a traumatic stressor exposure. There are many people in research in this country who suggest that there are temperamental dispositions that people are born with which are then subsequently influenced greatly by background and family characteristics. Lastly there is gender. There has been quite a bit of talk about whether being a female puts you at greater risk for PTSD and similar types of reactions than males if you are in a stressful experience. I will show you some of the data on that.

Briefly, some of the event characteristics: exposure to dead bodies, particularly maiming, the grotesque, the gory, is thought to be a risk factor for a post-traumatic reaction, as are feelings of extreme helplessness and powerlessness. While we are talking about these in the extreme, I would suggest to you that you can also think about extreme helplessness and powerlessness on a chronic ongoing basis in certain work contexts where what looks like a huge catastrophic stressor may not be visible to us as a discrete event, but may exist nonetheless on an insidious level for some people. This is certainly true, for example, in cases of undetected child abuse, but it may also be the case in situations involving emotional neglect or abuse. Death of children, viewing the death of children and the perceived view of a personal life threat are also predictors that weigh heavily in influencing the likelihood of developing a post-traumatic stress reaction. Professions that are most at risk for viewing the death of children, are general military forces, emergency services personnel, military police, and other health workers.

I thought it was interesting yesterday to hear the comment about the Vietnam nurses where the common mythology among VA personnel for years was that women in Vietnam did not experience trauma or stress because they were in medical or nursing positions and, hence, were behind the lines in safe zones. It has proven, of course, to be largely erroneous in that there were no safe zones in Vietnam. We now know that exposure to very large numbers of maimed and dying individuals can, in fact, produce stress in both men and women at a high rate. Actually, Paul Bartone, who is formerly of Walter Reed Army Institute of Research (WRAIR), has a nice study on this, The Gander, Newfoundland Air Disaster where he looked at the aftermath of the military rescue workers.

This is a little bit outdated at this point, but I wanted to show you some lifetime U.S. prevalence rates for PTSD in the general population. They are a little bit higher than this. What I wanted to give you is the sense that the range or spectrum that can exist, is in part, heavily dependent on the nature of the event. If you think back to event characteristics, the event characteristics were things like degree of life threat, feelings of powerlessness, event severity and duration, and event intensity. Another characteristics which is also important in terms of the event is whether or not it was perpetrated by another human being as opposed to being an accidental outcome or a perceived act of God. In the general population, a variety of studies suggest that PTSD is relatively rare, at the rate of 1 to 4%. It varies widely, as I said, depending upon the population, men/women, young/old, and the type of event.

What are some figures in civilian groups? Well, if you look at natural disasters (this is the Mount St. Helen's eruption), and Dr. Green has done a lot of work in the natural disaster area, the rates of PTSD range anywhere from about 3% upwards. However, they tend to be on the lower end of the PTSD scale as we know it, compared for example to combat and deployment experiences. Crime victims of robberies, muggings, thefts, and things like that are anywhere from the low teens to the high double digits, depending in some cases on the degree of violence involved, the degree of physical injury incurred, and whether or not there was a perceived threat to life.

As those characteristics are present, the rates of PTSD tend to become elevated. The best example of that is the literature on rape victims which, in some samples, has shown as many as 75% of victims in the early months having rates of post-traumatic stress. In this country, the people most frequently exposed to sexual assault are predominantly women. These are some gross averaging statistics. If you look at rape victims in the one month period, there are studies by Edna Foa and others that show that female rape victims at one month, as many as 94%, will show symptoms of post-traumatic stress. If you re-visit them at three months, that rate will have dropped almost by half to about 47%. Nonetheless, the point I want to make is that sexual assault and interpersonal victimization of that severe a nature have a very high capability for producing a stress reaction compared to some other types of stressors.

These are some statistics from work by Naomi Breslau and others in the country who have looked at rates of PTSD in the general population, some of whom would be military personnel; but not specifying for veteran status. In a recent study they did in 1991 and 1992, they looked at urban samples of young male and female adults. What they found was that there was about a 9.2 community based rate for ever having had PTSD in your life, irrespective of the cause. Over a third of the sample had been exposed to trauma. Probably the rates for that are even higher. If you think about living in an urban setting and the rates of violence in this country, many people in this room, in fact, have been exposed to at least one, and in some cases more than one, episode of traumatic exposure; irrespective of whether or not you develop PTSD. In the Breslau study, about 24% of those who were exposed, of the 39% exposed, ended up having current day PTSD; about a quarter of the sample. Of interest to me is the fact that 57% of the young people she found as having PTSD were classified as chronic. Chronic in her study is relatively lenient, but it is taken to mean symptoms enduring more than one year.

This is an important point to think about because chronic PTSD has turned out to be rather debilitating. It has long-term psychosocial, familial, occupational, and medical implications. It is very hard to treat. People often do badly, not just in terms of psychiatric symptoms but in terms of their everyday performance. It has suggested to the mental health community, as well as the military, that it is very important to do whatever kind of mental health intervention you can do at the early end after a traumatic stressor before a pattern of chronicity has been established. There are many reasons why chronicity in particular evolves; the condition-ability, the hyper-arousal that we talked about earlier, or other factors.

One startling thing came out of the Breslau study in particular. Females in her study were four times more likely than males to develop chronic forms of PTSD. This bothered me because of the way this study was written. She is a very good researcher, but the way the study was written she posited that female gender was a risk factor for PTSD, and in this case, particularly, for chronic PTSD. It has really led me to think about what that means. It can't be so simple as that. That is like saying that people who are taller get more red hair. We don't know what that means. Also of interest to me is why would they get more chronic PTSD but not necessarily acute PTSD? I began to wonder whether that had something to do with either their prior life experiences or the context in which they were experiencing these traumatic events and their aftermath.

This is some current data to show you the broad prevalence of sexual assault against females in the U.S. society today. I want to from the outset recognize that sexual assault does occur against males as well, and certainly childhood sexual assault against boys is well documented. However, rates of sexual assault against males in general are considerably lower than those of females. For our purposes today, I am presenting data on women, but I do want to acknowledge that it does exist, and it does have quite deleterious effects in some cases. Rates of sexual assault in the population are unfortunately high. This is data from studies done in the late 1980's and early 1990's, including Jeanne Kilpatrick and the National Crime Victim Center in South Carolina. It shows that 13% of women or possibly higher now will encounter rape over their lifetime and 14% will have some other form of sexual assault; it may not be actually completed rape. About 12% will have current rape-related PTSD, but about as many as a third, 32% will have developed rape-related PTSD at some point during their lifetime. So, there is quite a high risk for the occurrence of an adverse reaction from a rape.

Common co-morbid disorders are major depression and substance abuse. The assault, as well as being associated with occupational and social disturbance, is also frequently associated with higher reporting of physical health symptoms, and vastly increased usage of medical services, often at two to three times the rate of non-assaulted female and male cohorts.

That is a little bit about what we know about sexual assault in women. Let's go back to the military population for a second and look at more traditional war zone exposure and gender. This is data from the National Vietnam Veterans Readjustment Study (NVVRS) which will be familiar to many of you, of which Dr. Schlenger is a Principal Investigator and primary author. This is some of the first data to come out of military samples from a war time era that was a randomized broadly-based design. It incorporated men and women and allowed us to look at the prevalence and incidence of post-traumatic stress and other psychological and physical health problems from war time deployment.

This is just a summary graph. It shows lifetime and current rates of post-traumatic stress by gender, by male and female. Usually for the audience you are presenting to, you want to convince them about the importance of PTSD and that PTSD really exists. For this group, I think in some ways we ought to talk about the opposite. We know that it exists and we can describe it, now what are we going to do about it and what are we going to work on that can be more adaptive and prevention oriented? The point I would like to show here is that there are demonstrable rates of post-traumatic stress from war-related causes in men. About 15.2% had current rates of PTSD in 1988 when the study was completed, about 15 years after the conclusion of the war, with an additional 11% of men having partial PTSD; together, about 26% of men, among theater veterans. If you take these men who served in the theater and you break them into high and low combat exposure, you will see a further bifurcation. Men with heavy combat exposure almost double their rate of PTSD to about 38%, suggesting a very strong association between the worse the stressor exposure, the greater the likelihood of acquiring a post-traumatic stress reaction. Interestingly, despite the fact that women were presumably protected, there were an appreciable number of women who served in the Vietnam theater who also developed PTSD. About 8.5% had current PTSD from the war in 1988, an additional 7.5% had partial symptoms; together, about 16%. Interestingly, almost a third have had lifetime PTSD at some time related to their Vietnam service. Clearly there were risk factors that were encountered by both genders, although in this study the rates of PTSD were less for women than for men, probably based in large part on their differing types of war zone exposure.

I want to share with you some more recent data we have on gender and post-traumatic stress in military samples. This is the Fort Devens Reunion Survey. It is a longitudinal study that I am working on, of the U.S. Army of Persian Gulf War veterans who deployed from New England. We have now been following them since Time One, which was conducted within five days of the soldiers' return to Fort Devens in the spring of 1991, before they returned home to their family and friends. The sample has nearly 3,000 people in it, and 8.5% are women. As I said, it is an all-Army sample. We have active reserve and guard units in it, with the majority of units being reserve and guard. We have approximately 46 different units in this sample that have a minimum of 10 or more people in them. What that does is offer us sort of a very wide range of MOS (Military Occupational Speciality) experiences and exposures to look at; fewer combat troops, but nonetheless a pretty broad diversity of occupational specialties.

The initial time at Time One was within five days of return. We followed these individuals up at approximately two years in spring of 1993, at which time we had a 79% retention rate; this was pretty difficult because many of these people had left the military and had traveled or moved to elsewhere around the country or around the world. We are currently at Time Three, where we are specifically bringing in a subset of 200 subjects. I will tell you who they are in a second.

The basic interest in the study was to assess the overall adjustment of a cohort of returned veterans, hoping to look at both psychological adjustment and physical health status and to do some further education about how roles affected people's adjustment in the Gulf. We wanted to know what the effects of marital status were and what the contribution was, if any, by gender. We surveyed people at Time One or Time Two by mail or in person, using a 45-minute survey that is comprised of a number of standardized instruments. What happened in Time Two is, when we went back to the field, and we were focusing mostly on psychological well-being, a small subset of people told us they were physically ill. This was before the description of the Persian Gulf illnesses. So, we began to incorporate physical health questionnaires into our survey.

Now at Time Three, we are intensively studying 200 individuals on medical and neurological exams; neuropsychological testing that will look at their memory complaints and learning and attentional problems, as well as their psychological adjustment. We specifically over-sampled women to obtain enough people to be able to make gender comparisons.

These are just some of the various measures that we used. As you can see, the focus really at Time One and Time Two was changing. At Time One we were really very naive. We were looking at things in a more traditional psychological vein. By Time Two, we were beginning to realize there were a number of health-related issues and other factors that people like Dr. Martin and Dr. Gifford had pointed out as very important to me, in helping with adjustment related to social support and unit cohesion.

I want to show you a piece of data here which was of interest. There was a lot of speculation at the time that women would do worse in the Gulf because they were experiencing more domestic strain and having more distress over being separated from their families and friends. When we compared men and women on what they deemed to be their critical stressor from their Gulf War deployment, in fact that was not upheld. There were really very comparable levels of men and women saying that combat was the primary stressor with slightly more women than men. That is a significant difference. Other war zone stressors were viewing bodies and unit accident or a fatality. There was no appreciable difference. There was no difference on domestic stress where in fact women were rating lower rates of that concern. However, there were some differences when we gave men and women standard psychological test measures. On a health symptom checklist that we gave men and women, women did score higher on the mean number of reported physical health symptoms following their deployment, and this is irrespective of their PTSD status.

The men and women, however, did not endorse different levels of combat exposure. They did report differing levels of PTSD symptomatology on something called the Mississippi scale, with women reporting mean higher rates of post-traumatic symptoms, as well as slightly higher rates of general psychological stress from the Brief Symptom Inventory. We were taking this in the context of what they said was roughly equivalent exposures.

Of particular interest to me was the fact that the women and men in this sample, represent one of the few times in history that we have had the opportunity to do this. They were serving in the same units. So, one of the suppositions which we somewhat naively made at the time was that men and women would be exposed to all the same things. While that is true to a large degree, we realized that you could only analyze that to a degree at the macro level. At the micro level there are individual experiences, things like sexual harassment or assault, that may distinguish men and women and which are not necessarily picked up by these types of questions, but may impact symptom reporting, as well as other factors.

This is simply a bar graph showing that the women do have slightly elevated levels of post-traumatic stress-like symptoms. Early on, at Time One, the men are lower. When you go to them two years later, those differences are fairly common. Interestingly enough, there is an elevation in stress symptoms between five days and two years. We are not sure what that means. We have to look at our data now at four years out, because one possibility is that it is not really that people are getting worse, but that we sampled people so early on that there was actually a suppression of symptom reporting because most people were delighted to be home. That is a reasonable thing to do, but it might make this comparison in the two time points somewhat artificial.

What happens in terms of people changing over time in their post-traumatic stress response to the Gulf? I am using post-traumatic stress somewhat loosely here because these rates are lower than what we see in the Vietnam War, and also there were many other more generalized adjustment issues that were more prominent than pure PTSD. I don't want to focus too much on that, but just take this with a grain of salt. The majority of people in our sample did not have symptoms of post-traumatic stress, either at Time One or Time Two. A percentage of people went from being below at Time One to above at Time Two, about 8%. So, some amount of people either got more symptomatic or reported that they were more symptomatic. A very few people who were symptomatic at Time One dropped below a clinical cut off for stress disorders at Time Two. Similarly, a group that was above stayed above. There was a group that stayed constant. One of the things that I asked somewhat cursorily is, what does this look like in terms of gender? I don't know if you can see this, but there are slightly more women and an appreciable number of men out of that 8 or 9% who are moving from below clinical case-ness at Time One on stress symptoms to above it at two years. However, there is a similar phenomenon in women, in terms of women moving from below to above. However, this difference is significantly greater than that difference, suggesting that more women, proportionately, endure symptoms of post-traumatic stress at the two year point. We need to look more carefully at what that means and I think our Time Three data is going to tell us a lot more about whether that is at all significant or really is just some type of a numerical finding.

This is some data from the Persian Gulf veterans at two years asking how do you think your physical health and your psychological health are currently, and how have they changed, if it all, for the better or the worse? We wanted to look at men and women. A number of men and women said that their current physical health was fair or below, meaning fair, poor or terrible, at the point when we sampled them at two years out. However, if you asked them a question about whether there had been a change at all in a negative direction toward the worse, a larger number of both men and women report adverse changes, suggesting that about a third to almost half of the returnees in this sample felt that their health changed for the worse since their return. Noticeably more women than men are describing this. Again, this could be a social reporting willingness; a social desirability effect. We are going to be looking at in-depth physical exams to see what these findings link to at this point. There are similar changes in psychological health reported for both men and women, again, with women endorsing more symptoms.

This is a list of some of the most common physical complaints by both men and women in our sample. The top three complaints across the board physically are headaches, lack of energy, and muscle and joint aches and pains. In each of these cases women endorse all the symptoms at a higher rate, although at a slightly differing order.

To sum up what I know from the Persian Gulf about gender PTSD and health: when I originally had some of this data, people said, "oh, it is all stress reactions anyway." If you go to look at it, you will find out that all the physical health is really just associated with psychological distress, whether it is distress or anxiety or PTSD, it is really psychosomatic. My reaction was that we really don't know that. That could be true, or there could be subsets within that, but we just don't know anything about that.

What we did is, we looked at men and women together. As a group we found out that 40% of people who were below the clinical cut-off for PTSD and did not meet the requirement to be cases were reporting health problems. So, there was a clear group of people who were saying they had physical health problems from the Gulf who were not showing up looking like they at least presumptively had psychiatric problems. In fact, more women than men were below the cut off and reported health problems. However, there were more women than men who reported health problems in conjunction with PTSD status. So, I think we really don't know anything about what this means except to say two things. One is that there is some dissociation between the physical health complaints and distress symptoms complaints in this sample for some individuals. In other individuals there may be either a co-occurrence or some dissociation, although we don't know at all what the causal link is or is not at this point in time. As I showed on the earlier slides, the women are reporting higher health rates and higher stress rates, and we really need to learn more about what that is about.

This is just a slide, I think, to get us thinking about stress, health, and gender. There have been numerous ways that have been postulated as to how stress and extreme stress may affect physical outcome. This is a very complex topic. Basically, a very simplistic model from Cohen and Williamson from a psychosocial point of view is, if you have a major stressor in your life, you may develop some distress in response to that in terms of some anxiety or depression which produces a negative affective state. This affective state has been shown in some instances, in some people, to actually affect biological processes like immunocompetence and your general immunological status and well-being, as well as also the possibility of altering your behavioral patterns. For example, if you are not able to sleep well because you are anxious, that may make you more fatigued. Greater fatigue may pre-dispose you to more opportune infection. Hence, there can be a cascade effect of things that can go wrong. Stress could predispose an individual to the onset of a new infection. Stress could influence the duration or the severity of an existing infection or illness. Stress could also influence the labeling of physical sensations from something else as symptoms, causing an individual to label symptoms as disease and, correspondingly, increasing their use of health care facilities. There have been some people who have postulated that in PTSD, in part, while there may or may not be actual organic changes in the body, it may be that the autonomic arousal that many of these individuals experience, including panic-like symptoms and heart palpitations, may make them attribute physical illness to what is going on with them.

I think that we really don't know enough about this and there is enough literature to suggest that stress and particularly low level stress, as well as catastrophic stress, can in fact cause actual physiological and immunological changes in individuals, as some of the cancer research has shown. On the other hand, we do know that there are some distinct differences from the epidemiologists and public health officials in stress related physical and mental health problems that appear to somewhat segregate out, based on gender and biological traits. The mental health research suggests that there is a greater prevalence of depression, phobia, panic disorders and obsessive compulsive problems in women as diagnoses traditionally. On the other hand, men tend to have a greater prevalence of antisocial personality disturbances, propensity for violence, substance abuse, and successful suicide. Whether this is biologically determined or is socially acquired as a learned role, or a conjunction, or an interaction between them, is unclear. In terms of physical health, certainly based on biological and hormonal differences there appear to be differences to disease and infection as well between men and women.

In women there is a greater prevalence in some cases of pneumonia, influenza and many of the auto-immune diseases, as well as morbidity, not mortality, from acute non-fatal illnesses and chronic diseases. There has been a lot of literature out recently showing that women in this country live longer but suffer more long-term chronic illness and, as a result, a greater decrement of quality of life in the last decades. Conversely, the men typically in many cases die earlier, often from acute onset of disease, and in some cases diseases like chronic obstructive pulmonary disease or accidental death. How can we translate some of this health literature back into the issue of what happens to PTSD and war stress in men and women?

We were interested in the issue of, if people are exposed to stress, how do you separate out the exposure from the PTSD from the health complaint? I will just tell you briefly that we had a sample of women veterans who served during the Vietnam War. We wanted to look at the association of war zone exposure and PTSD with health outcome to see if we could figure out, if it was the exposure or the stress reaction that was more definitively associated with health complaints. We took 149 female theater veterans and we asked them to fill out a number of measures for us related to their war zone experiences and their overall adjustment; as well as their self-reported ratings of their physical and mental health status from before Vietnam, during Vietnam, post-Vietnam and currently.

What we found was a number of things. First of all, combat exposure or war zone stress, not PTSD, was associated independently with higher reported rates in most of the health symptoms in women who had higher exposure than for women who had lower exposure. So, higher stressor exposure was associated with more health reporting. Similarly, so was having symptoms of PTSD. This is women with PTSD versus women without PTSD who served in the war zone. What it shows is that you had a several-fold increased rate of various problems in these physical health symptoms by self report, this is not physician exam, associated with the presence of stress symptoms. So, there seems to be an association of both the exposure and the reaction with physical health outcome.

Then we said, "maybe they are tied up together." So, we did a series of statistical analyses where we controlled for war zone exposure for PTSD. What we found was that when we controlled for symptoms of post traumatic stress in women, war zone exposures failed to predict physical health outcome in our sample any longer. Whereas when we controlled for war zone exposure, PTSD symptoms continued to significantly predict increases in each of these health systems that are shown. What this suggested in our sample was that there was something about developing the stress reaction at that level that was associated with increased reporting of health complaints, although we don't know what the etiologic mechanism for it is. I want to turn back for a second to the issue of sexual assault. I am going to talk about this today not for policy or personnel issues. I hope nobody is going to rush out with this data and decide that the answer to the question is that this proves definitively why women are not deployable to the combat zone. I don't think the answer is to restrict women. I think the problem is the perpetration of violence, and restricting women isn't going to affect that.

The second issue is, the findings that I am going to talk about apply to peacetime military forces as well as deployed war zone forces. The suggestion is that the assault and harassment is going on in equivalent levels in the peacetime force who are not deployed. So, it is not necessarily a war zone issue. It is a work force and work place issue, I believe.

We were interested in surveying women, this is from my Persian Gulf work, about the sexual harassment and sexual assault experiences during the Gulf. I am naive and embarrassed to say that we didn't ask the men about this, too, so I can't tell you what the comparable rates are. I am sure there would be some. I anticipate they would not be as high as the women's.

What I wanted to see was if there were demonstrable and appreciable rates of harassment and assault, and if so, how that was related back to some of that PTSD and symptom reporting. We had been measuring their exposure along more traditional lines like exposure to dead bodies and combat and accidents. These were some of the questions that we asked, and you notice that all of the questions have behavioral exemplars. Dean Kirpatrick and others have shown that if you ask women about rape, the common understanding about rape is not widely shared. There are a substantial number of women in this country who, if they are sexually assaulted by someone known to them, will not label it as rape. You will get vastly lowered rates of endorsement of an actual sexual assault. You do need to provide behavioral descriptors. What we found was both not surprising and not too good. It actually looks better than it is and I will explain why in a second.

The vast majority of the women said they had no such experience and didn't know what I was talking about. This was in this Army sample of active reserve and guard units. We have not broken it out further by active reserve and guard status; we will be looking at that. About a third of the women said they had distinct experiences of verbal harassment during their deployment. A fifth of the sample had actual physical harassment which, remember, has to involve some kind of actual touching, pinching, cornering, fondling, groping, somebody really going after you. Attempted or completed sexual assault was reported by 8% of the women. If you think back to the civilian rates that I showed for past year prevalence in this country, these rates don't appear markedly increased. However, what I want to remind you is that this data was collected only for a three-month period of deployment. These are not past-year prevalence rates. I can't do this; an epidemiologist will have to do it for me. If you extrapolate it to past year prevalence, those rates go up dramatically. There are about 192 women in the sample. Those rates go up dramatically and, in fact, exceed U.S. civilian projections by at least several fold.

DR. BELL: Is it possible that they had more than one event in their lives? Why does it have to be 100%? It looks like you could have more than one. Someone could have a verbal and a physical and an assault.

DR. WOLFE: What we did was to sum it cumulatively. We established it as a continuum. In other words, we broke it into four groups. We assumed that women who were in this category had all these others, too. The women endorsed everything that happened to them, but we collapsed it into four dichotomous categories, and you went into the highest group that you had.

LTC CORNUM: Did you break this up into officers and enlisted?

DR. WOLFE: No, but I will tell you about that now. That is the bad news. These are several-fold the rates of the U.S. population. I don't have my data with me, but I have a similar sample from Vietnam. What it shows is that if you look at a group of women who were deployed to the Vietnam theater, and you look at a group of women veterans who were era veterans during Vietnam, they have the same rates. In fact, in some cases the rates of the era females are higher. I want to suggest to you that this is not a combat or war zone issue. This is certainly not an issue of the enemy, except the enemy who is within, because we asked about perpetrators on all of these, and almost all of them were American perpetrators.

There is a study out in the June, 1995 Archives of Family Medicine by Murdoch. It is actually more alarming than this and I think it probably requires some scrutiny. She surveyed about 600 women who were former patients at the Minneapolis VA. It is not a random sample, because these are people who were former users. She has findings that suggest that, if you stratify her sample by age, less than 50, and 50 and older, 90% of the younger women and 37% of the older women in her sample reported clear-cut instances of sexual harassment, including assault, during their prior military service. Those rates are dramatically higher than all other samples that have been studied in this country, including other government samples, non-military government samples, and including professions which are traditionally male and which are considered to have high rates of risk for women. Interestingly, she has found very high rates of domestic abuse in this sample. For women under the age of 50, 24% in her sample had domestic violence and 7% of the older women had domestic violence within the past year, which is also very high, although interestingly not significantly higher than U.S. population rates. The military-related event is considerably higher. The domestic violence rate is not.

Of great concern, similar to what we found, the occurrence of those events was associated, in many instances, with a range of psychiatric problems, including anxiety and depressive disorders. In some cases a two to three-fold risk for depression and anxiety disorders and, in some cases, vastly increased rates of using medical services, including use of surgical procedures. This was done by a physician who actually has access to their medical records. They did do a chart review. I don't know how thorough or comprehensive it was, to determine the necessity. The presumption in the article is that some of these surgeries may not have been needed. They were not necessarily related to battering events.

One of the interesting issues she wonders about is why those exposed to violence were younger, or why the rates were so high in younger women. When we looked qualitatively at the data in our sample, the rates are over-represented in enlisted versus officer women. Almost always the event occurs between, not always but in many cases, between an enlisted female and a male officer. There does appear to be some rank phenomenon, although not exclusively, involving officer and officer, and the most common event is enlisted and enlisted. There were a number of examples where the physical harassment had to do with coercion around professional or vocational status.

The other thing that was of great interest is that when we looked at the qualitative remarks by the women, (we gave them an opportunity to write comments at the bottom of the study) most of the women chose to write comments. It was fascinating because three quarters of the women basically wrote down, "I don't know what you are talking about, my unit was great, everybody was very close to each other. My commanding officer would never have let this happen." This is 46 different units. They weren't talking to each other when they filled this out. Almost to a case, within the women who had had harassment as an event, what they described was a leadership failure and it was really dramatic. They talked about the fact that the commanding officer either knew about it and did nothing, knew about it and covertly supported it, or didn't know about it or didn't want to do anything. In some cases there was actually retribution or punishment against the woman, or a failure to enact anything against the other person.

I thought that was very dramatic. I don't believe that is something that has been systematically studied. We know, from a broad array of PTSD research, that social support and family support are very, very positive buffers in outcome, following both exposure to stressors and post-traumatic stress reactions.

It seems to me that here is an opportunity to utilize something that could be in place and which we are really not doing much about. Dr. Martin, Dr. Ursano and Dr. Marlowe and I are going to be looking at some of the unit cohesion data. We actually have unit cohesion data, peer unit cohesion and leadership cohesion data. We are going to be looking very closely at the association of that to reported outcomes on both psychological and physical health domains.

That is why earlier I wanted to bring this up as a workplace issue. It seems to me that the propensity for a sexual assault for a stressor is not necessarily something you carry with you. It does appear that there is some proclivity toward re-victimization in some people, and there really is a proclivity, some of which may be biological and genetic, to a post-traumatic stress reaction, which is now being studied.

On the other hand, there is a good bit of it that is acquired. What we know, especially from the sexual assault literature, early in childhood and in women, is that people who have sexual abuse or incest early on are at greatly increased risk for being sexually re-victimized as adults, and for then developing post-traumatic stress after the second event. It is possible that you could get a whole cohort of people coming in from moderately distressed backgrounds who are, in fact, functioning but who, when put in an environment which is not necessarily hostile by our traditional combat standards but interpersonally threatening, if an event occurs which is not contained or handled well, would develop post-traumatic stress reactions.

I would love to hear some talk about this this afternoon as a work force or workplace issue, because this seems to me to be something that is, in fact, inherently correctable and treatable. It is really a public health issue where we could do a considerable amount of prevention and aiding people in maintaining an adjustment or an adaptation that they either already have or are capable of advancing.

Let me just show one other thing before I forget about it. I was working with the Marines at Quantico on a leadership conference they had on diversity. The conference was on diversity for the twenty-first century. I thought, "oh, that is really funny, hah, hah, hah, what could the Marines mean for diversity?" It turns out they were interested in discussing the issue of people of color and also of integration of women into their force. They were remarkably open to discussing problems with sexual harassment and sexual assault. Part of it, as they explained it, was they had such a small group of people that their feeling is that if they put the investment into somebody, they need to keep their people. They are also very proud of the sort of family structure that they have. We were talking about what goes on in their training. They have admitted that although their training has evolved immensely in terms of basic training at Parris Island, it is still quite abusive verbally in many respects.

I talked to a young black female drill instructor, a DI, who said they have a terrific concern that about 60% of their young female recruits are washing out of boot camp. They really, really want to retain these people but they are having huge problems because they are getting increasing numbers of young women who are single parents and who come from very dysfunctional backgrounds. They look okay and they get screened in; they really want to go into the military because they see it as a career and an occupational opportunity for themselves for the future. It is very, very important for them to have this success in the workplace. About 60% of them are being lost. We talked about why. She said it was her distinct impression it was because so much of the training relates to the breakdown of the individual in order to re-formulate them into the unit whole. A lot of it has to do with demeaning and denigrating around, "you are not a good person, you are a creep, you are lousy, you can't do this, et cetera, et cetera."

When they went and they talked to the women, they found that an extraordinarily large percentage, they don't know how many, are former sexual assault survivors. What was happening was, women were actually re-experiencing past distressing experiences during the basic training and, as a result, were fleeing. They were leaving the military extremely demoralized because they had now flunked out of their living situation, their social context, and what they thought was going to be their vocation or occupation for the next amount of years. In many cases, they had no place to go since they came from broken families to begin with. Interestingly enough, it turns out that was true for the men as well. They were losing 40% of the men, which is something to look at. When I asked her if she thought part of training was to get rid of people who can't make it anyway and would have been weeded out, she said, "yes, but not at that rate." I asked if she thought that some of those people could have been retained, particularly people with prior traumatic exposure, if something different were provided, whether it was training or education or brief intervention or treatment services on site at the time. She responded that she believed that between 30 and 40% of those women at a minimum were retainable. They could have been wholly functional and vital components of the work force. It is ironic that we are perpetuating the experience of failure of people having a stressor exposure, coping with it, going in to make something right, but being inadvertently re-exposed and being sent back out really with nothing.

I am going to wrap up here because I want to take some questions. The bad news is that this exists. The good news is, is that things are getting better, that gender roles and interpersonal relations within the forces and within the branches supposedly is markedly improved. People still tell me about problems at the academies, particularly the Navy, but they almost always say to a person, that it depends on who is at the top.

It just brings me back again to the work force issue. It really depends on what the goal and the function of the group is in terms of adjustment, and that it is not necessarily an intrinsic genetic or biological characteristic or limitation that we should ascribe, in this case, to women. Rather, it is something more about the context and the environment that we need to look at very carefully to see if we can't restructure it in a positive adaptive vein, knowing as we do that when that happens we have really had some resounding successes.

DR. MARLOWE: A couple of things. The first thing that I wanted to note involves one of our samples of reservists who deployed to the Gulf. The levels of health symptoms reported by males were fairly close to the ones reported by females in your study. I think we probably need some more meta analysis putting all this data together, because this gives you one view and the view in that sample is somewhat different.

The other thing in that line is the correlation between risk for PTSD, general psychological symptomatology and health symptoms. What we get is a trifurcation. We developed an algorithm for risk for PTSD using a combination of certain questions from the BSI and from the IES. The overwhelming majority of those people produce very high numbers of physical symptoms. When we add in people who score in the top quartile of the BSI, we account for over 70% of the population. That is, they are symptomatically elevated, but they don't meet any PTSD criteria. We go down to about 28% of people who don't meet any significant psychological criteria but have symptoms.

Now I have a question for you. The attrition rates you quoted for the Marines puzzled me because the official ones right now are 12% for men and 16% for women out of basic training. Those are lower, by the way, than the Army and the Army does not use a breakdown system in basic training, but an ego-building success-building system, which is the opposite one to the one used by the Marines.

DR. WOLFE: This may have been a particular cohort that she was talking about.

DR. MARLOWE: Overall it is 12% and 16%.

DR. URSANO: It is 50% in the six months after boot camp.

DR. MARLOWE: That is a different phenomenon. Our preference, by the way, is losing them in boot camp or before we have invested the tremendous amounts of money that we do in advanced individual training.

DR. BELL: We did some studies in attrition trying to figure out why we were losing 40%. That was over the entire first three years. That was when attrition was at its worst back in the late 1970's. So, I don't believe the figure of 30 or 40 or 50%.

DR. MARLOWE: It is up.

MAJ FRIEDL: Is that in men and women combined or just women?

DR. BELL: That is combined. The Army thought they had an attrition problem because across the first three years they were losing 35% of the soldiers. It was much higher among non-high school graduates. So, changing that began to work on the attrition rate. That was when we were alarmed about how many people we were losing. If we are losing over a three year period that rate, losing out of basic training at 50 or 60% is just not believable. Several things. The philosophy was, let's kick them out of basic training because they would be out anyway. It doesn't work that way. What you are doing in basic training, you are not affecting the number you will lose. It is not a good strategy. If you go back and look at actual units with actual drill sergeants, they have a predictable rate of people that they are losing as part of their own philosophy as opposed to what is going on within their division.

MAJ FRIEDL: It is much higher for women than for men. The recruiters say they have to recruit two women for every one they are going to keep.

DR. BELL: I really don't know that number.

DR. MARLOWE: It has gone up in the past year very dramatically for both men and women.

DR. SINGER: I would like to make a comment that may make some clinical sense between two things that you brought out, Dr. Wolfe. What I want to do is move from the clinical observation that I have gotten from interviewing over 200 men and women who have either been molested by their psychologist, psychiatrist, their social worker, or sexually molested on the job scene. The two things you were bringing up are so very important to what I would call the second injury. It isn't that the people had just been molested when they were children or had different things happen. They had gone into this situation that I think is consonant with the military: these people had gone to a healer, a psychologist, a medically trained person, or they had a job in a place where they trusted management; they trusted the healer.

What made the conduct of the person who violated the trusted fiduciary role so harmful to these 200-plus people was they knew what had happened in the past. However, they had this hope that whoever was at the top, like their doctor who was going to take care of them psychologically, or the boss in the factory or the boss who was running the office, was a person of integrity. It was that second blow, in which their mental image is that the people running this place are corrupt and using me that was so hard. They have explained how different it was to have things happen to them on the street or on dates and so on but how much more difficult it is when someone at the top doesn't seem to be running the boat. It is that second stressor that participates some real breakdowns.

Lt Col LEBEGUE: I want to follow that comment and others with a comment that would invite discussion in the small groups and possibly later, to examine first whether gender is or is not an issue. I have heard comments on both sides during the discussion. Secondly, some policy discussion around whether, if it is an issue, we treat it as a personnel issue such as we treat age or education, or as a possible health issue of some kind for either screening in and out. Then how we go about the process of screening in and out. I think the data you have presented indicate that, in fact, it may be a health issue that would present those at risk for developing disease at some point.

DR. WOLFE: We should probably debate that. I think that is an interesting issue. You could probably debate the flip side of it which is that this could also be a highly adaptive experience and that this is a group of people who are actually on track and could stay that way. I am not sure that we have the requisite scientific expertise to do that kind of screening.

Lt Col LEBEGUE: I was referring to the narrow group of those previously abused. That is a very important predictor.

DR. WOLFE: Unfortunately, it is probably a pretty large section of the United States population.

DR. HOLLOWAY: I want to go back to an editorial I didn't like very much and represent the point of view of that speaker, but also put it in the point of view of cultural context and conflict. George Will, in one of his more acerbic editorials, has raised issues about this whole line of research maintaining that in any circumstance in which you must define for the subject the overall categories in which they will then report and classify themselves is open to wide misinterpretation in terms of "indicating a national trend." Now, that was his position and I would like to re-state it in the following way. It is really one of the funny characteristics of the military population that it is drawn helter skelter from the overall social processes of this nation, representing many different sub-cultural groups coming from many different backgrounds.

Are, in fact, the initiatory processes of Plains Indians abusive simply because it means the passing of materials through the pectoral muscles of the chest and suspending the person by their chest muscles? Or are various tattooing procedures utilized in some groups in fact abuse or not abuse? Are all relationships that are established that are intrusive and assaulting when I observed them, equally intrusive and assaultive to the various gang members who are utilizing them to establish affiliative relationships?

When those people in societal groups enter our service and we classify them by gender, rather than those other classificatory traits, are we distorting the data and in some ways making it mysterious to ourselves. Are we then perhaps treating it as a risk factor, having created the artificial category ourselves? That is an issue I want to raise about this data and its way of agglomeration and interpretation.

CDR DINNEEN: I think it was a different question. It was more of a question about the data. There was one side that suggested that the report of domestic issues as a stressor was fairly low. I wonder if that was correlated, or could be correlated in any way, with the length of deployment? My experience was, the more people were away the more they might report domestic stressors as important stressors, sort of an "absence-doesn't-make-the-heart-grow-fonder issue."

DR. WOLFE: It is artificially truncated in the sample because the mean deployment in the sample is 3.4 months. So, it was a relatively brief deployment. The range is artificially small.

CDR DINNEEN: I did have a second question as well. I think that would be an important thing for people to keep in mind as they look at this, because I do believe that domestic stressors are important in this population and can contribute to the other things.

DR. WOLFE: They are. There is some interesting work I will also refer you to. Roselyn Barnett, who does a lot on gender roles in marriage and dual-earner couples, (she doesn't study the military per se) has an increasing number of empirical studies out now that show that satisfying paid work is highly beneficial for women. Men are more recently appearing to be sensitive to problematic issues on the family front than are women. When women have satisfaction in their paid job role, the quality of their role enhances their quality to deal with stresses in the domestic setting, and that is less true for men. The men are more distressed by what is going on at home, which is exactly counter to what you would think would be our popular assumptions.

CDR DINNEEN: I would agree with that. I would think that is an underlying issue. What I am trying to get at is that there really was an issue in these deployments with length of time separated from family support systems.

My second question is in regard to a statement you made that I didn't see the logic; that this wasn't a deployment or war issue, but it is a workplace issue. I didn't see the data on a three-month period in regular peacetime practice where people were not deployed to suggest that the rates of abuse were that high.

DR. WOLFE: I am sorry, I didn't show you data on that. I have data on a Vietnam sample and a Gulf sample that was not deployed where similar things were going on. I also have Vietnam theater, Vietnam era females. What I meant to say is that it is not exclusively or specifically a deployment war zone issue. It appears to occur in the peacetime military at equal or higher rates. That is what I meant.

CDR DINNEEN: The three-month rate of sexual assault is 8% without deployment?

DR. WOLFE: No, I am talking about the spectrum of those types of events.

DR. MARLOWE: May I suggest we will know better when a major study that Leora Rosen is doing on sexual harassment is completed at the end of the year.

COL GIFFORD: I just want to point out on this issue, the importance of domestic issues. Dr. Wolfe's data don't say that those aren't important. Dr. Wolfe's data show what people attribute. There is a wealth of data on Time One, Time Two and hopefully Time Three data, not on what causes people's problems, but on what people believe causes their problems.

I don't believe you showed this today but one of the fascinating things Dr. Wolfe started out with is that people's symptoms have gone up over time. We don't know whether that could be an artifact because when she collected the data they were just back and were feeling good to be back, or whether they really have developed more symptoms over time. What she didn't show, but that I recall as I was going through them, Dr. Wolfe and Dr. Schlenger showed that their reported experience of combat events went up over time. There was only one war so we can discount that more things happened to them in the interim.

What we have here is that there is a wealth of data on how people feel and what they attribute their current state of feeling to; strong suggestions, (since there was only one war and their experiences couldn't have gone on), that some people, as time goes on, are more likely to attribute their current distress to the war a year-and-a-half out. I don't know whether or not you have parsed out a gender difference in that. I think that is an interesting question as we look at PTSD and why reported rates are higher in women. Is there a difference in that process?

DR. THOMAS: We have been measuring sexual harassment biannually since 1989 within the Navy using large samples of about 10,000 people. Our rate of peacetime sexual assault has been very consistent. It has been 6% annually. What I find very interesting about the data, however, is that our rate of overall sexual harassment has varied from 42% down to 33% for enlisted; much lower for officers. What I found interesting for this group, however, is that 10% of our people who report being sexually harassed, and I am not speaking necessarily of assault now, do have symptoms that require that they report to sick call. So, they are having actual health outcomes. A much, much higher group report that they have psychological symptoms. I don't know how enduring the symptoms are and I am not talking about PTSD at this point.

DR. WOLFE: That is an excellent point. I didn't talk about that but there is data actually in the Rape in America study by the National Crime Victims Center that shows that you can have distinct adverse psychological and physical effects after harassment. In fact, in a couple of cases that I have seen for consultation, there is some evidence that the people who are harassed and who do poorly as a result, do really poorly and cost a great deal. I have now seen at least three people who have become really persistently mentally ill. They had to stay in situations for social and economic reasons. What it almost appears to have replicated was an early abuse; they didn't have it, but what was like an early abuse situation in a child where they feel they can't extricate themselves from the situation. It is not a single event that they can, at some point, process, but it becomes an ongoing almost environmental issue. It is interesting.

LTC CORNUM: I would like to ask a question. You pointed out that, if 8% of women got assaulted, that is sort of similar to the excess number of women who report PTSD. If you had discounted those, which would have happened either way, it doesn't look like the rates for men and women are much different.

DR. WOLFE: Excellent point, Dr. Cornum. One of the things we are doing right now is to aggregate out women who have assault. The problem with samples like these is that it is retrospective. You often have people who have multiple exposures; then you have to get them to decide what is the most distressing exposure. You are right. We could certainly, at least, take out the women who report that and then move them and see what that does to the PTSD rates. My overall impression is, it drops them way down and makes them much more comparable, because the higher PTSD rates in the women when I looked at them are in the group that has attempted or completed assault.

LTC CORNUM: When you showed the slide that said 75% of the women who get raped have PTSD, it looks pretty obvious.

DR. WOLFE: What else is new?

DR. NICE: I have a couple of observations. One is that we have some data from the Gulf War on both quantitative and qualitative self report of health care providers of men and women, who went to the Gulf. I think our data match yours pretty well in terms of the fact that family separation was not one of the high ranking qualitative responses in terms of things that were of concern, or large problems for folks over there. They ranked fifth. I can talk a little bit more about that this afternoon. I think part of it was the context of the war zone. There were other things that took priority. Leadership was a big issue, morale, feelings of safety, et cetera. Another observation is, some data we have coming out from recruit surveys on large populations of women and men, show an extremely high number of these folks coming into the Navy have been exposed to sexual violence, either in the home, or witnessed; sexual as well as physical violence. These numbers are astonishing.

DR. WOLFE: I have heard about that. That is really interesting and it might be something to talk about further this afternoon. It gets back to the DSM-IV criteria which is that witnessing has now been included as a stressor criterion. The reason for that is because some of the research has shown that witnessing of extreme violence and other events can be highly detrimental to some people. I think you raise an excellent point which is that as the levels of violence increase in sectors of our society, and as a subset of those people come to join the military whether as a way out or an opportunity or as a profession or whatever, there will presumably be a large number of younger people who have either been exposed directly or who have witnessed these kinds of events. The issue is what that means for long-term outcomes.

DR. NICE: The third point I want to make is, in our Gulf War, we also looked at using a standard scale for sexual harassment which Naval personnel have developed. We used the same instrument in the Gulf War. We found our rates lower, but I have to qualify that, that I don't know if it was because of the war, or because we were looking at health care providers specifically; primarily Nurse Corps officers and hospital corpsmen, grades in the Navy which have a very high proportion of women in them, the hospital corpsmen about 50% and in the Nurse Corps about 80 to 85%. I think there is potentially a protective effect from having large numbers of women in the Navy affected with sexual harassment.

DR. WOLFE: The respondents were in the health professions?

DR. NICE: Correct.

DR. WOLFE: This is mixed, across about 10 efforts.

DR. NICE: In comparing ours with Navy-wide trends, we have a lower rate of sexual harassment and sexual assault occurring during the Gulf War. We don't know whether or not it was because of the war.

DR. WOLFE: I think there are all kinds of sample issues. What does it mean if you are active, reserve, or guard, and also does it matter who is doing the survey?

DR. URSANO: We are at a time boundary. I want to thank Dr. Wolfe for what I consider a tour de force in terms of addressing the central issues of this conference related to the issues of gender, across the issue of combat exposure and war zone exposure, to include the issues of PTSD, health effects, and environmental risk factors. There are very few people who can cover that range and do it in a brief period of time with some numbers. Thank you.

PANEL DISCUSSION - MILITARY WOMEN: HEALTH, STRESS & PERFORMANCE

James R. Rundell, M.D.
David H. Marlowe, Ph.D.
Steven Nice, Ph.D.

DR. URSANO: We have a panel discussion this afternoon to contribute to our thoughts on the issues of stress and women's health in extreme environments, particularly as that relates to morbidity, mortality and issues of performance decrement. Our panel members include Dr. James Rundell, Dr. David Marlowe and Dr. Steve Nice. I have asked Dr. Rundell to chair the panel. Dr. Rundell is a Lieutenant Colonel in the U.S. Air Force and an Associate Professor at USUHS (Uniformed Services University of the Health Sciences). He has a long relationship with us, beginning with his residency training.

Some of you will know that he is one of two consultation liaison psychiatrists who are probably the most widely read by medical students and physicians because of the Concise Guide To Consultation Liaison Psychiatry written by himself and Michael Wise. Dr. Rundell brings particular expertise about the issue of illness inside hospitals. He is also the Consultant for Psychiatry for Readiness to the U.S. Air Force Surgeon General.

Dr. Steve Nice, who is the Scientific Director of the Naval Health Research Center, has long been a contributor to the area of stress and health in the U.S. Navy. Dr. Nice and I initially had contact around the studies of the prisoners of war returning from Vietnam. He has continued his involvement in that area to include mental effects as well as broad-based physical effects of serving aboard ships. He speaks with a firm voice both from his understanding of operational elements, and from his scientific rigor.

Last, but not least, is Dr. Marlowe. Dr. Marlowe has a voice that has been heard throughout the Army and throughout DoD (Department of Defense). He is Chief of the Department of Military Psychiatry at the Walter Reed Army Institute of Research (WRAIR) and he is sometimes lovingly referred to as the father of cohesion and cohesion studies within the United States Army. For many years his laboratory was dedicated to the issues of understanding the effects of unit cohesion on mental health and physical outcomes.

Dr. Marlowe and his laboratory have spent extensive time in every place that the Army has ever been. Our own group has collaborated extensively with them, and it is through these collaborations that we have jointly learned.

I have asked, as I mentioned, Dr. Rundell to chair the panel, and I will now turn it over to Dr. Rundell.

Lt Col RUNDELL: I will ask Dr. Marlowe to go first.

DR. MARLOWE: Thank you, Dr. Rundell. I have been meditating on what to talk about on the topic of stress, health and performance of women. I would like to go back to a couple of the remarks that were made this morning.

I think we have to be very careful about the gender issue, the role issue, and the context that we are talking in. I decided a moment ago that I would begin with a meditation on Dr. Ursano's use of the term "extreme environments." I am not sure what an extreme environment is but I can tell you what one was for women in the 1920's: anything that worked up a sweat. The world of medicine and the world of physiology were in total agreement that women must never, in junior high, high school, college, and beyond, be allowed to do things that led to the kind of physical exertion that expressed itself in perspiration. The consequences would be destruction of their internal organs, probably death, and most likely brain fever.

If any of you have ever wondered why all women's sports take about half the time per period as men's sports, basketball, hockey, et cetera, that happens to be the reason. There was a general consensus in medicine that physical exertion was extreme, destructive, and to be discouraged at all times. This was one of those conjectural things that came, as I noted this morning, from an upper middle class, upper class view of the world of women. This point of view paid no attention to the exertion of women who worked as laundresses, who worked in fields on farms or who did much of the heavy labor that the world was involved in, but it did become ideology and dogma.

I think we have also got to be very careful in talking about women, stress and health to recognize that we are engaged in an evolutionary process. I started thinking of something I had read not too long ago about the kinds of comments made when Oberlin became the first co-educational institution in the United States, and how destructive learning would be to the brains of young females. This was an experiment that was not to be countenanced. There were public protests against it. There were demonstrations that went on for quite a few years.

That is the setting that we come from. What are the role demands, the role expectations? What do the people think that women should be doing and should not be doing? Before I go to some military examples I would like to discuss the book Because the Horn is There by Miles Seton and Beryl Smith. In the book there is a retired British brigadier. He and his wife, who are in their sixties, kept making attempts to sail around the world. They made attempt after attempt to sail around Cape Horn the wrong way around, from the Pacific. Eventually they pitch poled about 100 miles from the Straits of Magellan. For those of you who are not sailors, pitch poling is the worst thing you can do. It is flipping over, going under front-wise. When you do this the mast snaps off and all kinds of damage is done. Usually the righting movements of the keel will bring the boat up. Well, what is women's performance like? Beryl was the first one out to "jerry rig" a sail. She spent many long trips at the tiller as they tried to bring the boat into port in Chile, which they ultimately did, having lost most of their food. Now, what are women's roles, what do we expect of them? Miles Seton expected his wife, who outlived him by some years, to be as competent and tough a sailor as he was, and he was a pretty tough sailor.

I have watched an immense evolution in terms of the position of women in the Army. I think what we have to realize is that we have undergone a transition in women's performance that has to do, in the Army certainly, much more with the informal folk culture of the institution, rather than with what the Army as policy has had to say. When I was interviewing units with female content in Germany in the late 1970's and early 1980's, I consistently got one story from the enlisted men, and that one story was a very simple one. Some of these were medical units, some of them were transportation units, some of them were support units. The myth was that when the balloon goes up the women will be evacuated. Where did the story come from? Well, it was something that a lot of the young male soldiers talked about, and most of the young women went into collusion with them agreeing with the myth. When you talked to their bosses and said, "what happens if Ivan comes?" You remember Ivan, who came out of the east. The answer is, "my women go that way," pointing east. There was a disconnect between the folklore and the fact; the folklore that these young women repeated over and over again. As one brigade commander said to me, "the only people I have here who can repair and maintain the optical sighting systems of my M60-01 tanks, are my women. I don't have a male with the intellectual capacity to maintain that equipment. So, obviously when I move out to the southern half of the Fulda Gap, they are moving right with me."

Part of the collusion was a general set of expectations where everyone agreed that the roles of women were ill-defined and should be traditional. It is really in the sense of tradition that it created in this century an expectation as to what women should be doing, and that that performance was not to be trusted.

I happen to view the Gulf War as one of the great transition points. What happened certainly in the active Army in the Gulf War was that from the point of view of male soldiers in units that had women in them (and I have to say that as qualification because this is not as true of infantry units that have no women in them), the value of women as soldiers is affirmed in the literature. This is the result of a lot of interviewing that we did in the Gulf.

Now some very interesting things also happened in the Gulf. Certainly in the after force, very few women that I talked to referred to sexual harassment, for example, within their units. When we talked about it they said, "look, I know their wives, they know my husband or my boyfriend, we are really kind of like brothers and sisters. These guys won't come on to me. The people who come on to me are from other units."

What had developed very powerfully is the kind of thing that has been written about in terms of college dormitories that are co-ed. A set of rules developed about the unit in highly cohesive infantry units. There is an easy way to tell whether a unit is really cohesive: people use the metaphor of family in talking about it. They say, "we are a family." A lot of support units began using this same metaphor in describing their unit. So, conceptually there was rather a vast transition.

The issue I would offer you is not whether or not women can do the job. It is not whether or not they can do the job when they are extremely stressed. It is whether or not the culture of the organization says, "yes, they can do the job," rather than starting out with the assumption that they are not going to be able to do the job.

What about stress? There are a couple of very interesting points that should not be overlooked. In the history of psychological testing, women always produce higher levels of symptoms than men do. That is a known. In the reporting of physical symptoms, women always produce higher numbers of symptoms than men do. Dr. Holloway mentioned George Bishop's material this morning. There is a very interesting thing about George Bishop's work. While women lost less duty time than men, the women consistently reported more symptoms in their health diaries day after day. The bottom line question is, what do these kinds of symptoms have to do with performance, with whether or not you get up in the morning, do your job, do it well, and come back? There is a disconnect here. Most of the symptoms that get reported in this kind of thing really have very little, if anything to do with doing their daily job.

Anyone here who has had small children knows that if you have a spouse that has a fever of 103 and feels awful, she still gets up in the morning to take care of the kids, to prepare food for them, to get them off to school. She is operating on the basic and probably correct thesis that you are totally incompetent to do these kinds of things. I think we have to be very careful about the issue of stress, symptoms, and performance. We cannot simply start out and say that because people respond symptomatically, that performance may be so altered as to present a problem that is either medical or operational in nature.

A couple of other things before I stop. For women as for men, the most important issue in terms of what happens to them in their deployment and operations other than war on the battlefield, is the cohesiveness of the unit and, above all, the quality of the climate of the unit and its leadership. In good units people do well and have minimal symptoms. We have lots of data that has established this. When I was working with the Australians, the New Zealanders and the Canadians on the issue of deployment stress, we started drawing up lists of stressors during deployment. Number one for everyone was unit climate. That was the primary stressor everywhere. By everywhere I am not talking about Club Med. I am talking about Cambodia, Rwanda, and Somalia. It was, "what was the unit like?" If the unit was good, if leadership was good, stress was minimized.

We also talked a bit about women. The Australians and New Zealanders, while small armies, deploy significant proportions of women on all of their peacekeeping operations. For the life of them, the people in these forces don't see any difference between women and men in terms of responses to trauma. In one of the situations, the psychologist who was flown in to deal with it was describing his debriefings of the people who had been at the refugee camp in Rwanda when the massacre took place about a month-and-a-half ago. The senior officer was a female lieutenant colonel physician. There were about 20 infantry providing security, all male. She did a lot better than they did. All of these people were traumatized by a very real situation in which people came in. She had to watch them take her patients out of their beds and shoot them. The infantry had to stand there, because the rules of engagement said, "you will not engage the troops of the enemy, period. You will stand there with your weapons pointing to the ground, you will not lock and load. It is too dangerous a situation." The soldiers, faced with their helplessness, frankly required a little more intervention than she did, because she at least had the option when it was over of saving whatever she could save.

She dealt better than the infantry did, because she still had a task to do when the slaughter was over, saving the people she could save. The infantry still could do nothing but stand there helpless, and feeling helpless about what they were not able to do. The general experience of these armies is that they really don't see much differently happening to the women they deployed. It has been as much in Cambodia, Rwanda and other places. It is 20% of the component they send over, usually it is battalion size, that are female.

I think we have got to be very careful about other things like stimuli. Dr. Wolfe mentioned seeing children die. If there is one thing that everyone I have talked to in the peacekeeping business, from the British parachute regiment to the U.S. Army, finds the hardest thing to deal with, it is dying children. We have a tremendous fixation on the value of children. All of the British powers in Rwanda, when they were over there, all they wanted to do was scoop up all the children and bring them back to England; to save the children. There doesn't seem to be any greater effect on the part of the female soldiers who were deployed than of men. If there is a dividing line, it is whether or not people have jobs to do that make them continue to be effective in the situation.

What I am trying to say is that we must be very careful not to confound raw parameters with gender. We also have to be very careful about symptoms and the way that they have been played out. I am old enough to have had some training from Talcot Parsons before Parsons went out of the sociology curriculum because he was bourgeois and not a Marxist. Parsons was the father of the concept of the sick role. We must remember, in terms of many of the phenomena that we see, that ours has been, as Parsons said, a society in which the normal relief from responsibility is presenting yourself as ill. Because of our Puritan heritage, we don't give people many other outs. It has a long and honorable tradition, going back to neurasthenia and many other kinds of things before that. Let's be very careful about when we are talking about gender and performance that we know the context in which the performance is taking place.

DR. NICE: I am Dr. Steve Nice from the Naval Health Research Center (NHRC). I want to go over some fairly recent similar data. I want to present some recent findings from the Gulf War on some average reproductive outcome studies that we are doing at NHRC. I want to present a brief overview of some health care utilization issues aboard ship because a ship is a kind of a unique health care environment and a very interesting one to study. Then I want to present to you some of the studies that Dr. Garland is coordinating in our center in response to the Defense Women's Health Research Program.

In the Gulf War, the Navy was very interested in two aspects from a medical perspective. The other thing I want to do is to ask Dr. Pat Thomas to speak about her data to clear up the pregnancy issue once and for all. Dr. Thomas works for Naval personnel and collects these sorts of data. The Navy Medical Department was very interested in how the activation of the reservist process went during the Gulf War and the Surgeon General asked me to take a look at that; and also to look at how the process worked as we sent our active duty folks over to the Gulf.

We were fortunate enough to study all 9,600 medical reservists who were activated for the Gulf War. About a fourth of those actually went in theater; about three-fourths back here. There were about 9,600 reservists but only about 40% of them actually participated in the survey. 5,700 Navy medical personnel were deployed to the Gulf and we studied all of them. Interestingly, men in the Navy are generally married. About 62% in our sample of the men were married; 46% of those who were married had children. Among active duty women, only 47 percent were married. Among women, of those 47% who are married, 27% have children. So, more men are married and more men have children. Thirty-eight percent (38%) of the men are single. About 5% of those are single parents. About 10% of all women are single parents in our study.

Men and women marry different kinds of people as well. Among the men, both active duty and reservists, they tend to marry civilian women; between 80 and 90% of the men in uniform marry civilian women. Only 40% of the active duty women marry civilian men. They are much more likely to marry an active duty spouse. We have many more dual career families, or someone married to a reservist who might be activated. About two-thirds of the reservist women married soldiers. Anyway, men marry civilian women; women on active duty don't tend to do that. I couldn't agree more with Dr. Holloway's point earlier and Dr. Ursano's point that we should study not just women, that we should study people. Then when we can do analyses on gender, we should do that. Unfortunately, in the Navy, over time, unless one really over-samples and has a directive to do that sort of thing, you are fairly limited. In health care, though, from the Gulf War, we were able to look at Nurse Corps officers and hospital corpsmen. Generally, again, in support of Dr. Holloway's comments yesterday, we found a lot of "no effects."

We looked at issues in terms of the things BUMED was interested in; in terms of satisfaction with the Gulf War assignment asking, "Were you prepared to go? How was your training? How was the family and community support? What is your turnover intent?" We found very modest differences that may affect differences in gender, but by and large, women and men who were over there doing the job in the Gulf War saw the situation very similarly. Most were either assigned to fleet hospitals or the large hospital ships. We did have some slight differences in dependent child care hardships. Women had a slightly higher perception of hardship during deployment, and single parents had a higher hardship rating than non-single parents, as one would expect.

It seems to me that in the family separation literature, we have to become much more sensitive to what the psychological manifestations of the spouse left behind may be, when we deploy women. We know that women spouses left behind tend to have increased depressive affect and all the things that may go with it. That is a fairly chronic state until the person returns home. There are probably some anticipatory responses and family stressors; that kind of thing. I am not at all sure how male spouses left behind will manifest symptoms, whether depression or anger, and that may have implications for child rearing and other things we ought to be cognizant of.

One other interesting finding was that in terms of difficulty re-integrating into their previous billets, women reported greater difficulty. Although they proportionally came back to either the same job, a better job or a worse job than did the men, they had more difficulty re-integrating.

In the rank ordering of self report on these questionnaires among both men and women, leadership is the highest issue. Morale and logistics were issues while they were over there. The fourth leading issue was stresses of family separation. Generally speaking, all the results which were published in Military Medicine showed a pretty high level of satisfaction with the whole process, and very modest differences between men and women.

I want to touch briefly on some reproductive outcome studies that we are doing. Dr. Thomas, in some broad surveys of Navy women, identified a potential issue for chiefly Naval personnel, which is that there are some adverse outcomes appearing among our younger Navy enlisted personnel. That stimulated some tasking from BUMED. We have subsequently completed an 11 year study of all hospitalizations. I have learned that there is no proper way to do an adverse reproductive outcome study.

One way to start is to look at all reproductive events that were hospitalized. We disallowed spontaneous abortions. We recognize that it is a first step. What we found was that the distribution of outcomes was about 86% live births, about 10% spontaneous abortions, and almost 3% ectopic pregnancies. That is higher than one expects when looking at the National Center for Health Statistics Data on age and race adjusted civilian population. So, we may have a problem with ectopics. These are less than 1% late fetal deaths and less than 1% early fetal deaths. We have no maternal deaths during that 11-year period. This is just a very brief summary. Also the birth weights look like they are about 20% lower than the civilian populations for women in reproductive ages. The ectopic rate was high and we think we may have a particular problem among our very junior women, our E-1's. We are now doing a survey of confirmed pregnancies following up to look in more detail at what may be happening in our personnel exposure. We are very concerned because sexually transmitted diseases (STD's) are related to increased ectopics, and we may be seeing an association between STD's and ectopics. That may be what is driving some of this. We plan to follow this. This has implications for STD prevention, occupational health issues and preventive medicine, including lifestyle issues like smoking.

I want to talk briefly about health care utilization and since Dr. Ursano was plugging books, I want to recommend a special 1994 edition of Military Psychiatry. Dr. Thomas was the special editor for this. We have some very good work in here on sexual harassment in the Navy and the health care utilization study. Dr. Thomas is our "lost time" person, so if anyone has questions about lost time for pregnancy or medical or other issues, she is the person.

In the late 1980's, the Surgeon General became very concerned about issues of how we are able to provide adequate services to women aboard combat logistics support ships; small ships without doctors. To that point, women have largely been assigned for the last quarter century to large tenders; ships that stay alongside port. About three-fourths of our ships do not have doctors on them. They have an independent medical duty corpsman, who is kind of like a medic with some expert training. We were asked to take a look at health care utilization issues and training issues. We developed a model which led the way into the held belief model that a lot of complex multi-determined issues go into health care and health seeking behaviors.

The ship is a beautiful place to do these kinds of studies because you can control access to care and barriers to care, occupations. We had a marvelous opportunity to take a look at this. What we find is similar to what the private sector literature finds, the paradox that women are sicker than men and men die earlier than women. Probably that is due to a lot of factors, but generally speaking, women do have more acute disorders. In all of the countries that collect this data it has been shown that women utilize more health care than men; about one-and-a-half times as much.

In our shipboard studies we found that that is true as well, but the difference in the well-over-risk ratio and the odds ratio between utilization of men and women is reduced, probably because of some selection factors and all the other health belief factors that we control aboard the ship. We find increased utilization, particularly in general urinary issues, where the ratio is five women to one man. Younger people utilize more health care aboard ships, and our women aboard ships are younger. This has implications, of course, for staffing, training, equipment, prevention, diagnostic capabilities, treatment, and evaluation.

Lost time is an issue, of course. We find in the Navy, particularly for lost time, even after looking at medical issues and pregnancy issues, that it is about the same between men and women, similar to what the Army found. Men just lose time in different ways.

In terms of pregnancy, we have some slides on the latest data. The Surgeon General needed to know how many pregnancies would occur if we had so many women on a ship in a complement; a fixed number of how many pregnancies. If we had 100 women, how many pregnancies can we expect in a year?

Well, one way to do that is to say, let's pretend that we have 100 women and that is fixed. When you do that, about 5% of that crew, of that 100, become pregnant each quarter. That is 20% per year. What happens is that when somebody is pregnant, they are transferred off to other rotations. Really, there are a lot more than 100 women that cycle through that ship in a given year period. One way to look at it as 20% is, if you have 100 women, expect 20 pregnancies. However, that is not really the rate of pregnancy. Dr. Thomas has some data.

DR. THOMAS: I work for the Chief of Naval Personnel. The type of outcome variables that they are interested in have to do with separations, absenteeism, and in this case looking at pregnancy aboard ship assignments. How many more people are they going to have to send to that ship to replace people who will be cycled off? Every woman who becomes pregnant will leave the ship by the 20th week of the pregnancy or if the ship deploys. That is our regulation within the Navy. In other words, we know that we have to replace each woman at the 20th week or sooner. The message goes into the Chief of Naval Personnel, this is the date when her 20th week will occur and you should have that replacement there. It usually doesn't work that well.

What we are seeing here is pregnancy losses from ships from 1985 to 1995. The 1995 data have been analyzed. Based on the first five months of 1995 we come up with an annual rate. The message, of course, is that it has gone down; it has really gone down.

Now, there are a couple of things that could be happening. As you all probably know, the Navy has started to put women aboard combatant ships. Combatant ships have a very different operational momentum to them, than non-combatant ships. Non-combatant ships tend to be tied up at the pier a great deal of the time; people tend to go home at night. Therefore, their life is very much like anyone assigned to shore duty. Combatant ships, of course, have a deployment schedule. They operate a lot, particularly oilers and ammunition ships. They are out more than they are in, with a big operational schedule. One of the things that could be happening here is that the ship's operational schedule may be affecting the pregnancy rate. People are not with their families; they are out there doing their job. There aren't many women who get pregnant while the ship is underway. That is a fact.

The other thing, of course, is that we have had a very concentrated effort to increase the amount of information young women are given about pregnancy prevention. In 1992, at our Recruit Training Center, we introduced our Women's Health Day. Half of the day is spent giving out reproduction and sex education information. The other half of the day the women get their gynecological exams and the doctor talks to them about their method of birth control. We may be seeing some impact of education also.

DR. NICE: I just want to conclude. I mentioned that I was going to talk a little bit about our Defense Women's Health Research Program studies as well. Many of you may be familiar with the special funding program that came out of Congress mandating this. We are indebted to people like Dr. Martin, Dr. Gifford and Dr. Knudson who administratively coordinated this program. We competed at the Naval Health Research Center for some of these funds and, of the 11 funded Navy programs, Dr. Wong and his group were awarded nine of those. So, we have a very large cluster of studies ongoing now. We have focused on a number of things. One thing is that we defined our issues based on customer input. We went to the fleet surgeons, the port medical officers, and found out what the issues were; as well as from literature.

We developed a number of partners, including Dr. Marlowe, Dr. Martin, Dr. Gifford, Dr. Thomas, UCSD (University of California at San Diego), UCSF (University of California at San Francisco) and USUHS (Uniformed Services University of the Health Sciences) and a number of high quality academic and joint partners. We are emphasizing quality, and we have to publish this in peer review publications for credibility. We also have to transition it to people who can make a difference with policy. We are hooked up with the Bureau of Medicine and Surgery's PAT team (Process Action Team) on women's health issues, and they have assured us that they will use our empirical data to formulate better quality policy.

Just briefly I want to give you an overview of what these studies are. We were organized into four major sections in the Navy, one being women aboard ship. We thought that, and had some guidance from BUMED that this was a critically important area. On the women aboard ship areas, Dr. Garland's group (he is the Principal Investigator) has a comprehensive study of health care utilization, stress, psychosocial factors and pregnancy. We are looking at it on a population base of about 9,000 women who are assigned to 50 ships now. We are reviewing health care perceptions and health care from the consumers and providers of the health care, including a number of stress variables.

There is a second study aboard ship and a third study as an intervention for the reduction of adverse gynecologic events aboard ship. We are in partnership with UCSF, their adolescent medicine group, very innovative medical programs, as well as cutting edge biologics. We have done work with them with Marines going to Thailand and very successfully developed intervention programs. We are looking at an NHANES type study of 18,000 women to gather baseline anthromorphic data as well as self reported health issues from a random sample of women, and also a large integrated hospitalization database that Dr. Garland's group is coordinating.

A third area is women in training; looking at illness, injury and attrition in women in training. We expect the rates to be very high for injury, up to 60%. We are looking at different kinds of injuries; generally pelvic, rather than lower extremities, like men get. We are also looking at stress fracture susceptibility in collaboration with Johns Hopkins using vector scan and bone densitometry.

Finally, physiologic requirements for women including heat stress counter measures for women primarily in terms of microclimate cooling. Finally, neck and back strain profiles of women helicopter pilots are being looked at. There are some issues of neck strength and helmet size. We have some on-board micro-digital EMG recording technologies. We have developed air combat maneuvering and jet pilots that we are transitioning to this program.

Lt Col RUNDELL: Like Dr. Marlowe, I have been meditating about what I might say in a few minutes. One area that I think people have been talking about that might be worth addressing a little bit is the emerging sense of ambivalence that this group seems to have about this whole area of research in general.

On the one hand, we have heard Dr. Sutton and others lay out a very clear crisp case that, although there are evolutions in our culture, that there are still miles to go in integrating women into the armed services. Twenty percent of jobs, as you said, are still not available to women, and the stresses associated with that continuing incomplete evolution may have generated health and mental health consequences.

On the other hand, we have heard a lot of people talk about their fears about doing research that has a label on it, particularly one that is politically charged. To the extent that this is, indeed, a politically derived research area (you just saw a slide about the congressional directives defining the areas of research) I thought I might talk a little bit about some of the perils and pitfalls of politically charged research areas. In the military, we have some history and experience with that to call upon, as we begin to develop some priorities and recommend research priorities in this area.

When there is a highly emotionally charged area of research and particularly when politicians and administrators are involved, there are two or three different things that can take place. Those include things like, first of all, how and by whom are research priorities determined? Are they determined on the basis of pilot data or on the basis of politics and agendas of people who have positions of power?

The second thing that may happen is that there may interference by the politicians and bureaucrats themselves and conscious and unconscious biases on the part of researchers who gravitate toward those politically charged areas of research.

The third thing that might happen is the inability to answer or even address the most important questions because of the background noise of those things that are the most "sexy" or get the most attention.

Those have happened in projects before and I will just walk through two or three examples of those just in the recent past in the military, because they may set up a context, as we begin to talk in small groups about setting up research priorities, for this particular area.

First of all, who decides what the research priorities are and how are they decided? Just in the area of women in the military, I think that if we assigned ourselves some tasks in the library, we could see that bias already exists in terms of how research priorities are decided and who decides them. There are any number of studies, for instance, about upper body strength. There is lots of research that goes on about upper body strength and lower body strength. How many studies are there on g-force tolerance and negative g-tolerance? There are a lot of people who believe that women might do a pretty good job in g-environments because of physiology and body compartment sizes and things like that. It turns out that people who have the money may not want to know the answer to that question. People who drive cockpits may not want to know the answer to that question. I am not making accusations here, so much as I am raising the question, when you have politically hot areas, when people other than scientists sometimes decide what the research priorities might be, and even how the data is analyzed.

That brings us to examples of the second area that I talked about, which is the interference you sometimes get on the part of politicians and bureaucrats. The Gulf War Syndrome is an example of the quest for the holy grail of the validating diagnosis that will validate the experiences of a whole lot of people who know that they are experiencing something. In fact, we are increasingly learning that they are experiencing lots of things, a great deal of which have to do with DESERT STORM. When it has a label on it like DESERT STORM, it is really hard to express findings, no matter how well the research is done, in any context other than DESERT STORM. Particularly when it gets to the level of going through all the different filters in the chain until it gets to the newspapers, it is very hard for a DESERT STORM study to communicate in a one paragraph newspaper clip what the context is for that study.

I think there is a real fear about women in the military study having the same fate; that no matter how hard or how scientifically sound the research is, no matter how hard the researchers try to put a context on it and say, "that is a gender in the military study," we are actually talking about the context of women in the military and all the things that go into the clinical or social situation, not just gender. No matter how hard the effort is to communicate that, there is still going to be a problem if it has a politically charged label with some valence attached to it.

Another example of that same thing is the HIV study that has been going on in the military for quite a long time. Political interference has come close to paralyzing at least the behavioral part of that research project. Millions of dollars were spent by the Army to do a worldwide survey; one of the best conducted surveys that I have ever seen or heard of. Five years later, they are still deciding on how that data should be presented, because of the politics and agendas and different viewpoints of people who are on the feeding chain of who reviews articles before they actually get submitted. With the HIV project, as the projects were developing and the protocols were coming along, there were a lot of things like, "you can't say that, or you shouldn't study that."

There are all kinds of problems with putting together education intervention assessments, with using the word "condom" because there is so much valence attached to the notion of what condoms are, and the Pope says that you shouldn't use them at all. The military thinks that if they break 1% of the time, we shouldn't sanction their use. There is the perception that the can interfere with even getting the protocols off the ground, much less interventions based on those protocols.

Thirdly, because of the background noise, sometimes it is hard to answer the underlying questions that people feel are very, very important. To give one example, the Air Force in the last few years has the project of putting the MX missile on the trains and running them out in the desert and launching them; kind of a shell game. What happened back in the late 1980's when it was being studied is that the question came up, that if we are going to put 30 people, largely enlisted, inside of a box car without windows with guns and run them around the desert, then we have got to put security police in those cars. Some 20% of security police are women. Then we have to address the issue, can we put men and women in a locked compartment together for 30 days and what the implications of that are. So, the gender issue came up in that setting. The real questions weren't that. The real questions had to do with, can you lock anybody up in a car for 30 days and run them around the desert? The issue with the valence on it, and the one that received so much attention was, can you put women in the cars? To make a long story short, the women who were in there were measured on physiological and readiness measures and did just fine. It was the male officers who had a tough time. The program ended up getting canceled and I don't think those two are connected, but the program ended up getting canceled anyway.

You sometimes can miss the forest for the trees. The issues that the legislators providing the money want addressed may not be the right scientific questions. We talked about that here today, which is that the main questions may be how do you evolve leadership, attitudes and beliefs. The theory being that if leadership becomes better, mentorship becomes better, role models become better, behaviors change and attitudes change, then the mental health consequences and health consequences of stigma go away. We could spend a lot of our time spinning our wheels studying the effects of the stigma when, in fact, we should be studying the causes of the stigma. That has been discussed here today, as one of the possible compromises of our ambivalence; to go back and study the root causes rather than the effects. All studies don't do this. I am going to see if other people have some comments along the three very different areas that we have discussed this afternoon.

DR. WONG: Dr. Rundell, can I make a comment regarding the political/cultural issue? Picking up on the issue of cultural, political, psychosocial factors, I want to bring up something which may create some discomfort, and that is to look at some of the racial/ethnic issues.

I realize that we do have a breakdown of women according to race and ethnicity. Yet, in the reports thus far, we have lumped all the people under women, and that may be for good reason. First of all, the sampling size may be so small that it doesn't mean much. On the other hand, when we saw through the work that went into the ill-fated Jimmy Carter National Systems Act, which never got off the ground, the minorities and the women got together and argued, "shall we include women under different ethnic, racial groups, or should we lump them together under women because women together combined represent a formidable force and we do not want to separate them?" Similarly, I am wondering if we are not putting all women under this generic term of women, as opposed to looking at what Dr. Holloway has asked us to look at. That is some of the cultural distinctions and factors that play a role into what happens with women.

Let me be more specific. I realize that the studies so far have emphasized that there are white women and there are black women, and for good reason. The black women in the military comprise about 40% of the women. If you look at the Hispanics, they are 5%. Now, you have to remember that the number of Hispanics in this country is very, very large. If you look at the Asians and Pacific Islanders you get 2 to 3%. The number of Asian Americans in this country is approximately 3%. So, the Asian and Pacific Islander women are over-represented, in a sense, in the military. That runs counter to Asian cultural thinking. Asians in this country shy away from going into the military for good reason. It is the war with Japan, the Korean conflict, Vietnam, and the tension with China. So, many Asian Americans do not want to be affiliated with the military. You see this in Japan. However, people go into it. The question is, who are these people who go into the military services? They are fairly equally distributed among all the armed services. We don't hear about too many Asian women pilots or Asian women tank mechanics and so forth.

I raise this issue now because, as you know, there is a lot of feeling about Asian Americans and the military. Two particular cases are surfacing, the one regarding Captain Wang, the Air Force officer aboard the AWACS (Airborne Warning and Control System), and the fact that he is the only military person facing charges. There is a large segment of the Asian American community rising to his defense saying, "ah, this is an example of discrimination." Asians are very passive, and it is easier to label an Asian. Similarly, we had a big fracas last year about a Marine Corps Asian officer, a captain; the same charges. What are they based on? The perception is that if you are an Asian American woman or a man, it is very difficult to advance in the ranks and that Asians, by culture and background, tend to be passive. They don't tend to make a lot of noise. Therefore, if you are looking at sexual harassment and abuse and so forth, do you have an under-reporting of these events by virtue of the culture, by virtue of the family dynamics? I would raise this as part of the things that we ought to consider as well as why did they go in to begin with?

I think also, in looking at this issue, one has to look at Asian subgroups. Who are the Asian men and women who go into the military? The perception is, that many of the Asian Americans who traditionally went into the military were people from the Philippines or Hawaii, where there was a constant military presence. By the same token, it was very difficult, in fact it was expected, that they would not be officers. So that if you had women going into these branches, the expectations are lower. The expectation that one might not be treated equally might be lower as well. I think these are things that we have to factor in, in terms of who the people are who come in complaining, whether it be with somatic symptoms or whether you come in with harassment charges.

They probably wouldn't talk about it; they may not talk about it. That would be confounded with people now going in, many of them obviously in the medical service corps, the medical corps. These are second, third and fourth generation Asian Americans. They have a very different response, and would have very different expectations according to what they want from the military. My plea is that if we are going to study women in the military and we have the data, will we not take into account the different ethnic, racial groups among the Asians? There are 37-plus cultures and they are very, very different

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DR. URSANO: Dr. Wong raises an important issue which I want to underline before we get to the small groups, I think it echoes some of Dr. Marlowe's comments in particular. There is the question of the cultural experience of people as they come into the military but, in addition, the cultural experiences in different cultures. There is the issue of the Japanese who, in fact, fought in Vietnam or were deployed to Vietnam, whether or not male or female; the question of African American women or men who were deployed to Somalia, which is a point Dr. Marlowe has frequently made. There is the example that Dr. Marlowe gave also, of the question of the cultural stress of serving in the UN force when one country, as a normal part of their culture, recruits children into sexual acts; not as an abnormal event, but as a normal event.

DR. MARLOWE: It is an abnormal event, but it is not uncommon, and part of what is conceived of as the license to do these things on peacekeeping missions.

DR. URSANO: The experience of meeting a different culture, whether one's gender be male or female, has an additional component to contribute to questions of performance and health.

DR. MARLOWE: I think there is a reason we haven't analyzed the data, and that is that when we are dealing with large data sets, the numbers are simply too small. This is the basic problem. We would have to go out and really do a tremendous amount of over-sampling in order to get anything that was statistically adequate. We have the data but there aren't enough people to generalize anything from it. One can deal with it only as case studies.

DR. HOLLOWAY: Just one thing to add to what Dr. Marlowe just said is that those populations, small as they are, "aren't worth it". The funding is not there for the over-sampling that will give you that data set. That is a statement by the larger organizations about values. Look at budgets.

DR. LLEWELLYN: A couple of comments. I was going to comment on the same thing that Dr. Wong brought up because I think it is terribly important and I couldn't have said it nearly as well as you did. I think we really have to keep in mind whether it is possible, whether it is politically incorrect, or even if it is scientifically correct to say that there are few, if any, identifiable differences in health related responses to stress or the ability to perform between males and females in the military. My sense is that the whole thrust for the Defense Health Initiative is driven more by a congressional interest in paying appropriate attention in general to women's health issues, which have been ignored particularly at the research level for an extended period of time. I think there is the very real possibility that whoever is going to be judging the product of this conference and the product overall of the Defense Women's Health Initiative may, in fact, be looking for such things as, "well, what are you men doing about breast cancer and what are you doing about cancer of the cervix, and hypertension and so forth?"

I am not sure that the perception of the health specific aspects of women in a particular occupational setting are what led to the identification of this set of funding sources and programs. I don't suggest that that should constrain them in any way, but I don't think we ought to be fooled by why it is that anybody is putting money into looking at this.

I think we also need to pay attention to the inferences made. I think the most direct statement is Dr. Lebegue's, and I don't want to put words into your mouth, but I think your comment this morning was about maybe we could sort this into either a personnel or a health issue. In fact, the military does look at things in that light. We run a risk if we are making recommendations about how great it would be to improve leader development in order to go beyond the 75% response rate of females in the military where they are saying, "my leadership in my unit wouldn't have permitted harassment;" to go from 75 to 100%, there is a very good chance that command people on the leadership development side, not the personnel screening folks, may say, "if there is no health related issue, then why are you recommending that we pay attention to this or spend money on this?"

I don't want to be throwing a wet blanket on what the discussions are going to be like. I think it is terribly important that we know from Dr. Ursano, and that we are willing to deal with the fact that it seems that what is being sought is ideas about policies that deal with stress, trauma, and health related issues. If, in fact, things that go beyond things not formerly associated with policy recommendations are indicated, that is fine. The point of what I seem to be hearing is, there is not a whole lot of that out there. I think before we go off into small groups, perhaps we need to be re-charged on what it is we are really going to focus on.

DR. THOMAS: If I could just comment, in our equal opportunity surveys and sexual harassment surveys in the Navy, we do over-sample minority women. One of the pressing findings we have had in the sexual harassment arena is that black women report significantly less sexual harassment than do white women, yet black women are the least positive of any subgroup with regard to the Navy's equal opportunity plan. I am in the process now with my colleagues of conducting focus groups among black women to try to get at the roots of this. We do not have a large enough sample of Asians to draw any conclusions. We did a 100% sampling of Hispanic women officers, but again, the numbers are small. It is difficult to find significance, but their rates tend to be higher than those of Caucasian women when it comes to sexual harassment. When it comes to equal opportunity, they fall between black and white women.

DR. WONG: May I make a comment in response to what you said? I think that the expectations among many Asian Americans might be less. We need to realize that many Asians were not allowed American citizenship until the exclusionary laws were repealed in 1949. From 1928 on, you could not be a citizen of the United States, ergo you could not join the military. Not only that, you could not be an officer if you were in the Navy and you were Asian. People going into the military really didn't expect a great deal. On top of that, many Asian cultures are male dominated and women are not to be given parity even at home. They go in some instances from a culturally oppressive male dominated society into the military. It is not terribly different in some respects. You are not going to hear a great deal in that line. Also, I think one thing that is different about Asian families is that sexual abuse and violence may not be that common among Asian families until recently. This is something that was very unacceptable. Again, it was a cultural variation in terms of the factors that lead to illness, or for people who are in the military, that lead to complaints of harassment and trauma.

DR. MARLOWE: I just want to make a comment with respect to what Dr. Llewellyn said before. The issue of health outcomes as well as personnel outcomes on programmed losses of people who we should not lose, is really implicit in everything that has been said here and maybe we had better make it explicit. I think that there is an issue that I have been concerned about and I think Dr. Holloway has been concerned about. It is recognizing within this that gender is simply one parameter, one role within the structure in which these health outcomes are being determined. Gender is not the determining parameter, but the way that people deal with and treat each other, utilizing gender as a phenomenon.

DR. NUNNELEY: I wanted to respond to your comments earlier about physiological differences between men and women, which is my area of expertise. We have already said earlier that there are some measurable differences in the mean characteristics of the populations, but there is a lot of overlap. In terms of physiological response to environmental stress, we have underlying genetics, training, and recent experience, all contributing to how a person responds. I think that gender is just one way to group people, and it is fairly arbitrary, and it applies to these things. I would like to give you three specific examples to think about.

One is the old bugbear about upper body strength. I was just at a meeting of the American College of Sports Medicine where some Army investigators were quoted on some task oriented measurements; specifically, stretcher carrying. What they found was, if you try to have women carry stretchers in the same way the men do, they can't carry as many over as long a distance and so on. If you allow them to develop their own techniques, or to use some simple little assisting bits of equipment, like a strap that goes over the shoulder and hooks into the handle of the stretcher, they can do the job just fine. The same thing for measuring the ability of women to do the jobs in cockpits where they have to exert muscle strength in some of the older aircraft. Basically, they are saying, "sit in this way, in this space which was designed by and for men and then try to do the job the men do." The answer is that if you let the women work around it, they can do the task. For instance, the example was cited of being in a C-131 with an engine where you have to put a lot of rudder in. If you just hook your toe under one rudder so that you can put the pressure on the other rudder, you can do the job. Are the rules in these things being written so that the women won't pass? I think there is a tendency to this.

G-tolerance. A human being is a human being. They have got the same kind of hydrostatic column and the same kind of pumping mechanism. The differences are minimal. However, in the high-g field, you have to give the woman a g-suit that fits her and that when the bladders inflate, doesn't break her lower rib, which is the tendency. That is one thing the Air Force is working on right now. It is a tailoring and equipment problem, not a physiological problem.

Third, in the area of decompression sickness, there have been and are a lot of studies going on where women are measurably more susceptible to high altitude decompression sickness. My personal question is, since we are talking about a small susceptibility in men, which we get around by using pre-breathing and pressure suits and whatever, and a measurably larger susceptibility in women, I have never been convinced that the difference is big enough to make a difference. I think that has still to be demonstrated.

My last comment is, I think that part of what we are dealing with in the physical and physiological realm is what I call a cultural shift, and you will probably all jump on me. In the good old days, we used to send the men out and we would say, "try this out and see if there is a problem." Now we want to determine whether there is a problem before we let the women try it.

Lt Col RUNDELL: We have about five minutes left. I want to take two minutes to tell a story. In the Air Force, flight surgeons often go out and do aircraft accident investigations. There are two teams to do that. There are the men in the black hats who go out to assign blame and determine who to point fingers at and who to punish, and there are the men in the white hats who go out to do a lessons learned kind of a thing. Those people, when they finish often give a closed report; several people in the room report their findings. I had an opportunity to sit on one that had a very interesting outcome.

It turned out that one of the investigators was an Air Force major, a flight surgeon, right out of flight medicine residency in San Antonio, who is a woman. The other members of the panel were all colonels who were all Caucasian men. She was giving her part of the report, and the audience was full of mostly all men. She had to summarize some of the recording findings and some of the things that were said on the recordings.

As it commonly happens when someone is driving a plane and they get shot and they are going down and they are about to die, they will say things like, "my god, what have I done, tell my wife and kids I love them." She was reading this. All of a sudden there was silence and then she burst into tears. Now, the tension in the room went right up. You could read people's minds, and you could even hear comments. You could hear an, "oh, god." You could see on people's faces that some of these men were thinking things like, "here we go," and all the stereotypes and all the opinions that you could have just came to the fore here.

The full colonel running this could have handled this a number of different ways. The way he handled this was not to label this a performance decrement or anything else on his flight surgeon's part. What he said was, "thank god women are now in the military, now we can really have a sense of what our business is really all about."

You could see the tension in the room go down. He handled this in a way that we could study as a performance issue but, in fact, was a leadership issue. It is an example of some of the things people are talking about here today.

DR. URSANO: I want to first thank the panel for their outstanding presentation and discussion. As we move from 30,000 feet to 6 inches and as we move from the forest to the trees, the weeds get more difficult to tell apart from one another. We are definitely at the tree level and perhaps at the bark level. As we get there, things get harder to discern. I want to thank Dr. Marlowe, Dr. Nice and Dr. Rundell for helping us with that.

Now I would like to address the questions that they raise, so that there can be further discussion in the small groups this afternoon. Dr. Rundell has been well tutored throughout the years. One of the things that he has learned has been to speak the unspeakable. The unspeakable on his part has partly been tutored through associations with USUHS, and probably through associations with Dr. Holloway. He has been able to lay on the table issues that we need to keep in mind.

I would add a corollary to his statement, however, which is that the evilness of people and their motivations to do research and apply things is not only out there. Everybody at these tables has an agenda; absolutely. It could be, "how do I in fact put forward that women are great; how do I put forward that women are terrible; how do I get money for my laboratory; how do I in fact get money from my hospital so that I can do hospital care research; how do I in fact advance my career." It is full of evil intentions. It just reeks in this room. Isn't it wonderful. It is, in fact, what the world is made up of. It is, to quote a famous person, "as clean as the new-driven slush or the Washington snow."

It is not snowy white and never has been. Even for a moment, to put on a psychoanalytic cap, as it is impossible to go from motivation to outcome, you cannot go from what is the motivation of something to what its outcome will be. However, one can be knowledgeable of the motivations that are present, which I think is what Dr. Rundell is reminding us of. The question is how to make use of evil, at times, to find a way to perhaps do good. Is that pie in the sky? A little bit, but it is not a bad intent. Let me remind you that those things have happened in the past.

One of the people some of you will know. This was the person who, from my view (and those of you who know better, correct me if I am wrong, but I don't think I am) who in fact got the behavioral studies on HIV off the ground and implemented and coordinated across tri-service events, is sitting at the front of this table and was, in fact, the chairman of the last panel. He knows those studies intimately. His studies and comments before Congress and what he has published in the literature document the rates of suicidal risk in early HIV infection. These studies had impacts on saving people's lives. His testimony on the issues of whether or not we should have take-home kits to measure HIV probably also saved people's lives.

Another terrible example has to do with studies of substance abuse during the Vietnam era (which a number of people in this group participated in) which contained terrible things that no one wanted to know about, that our troops were using heroin. In fact, are we bad people? Several things came out of that. Among many which I would comment on, one is, we learned a great deal about the question of what constitutes a substance abuse culture. It was not just whether or not one had a needle, but it was how the social relationships existed that impacted upon the development and use of substances.

Secondly, there are studies that were funded by this evil force, which is funneled through WRAIR (Walter Reed Army Institute of Research) which were presented by Lee Robbins, a distinguished professor and psychologist at Washington University in St. Louis. The nation still needs to learn that in fact heroin addiction has a contextual component. That study could only have been done in the military. The United States will continue to believe that once you are a heroin addict, you are always a heroin addict. We have the data to show that is not true. It could only have been done in the military, where we can document the context, the influence of addiction, and the context and influence of the recovery; unique studies in terms of the opportunity to perform them.

Let me remind you of one other area. Some of you were participants in a conference a number of years ago that had to do with the self-contained protective environment of the Air Force that was going to save us all from chemical and biological warfare. Correction. It was going to save active duty troops from chemical and biological warfare. They were to be deployed everywhere. For those of you who don't know, a SCIPS unit is an underground sewer pipe. People were going to live in the sewer pipe and medical teams were going to operate in the sewer pipe. The outcome of at least one comment to derive from that conference is, "this is crazy, don't do it." Did we stop the Air Force from doing it?

No. However, did we in fact develop from that the documentation which went out to a huge number of physicians to help prepare them for CBW (Chemical and Biological Warfare) attack in Operation DESERT STORM? Yes. Did we develop documentation that was used by the Institute of Medicine and highly used by a distinguished member of this group sitting at the other end of the table, Dr. Margaret Singer, in writing up the impacts of mustard gas on World War II troops; and the stress and disease that it can cause in them, to allow them to receive compensation? Absolutely.

Last example. Another terrible thing which no one wanted to hear about, was prisoners of war. There are a number of people here who have looked at prisoners of war from Vietnam and earlier. Despite the fact that we wanted to believe that people are evil and it is bad people that get bad disease, from World War II to the Korean War, to the Vietnam era there has been a voice that stated, "good people have bad things happen to them." Dr. Page's work has been critical in looking at World War II and Dr. Singer's work has provided critical inights from the Korean War. Several others present have work related to these issues in the Vietnam era. The result has been compensation for illness and the opportunity for people to have recompense for bad things that have happened to them. So, good can come, even with evil intent. The question is finding the nugget and recognizing that evil can also come from evil intent.

Let me then move to the last point which I will take from Dr. Holloway and let him amplify later on in the conference. That is the question we need to ask is, "how do we communicate what we want to say, recognizing the probability not the possibility of its distortion, and secondly, how do we target what we want to say?" Are there particular areas of national research for the DoD and the Air Force (in particular, the Surgeon General) that need to be asked within the military population because these questions can't be asked or studied anywhere else? It is a unique resource to the nation to answer these questions, not only because it is a unique resource to the Air Force, the Army, or the Navy.

Those are things I am willing to fight real hard for money for. If, in fact, it is something somebody else can do, maybe somebody else should do it, because they have somewhat different problems to deal with. Some studies can't be done somewhere else. Then we have to argue about how we do those studies. Then we discuss how we have them replicated so that the credibility necessary to have them visible will, in fact, result in an impact.

The question isn't whether we make recommendations, because the absence of recommendations are recommendations also. The question is whether or not we make recommendations that we want to have heard and hopefully want to have implemented. With those thoughts in mind, I would remind you that the small groups start at 3:30. Thank you.

DISCUSSION GROUP I - SESSION I

Sidney Blair, Ph.D. , M.D.
CAPT, MC USN

CAPT BLAIR: I think it is time to begin. I am Sidney Blair and I am your group leader today. I want to begin by doing an orientation. The first thing I want to talk about is the product that is supposed to come out of this weekend. I have a list here of the sorts of things that we may do. The second is research hypotheses. The third is training needs. The fourth is medical policy. The fifth is command policy.

I would like to give you a charge. To me, the discussion so far has seemed terribly tame. What I would like you to do is come up with something that is controversial, that will excite some energy, that will make people say, "ah-hah, now there is an idea!" It needn't be highly original, but it should be something where there will be at least two sides to the question. It may be difficult because the issues that we listed and discussed yesterday are so much apart. It is sometimes not easy to appear to be taking sides one way or the other. Why don't we go around the table. Say who you are and also say why it was, from your point of view, that you were invited to be here today.

LTC NORWOOD: My name is Ann Norwood and I am in the Department of Psychiatry at the Uniformed Services University. I have been tasked to look at the medical school curriculum in terms of developing an ideal women's curriculum. My particular task is in the area of psychosocial issues. I am also listening to that here today as we talk about various issues.

MAJ FRIEDL: I am Carl Friedl. I am an Army major at Fort Detrick in the Medical Research and Material Command. I am a research physiologist. Endocrine physiology is my real background. Part of the reason I was invited here is that I had something to do with helping write the check in support of this whole thing. We wanted to attend so that we could observe what was going on. I think we have become more participants than we had expected and I am happy about that.

LTC KNUDSON: I am Kathy Knudson. I work for the Department of Military Psychiatry with the Walter Reed Army Institute of Research (WRAIR). I had been helping Dr. Bob Gifford and Dr. Carl Friedl do the administration for this project. That is why I was invited. I started off in 1971 to 1973 in the Women's Army Corps and worked in the late 1970's and early 1980's with Dr. Dave Marlowe and Jesse Harris on a small women's study that was going on at the time.

DR. SCHLENGER: I am Bill Schlenger. I am from the Research Triangle Institute. I was invited because I was one of the investigators on the National Vietnam Veterans Readjustment Study, which included the only representative sample of women Vietnam veterans examining both an assessment of their mental health. status and their physical status.

DR. MARLOWE: I am David Marlowe. I am Chief of the Department of Military Psychiatry at the Walter Reed Army Institute of Research. I suppose a rational reason for my being here is some of the work we have done over the years with women.

COL GIFFORD: I am Bob Gifford. For the last two years and for the next two or three weeks, I have been and will be the Director of the Army Operational Medicine Research Program in the Army Medical Research and Materiel Command. Before that, I worked with Dr. Marlowe and was working for him for several years in his studies of stresses on soldiers deployed in the Persian Gulf and Somalia. I know exactly why I got invited here. The FY94 Defense Women's Health Program that Dr. Knudson and MAJ Friedl so ably administer came under the Army Operational Medicine Research Directorate. I said, "if we are spending all that money, I want to be invited to go to the seminar, too." That is why I am here.

Lt Col RUNDELL: I am Jim Rundell. I am the Training Director for the National Capital Area Integrated Tri-service Military Psychiatry Residency. I think I am here because I have done some research particularly in tri-service settings before. We have made a good attempt to look at HIV-infected women in the military as a subgroup of a larger study.

Maj McGLOHN: I am Suzanne McGlohn. I am a psychiatrist at Brooks Air Force Base at Armstrong Lab. I am on active duty. I work for the Air Medical Consultation Service. Part of my job is evaluating aviators which is one kind of different perspective I have. I also received one of the DWHRP grants to look at male and female aviators.

SMSgt JACKSON: I am Steve Jackson. I am with the Department of Psychiatry at USUHS also. Besides providing logistical help for this conference, I think the reason I am here is that I have a lot of experience with training for the Air Force, specifically in mental health.

Lt Col RUNDELL: Just one other thing is the enlisted perspective. We are a bunch of officers sitting around thinking of this from our point of view. I have always found that when you talk to enlisted folks that the perspective is often a lot different. I will pipe up every now and then about that, too.

DR. GARLAND: I am Frank Garland from the Navy Health Research Center. We are very much involved in the Defense Women's Health Research Program with studies of women on board ship and several other things that Dr. Steve Nice mentioned.

I was intrigued by the charge that you gave us, in light of comments that were made earlier by Dr. Rundell, concerning some of the difficult areas, because he stressed HIV.

In our department we have the HIV central registry for the Navy and we have been involved in that since 1986. We have seven studies in the Gulf War arena. Then he also mentioned the difficulty with defense women. We have nine studies in that area. We are looking for data that is tame. I don't know if we will live up to your charge, but we will see what we can do. Let me just add that I am not an expert in this particular area. I consider myself a student and enjoy the opportunity of hearing what you have to say about these topic areas.

CAPT BLAIR: The research area that I have been involved in that is relevant to this is the study of a particular environment, that is Antarctica. We study small groups of people, which include women, that are isolated and confined for a long period, such as nine months at a time. I have been particularly interested in trying to find out generic ways in which women adapt themselves to that environment, particularly with regard to their management of sexuality.

DR. GARLAND: Let me add one thing to that which might interest you since that is an area of your interest. In the "Women Aboard Ship" study, we capture what is actually seen in sick call and also use extensive questionnaires, most of which is psychological aspects. Those have been contributed by Dr. Jim Martin and Dr. Dave Marlowe's group.

This year we are considering Antarctica just as another ship. The winter-over medical officer is Randy Heyer, and he is giving the same questionnaire that we are giving aboard ship; at the beginning of the winter, over at the mid-point and then at the end. We have that population involved in the shipboard study just as though it was another ship.

Dr. Blair, you probably know more about this than I do, but if I recall the numbers involved, there are about seventy women and about two hundred men involved. We didn't get the questionnaires down there in time to get it out to a remote station at the Pole that apparently had about ten women and a group of men. However, we do have the major group.

DR. MARLOWE: The Australians have a major psychosocial and psychophysiologic project going with their Antarctic people this year.

DR. GARLAND: This is through the Medical Department with Randy Heyer. I am sure it is not the only thing going on.

MAJ FRIEDL: Can you give us a thumbnail sketch of your findings?

CAPT BLAIR: Well, I would say at the outset that my approach to work there is entirely different from anything that has been done. This is because we are studying large groups and gathering data which can be processed by computer. My approach is probably much more characteristic of the way a psychiatrist goes about anything. That is, that you talk to individuals and try to figure out what is going on with them as individuals. It is not a questionnaire-based approach, because I found that people tell you things when you do a free-form interview that I would never think to put into a questionnaire. They have stories to tell which are sometimes very vividly illustrative of their experiences.

Let me just say a few words about the way they manage sexuality. The groups that I have looked at have had few women and lots of men, comparatively. To understand things thoroughly, we must understand that these individuals are self-selected people to go down there and be in Antarctica. They have a set of expectations when they go down there and I think their expectation set is probably very important.

In general, the expectation has been that they will not have a lot of sexual activity because there aren't going to be very many women down there. Therefore, to expect to have a lot of heterosexual activity would probably be unrealistic. If you want to have sex every night, you don't go to Antarctica in the first place.

That aside, once you get there, you may find women around. The question becomes, "how is the competition for the women handled among men? Also,"how do women manage?" One solution that I have not found in the winter-over group is promiscuity. It is rare, as far as I can find out, for a woman to have very many sexual partners in the course of a winter. Probably the most successful way for a woman to handle this is to establish a relationship with one male and keep that relationship through the entire winter. It is usually what you might call an alpha male; the most important, or very nearly the most important male around there. It depends, of course, on the number of women you have, how many can manage that.

One of the rules is that this sexual relationship must end before the winter ends. That is, relationships that begin in Antarctica must end in Antarctica. It is rather like the summer romance you remember when you were in your teens and twenties. That is, you go off on summer vacation and you meet at the beach and you have a relationship of some sort. The rule is, that it is over when the summer comes to an end. Another successful adjustment is for the woman to say that she has a steady relationship with somebody who is not there; that is, somebody who is back home, a fiance, boyfriend, whatever. This is very well accepted.

A third kind of adjustment women adopt is to go into hiding. That is, women usually have quarters which are reasonably private. They bunk alone. It is possible for a woman to do her work and to go back to her room and do nothing else. This is a markedly unacceptable kind of adaptation for the troop. Even though her sexual activity is no greater than the others, it is not a successful adaption.

The reason why two of these work and the third does not work is that the women are valued very much for their social presence. That is, they are expected, in the community of men, to carry the role of mother, sister, or best girl with whom there is no sexual contact. If a woman doesn't make herself available for that kind of relationship, the men in the environment do not like her a bit. They feel that something is being taken from them that is very valuable. They can easily put up with the woman attaching herself to a single man and staying with him, because there is no competition then. The relationship with somebody off the ice is perfectly acceptable because there is no competition for her. Even though there is no competition for the one who goes into hiding, she is not providing the social contact which is so valuable to the community.

DR. MARLOWE: I wanted to make an observation. You have justified what I have described over and over again as the three dominant patterns of adaptation in units in Germany in the early 1980's which had very low female contact. The dominant one was choosing an alpha male within the unit as lover/protector. The other was saying no, and hiding. There was a fourth which was not available in the Antarctic which was to re-orient yourself toward the German universe. That was much smaller than the other three.

COL GIFFORD: I think there are some real parallels to what we saw in the Gulf and Somalia. The success of those adaptation patterns may be more arguable because of a different sexual situation. There are a lot of parallels to the Army where in most units, females may not be as much of a minority as in yours, but most of them will be. Then you get a larger conglomeration of units. You might get an engineer platoon where the females are eight out of fifty, but you put them in supporting an infantry battalion of four hundred so that now they are eight out of four hundred and fifty, as was the case at one compound in Somalia. I think you will see very similar sorts of things.

DR. MARLOWE: But not so, and I think this is the interesting issue which is demographic, even in Germany in units that were 50 or 60% female. The organizational pattern was much, much looser with no necessity for these kinds of alliances or statements.

COL GIFFORD: In the Army in the Gulf, the chaplains felt the need to throw in special things in the returning briefings about how to go about terminating these relationships. They gave common sense tips like it is probably not a good idea to wait until you are on the plane because you can't talk on it. Definitely do not come off the aircraft holding hands as your respective spouses are there to greet you. I am making you laugh now, but it was not real funny to people at the time. There was one man who came into the mental health clinic who wanted to extend in Saudi until December because his wife had been tipped off. This is not a mental illness; this is a "you are in trouble, pal." It was an issue for a fair number of people.

DR. MARLOWE It gets you to the very real problem that one of the arenas which most of us consciously keep away from is sexuality in any form. I had a passage with the Chief of Staff of the Army. We were briefing some of our findings from the Gulf. I pointed out that, indeed, particularly in the post-combat period, that there had been any number of sexual liaisons that had come into being.
The Chief's view was, "well, what else would you expect? They are consenting adults; put consenting adults together, that is going to happen." It is not the institution we fight, it is what happens when the press gets it.

COL GIFFORD: In my perspective, it is not so much what happens to them as consenting individuals but what, if any, effect does this have on the overall unit adaptation? For instance, the alpha male response. What you define as the alpha male would not necessarily be the highest ranking male. If it was within the unit, that creates another basis of myth. For us, it was cohesion and effectiveness problems and does this enter in? It is a hard area to look at. I commend you for having done it, because it is a pretty sensitive area to begin to look into.

MAJ FRIEDL: It seems like a great theme for this group, if you want something a little controversial.

Maj McGLOHN: I am interested in what you want to do about it. Is there anything?

CAPT BLAIR: Not yet, because there are some other things to look at and because it is not sexuality alone. As I suggested already, social roles are very important in deciding how successful or unsuccessful a sexual adjustment will be. There are other expectations around it that have to do with sexuality, but not general sexuality.

Let me just add another dimension to this. There are women who go to Antarctica who are interested in having a sexual life. As a matter of fact, I think that on the whole, the women who go to Antarctica have a much more successful social life than do the men. It is not just a matter of having more men available. Occasionally, a woman will go to Antarctica who is aggressively sexual and that brings up other social issues. What this has to do with is male bonding.

Males tend to form up together. You can picture the sort of situation this is. We are all off on an adventure; we are all fighting the elements together; we are exploring the unknown. This sort of thing appeals to males a lot. Whether it is true or not, they like to feel this way and they do everything they can to make it seem that way. Unfortunately, Antarctica has already been discovered and they are not really doing all that much, but they sort of team together for this fantasy. This bonding makes them very sensitive to anything that might disrupt that bond.

There was an example where not one but two women were assigned in a sixteen-man group at the South Pole. Both of them were interested in a lot of sex for various reasons. One needed a life partner. That was a non-starter because by definition everything that begins in Antarctica has to end there, or will very soon thereafter. So, that didn't work out well. The other woman was constantly making advances to men. When she was repulsed by the men, what she did was make claims that they were all homosexuals, and complained about this. Now, as far as I have been able to figure out, overt homosexuality is unknown in Antarctica. Why, I can't tell you, but no one has ever reported overt homosexuality. There is a lot of homosexual play among the men, where they will touch, push, and say sexual things to each other. Actual homosexual behavior, as far as I can tell, does not happen. However, it is not acceptable that a woman should accuse men of homosexuality.

The way the men handled this was by assigning a single member of the group to be a sexual partner for both women, have ongoing affairs with them, and come back to the men's group and tell stories about what happened. Obviously, this provided them some entertainment as well as solving the problem of sexual aggressiveness. When they found out, of course, they became totally non-sexual. They gave up the whole game for the rest of the winter.

I think this is a very complex kind of interaction for social roles and group formations of various kinds are complicating factors that make it awfully hard to tell what you are going to do without the kind of social diagnosis of the particular group that you have at that time.

DR. MARLOWE: I think that you open an issue. What we talked about primarily in terms of male/female relationships is sexual harassment. We really haven't talked about this entire range of other expectations, demands, et cetera, within the structure of the group. Certainly in the Gulf we saw these as large. It was anticipated on the part of male soldiers that female counterparts were the people they could bring their love problems to, their child problems, problems with spouses, or problems with family because they understand these things. You had a constant set of expectations and demands in terms of maintaining the normal social structure that had nothing to do with sexual harassment or sexual desire, but a great deal to do with these other social needs.

Maj McGLOHN: The reason I asked you what you want to do about it is I had some personal experience with it. I was a flight surgeon in Korea for an all-male fighter squadron and I was the only woman assigned. I thought about it before I went there. I knew I was going to be assigned to a squadron that was all male. I didn't know about these three different methods of coping, but what I decided to do before I went included two agendas. One, I wanted to be part of the group, and two, I wanted to succeed. It was my first assignment as a physician.

I felt the best way to succeed was to be a part of the group and not choose anyone, not be someone's girlfriend, because I was single at the time. That was my plan when I went over there. My experience was a really excellent experience. I did end up being the sister/doctor/priest/confessor who was the person who people felt that they could talk to. I did get involved in all the male bonding activities. I shouldn't say all. There was one activity they told me I really shouldn't do. In our squadron, you never would leave your wing man. That is one of our things. When you go places everybody has a number and you sound off and you don't ever leave your wing man. When they were going do this thing in the Philippines that they didn't think that I would be at all interested in, they assigned a wing man to me and we went off somewhere else.

I was a part of the group. I didn't have to be just like them. I was the female social person like you were talking about, the person that the men could talk to who they felt had a different perspective. I was valuable to them in that way. I was also their doctor, so I was valuable to them in that respect.

Lt Col RUNDELL: Which role did you develop first? Did both of those happen at the same time or did they have to occur in a certain order? Did you have to become the little sister before you got their trust as a doctor, or was it the other way around.

Maj McGLOHN: I think I had to become a part of the group before I became trusted as their doctor. That is one of the things that I learned. What we are taught is, if you really want to have the trust of the fliers, you really have to be a part of the group. I became a part of the group first. The way I knew I was part of the group was, after the first week I was there they said, "hey, doc, how come you aren't wearing a flight suit?" I said, "well, because they haven't issued me one. We are in Korea, we don't have any smalls." The smallest guy in the squadron went up to his room, got his flight suit, brought it down to the bar and said, "okay, you have to change now, because you can't hang out with us if you aren't wearing a flight suit." That is when I knew I was part of the group.

Then they would come to me if they had a problem. They would knock on my door. If one man got into a brawl and broke his hand, he would come around to my room to ask me what to do about it. Of course, I had to bring him to the clinic. I guess he thought I could magically heal him in my room. I know this is just one person's experience, but I think some of the things you cite are what I experienced. The reason I asked, "what can you do about it?" is some of the training that I had as a flight surgeon prepared me for what to do about it. It wasn't gender specific. I had to think that up for myself. I think that maybe that is one of the things that groups like this can come up with. What can you tell them before they are in that situation that is going to help them to succeed?

LTC KNUDSON: Do you think the role of physician also might have protected you a bit? I imagine a group like that would really trust the person who is in charge of their medical care.

Maj McGLOHN: Actually, they mistrust us because they think all we are going to do is take away their wings. You have to gain their trust. I am also doing a research project right now that is looking at male and female aviators and I am asking men and women pilots a lot of the same questions. I am doing what you said you are doing. I am talking individual to individual, and that produces a discourse. What I am finding out is that a lot of the women are telling me that they had very similar experiences to mine. They don't have to be just like the men.

I thought at the time, well, maybe I don't have to be just like them because I am a doctor and not a pilot. A lot of the female pilots are telling me the same thing, and so are the men. The men are saying, "we like having women in our squadron because they give us a different perspective. They don't have to be just like us to be a part of our group." That is what I am finding in my research and that is what I found in my own personal experience.

MAJ FRIEDL: Would you expect there to be a difference as you increase the proportion of women? When it is 50% women, it seems like the dynamics are going to be completely different. Maybe there are more problems than when there is a minority and they played this mothering role.

DR. MARLOWE: If you look at the ethnic literature, there is a tilt somewhere between 15 and 20% when the roles being played in the social structure change. The hypothesis has always been that at that point there are enough people like you, (most of this has been done with African Americans), to shift the set of relationships within the group. Maximum stress and maximum strain come when there is a very small number of people who are different in any group. When you hit about the 15 to 20% point, things start evening out. Relationships begin changing, social support is more widely available, and there is a sense of solidarity with others.

I don't know. I think what we have here is a potential research hypothesis in terms of the whole question of role strain and dissociated stress. What are the ranges of it and is it demographically relevant in terms of groups in which there are small numbers of women and groups in which there are large numbers of women?

Again, I go back to Dr. Blair's example from the Antarctic. I saw the same thing in Germany in units that had 5, 6% women. When you went into a medical unit and it was 50% women, you did not see this phenomenon. Where there was no question of it being perceived as being necessary to have a relationship with an alpha male, or to assert another relationship and interpose it between you and the men in the organization, things became, I can't find the right word, I was going to say much more normalized. In that sense, the demands of the social structure weren't there in the same way that they were when there were few people there.

Maj McGLOHN: There is not the initial competition. When I first came to that spot there was the initial competition until they knew what the ground rules were. Then they could all rest easy and not have to compete with each other. Then it just developed from there.

Lt Col RUNDELL: How did you establish the ground rules? Were you alert, or did they just pick it up?

Maj McGLOHN: I told them.

Lt Col RUNDELL: You were right up front about it.

Maj McGLOHN: I am an up-front person. I said that I wanted to be a part of their group, I wanted to feel like I was a part of their group, and that I didn't want to date anyone. That is what happened.

MAJ FRIEDL: There are some other issues about the men's world sort of eroding as you increase the proportion of women, I think. There is this big ARI study of basic training. I guess a recommendation was that we end up with this 25/75 % mix back in integrated basic training. The 50/50 didn't work. It was partly because that many women sort of slowed down the few men. There was more hostility between genders.

DR. MARLOWE: Yet we looked at this years ago when we had integrated basic training in 1978, 1979, and 1980. There were two separate phenomena. The most powerful was the phenomenon of mythology. What happened to the men in the units that had women was that very rapidly a folklore had developed saying that we are getting second-rate training. We are not doing all these things, we are not having the same demand characteristics put on us that other units have put on them. I remember this was at Fort Dix and also at Fort Jackson in 1979. Soldiers were sitting there saying, "look, all the units that are still all male are doing pugil stick and bayonet training every day. We don't because we have women." The reality was that this was in the middle of a period of about 12 years in which we did no pugil stick and no bayonet training in basic training. However, this has become the symbolic reality. They are doing things that men who are in combat training do. "Because we have women, we have a different form of training," even though the training schedules were absolutely identical.

COL GIFFORD: That is fed into, I am sure, by the general myth in the Army, and I would assume the Air Force and Navy training, that it is not as tough now as it was three years ago or five years ago. That just can't be true because the rumor has been going on for 50 years. You know, three months ago, that cycle was tough. You make any change that fits with people's preconceptions and that change will be seen as diluting training.

DR. MARLOWE: This had a powerful effect, by the way, because the males who graduated from those units thought two things. They thought the women were terrific on one level. They bonded with them. They found them a source of support. When they graduated, they felt that they would never cut it as real soldiers because they had been cheated of effective training during the training cycle. The real thing that ended that, by the way, was not this issue. It was the orthopods, and the issue was stress fractures and running people together, instead of running people separately. The other thing the Marines have changed is people are wearing running shoes now. Back then you ran in your combat boots from day one.

MAJ FRIEDL: They run in ability groups.

SMSgt JACKSON: In the Air Force it has gone on to letting them run separately with tennis shoes.

DR. MARLOWE: It is more complex. Part of it really involves the symbolic issues that come into play. I was fascinated by this because I spent time going through the actual training content and watching the other companies. It was no different. The physical standards were no different, the demands were no different. The belief that they were totally different got bigger and bigger and bigger. Part of it is the question of whether or not this was being covertly encouraged by the drill sergeants. I often have the thought that in many cases it was.

MAJ FRIEDL: What about the 25, 50%?.

DR. MARLOWE: It is perfectly reasonable. It is perfectly reasonable if the end point of this is the men think they are not being cheated in training. One of the problems we face, certainly in the Army and I know it is the same in the Marine Corps, is that basic training is the definitive experience kids have coming into the service. It is what creates the image of you as a soldier. There is a tremendous identity transformation that takes place. In the Army, it takes place at the end of the week that you have been on the ranges. You watch kids go up before the mirror and they see themselves differently. Suddenly, I am really a soldier. This is equally true of women as it is of men. It is really in the sense that they are in the most delicate socialization process as well as our most powerful. I think that is one of the problems in terms of people not wanting to mess with it. It has been our most successful.

LTC NORWOOD: I don't know too much about basic training programs. Is the philosophy the kind of old movie thing where the people are still "in your face"?

DR. MARLOWE: No. The Army's philosophy, really since World War II, is not that much in your face. The Army has built a model much different than the Marine model. The Marine model is, tear the kid down and rebuild it as a Marine. The Army model is built on the kid's strength; give them one success after another, so that they will come out of this highly self confident and they think they are soldiers. All basic training is designed to do is to give you the basic tools with which to learn how to be a soldier. It is not designed to make you a soldier.

LTC NORWOOD: Would it be worthwhile for the Marine Corps to have a sort of experiment where they try Army approach? They probably wouldn't go for that, but a different sort of training?

DR. MARLOWE: It would be worthwhile, yes, but the Marine Corps will never do it. The Marine Corps has a concept of turning people into Marines.

MAJ FRIEDL: It is a tradition.

DR. MARLOWE: It is a very special traditional category. They believe in what they are doing. The Army believes in what it is doing. It broke from that model at the end of World War II. Prior to that it was the model of total humiliation, stripping, et cetera. A lot of it got enhanced during the heyday of operating psychology, when a lot of the Army concepts became that positive reinforcement is the only way to go, build on success. This has become very much part of the Army credo, that we are here to make successful, confident people.

MAJ FRIEDL: 1993 is when it started to really transition into a humane environment. They said, "we want this to be a microcosm of the big Army that they are going to go into and it is no longer the 'in your face'." I think they still yell at them a little bit, but it has really changed. We studied the last class of unintegrated women in 1993. All the others were already integrated. The technicians that we brought along, some who had just gone through basic training the year before said, "I can't believe how easy this has become. Everything has changed, they treat them like human beings. What is going on?" The technicians said, "you know, this just isn't fair." They looked into the mess hall, "they give them time to eat, there is a salad bar."

DR. MARLOWE: A lot of this is also folklore. I have studied basic training about five times in the last 30 years. Each time you go first the drill sergeants all say, "we have been stripped of all the power that we had. Why 10 years ago or 5 years ago a drill sergeant could take the kid behind the barracks and beat its teeth in and do all this." What they are perceiving, I discovered as I dealt with them, is the power they felt drill sergeants had when they were trainees. In reality, at that time, if the drill sergeant hit a trainee, there was a court martial the next day and you were gone. This is in the 1950's. A lot of these things never existed.

I was giving a talk at the Air Force Academy. The dean of social sciences, a brigadier general, and I were talking. He was describing to me the great transition that the Air Force Academy had. I think it is germane to some of these issues. The captain of cadets eats with the faculty and their mess hall is this gigantic thing with a balcony. They eat in the balcony. The general was eating dinner with them and the captain of cadets turned to him and he said, "sir, you are a pilot and I am going into flight training. I am going to be a pilot. I really want to know whether what I have learned in here is the way I should treat others when I become a pilot." For example, in the normative routine, he said, any infraction, I drop people for 30. He said, "now, is that what I do with my crew chief?" The general said, "my god, no, you do that you will be dead." He said, "well, then tell me, why are you teaching us to deal with each other this way when we are not supposed to deal with people in the real Air Force this way?" The general then described he and his colleagues talking about it for the next three hours and then going to the commandant's house and discussing it and deciding to break with the West Point model.

One of the things that I think we may have to be concerned with, when it becomes a research issue in this sense, is the analog. What are the things in these initial training programs when the templates are being created involving men and women and the way women are perceived and dealt with. These are the strongest things that kids take out of it. We have watched the evolution at West Point, at the Air Force Academy, and the not-quite-so-successful evolution at Annapolis, in terms of what are the relationships we should have? I don't know what we do in initial entry training, for example, at a place like Fort Jackson or Parris Island in terms of what are templates we are giving male soldiers and females soldiers for dealing with each other. Training is a period of immense power.

COL GIFFORD: I wonder whether there has been a lot of research already on issues that are relevant to the question? One approach might be to conduct a wide scale, fairly comprehensive knowledge, attitudes, beliefs kind of survey that tries to pinpoint specific targets for intervention. It may vary greatly along rank, years in service, age, what part of the country a person is from, and religious backgrounds. It may well be that the key people who can affect changes in attitudes are the very people who have the worst ones. We don't know that.

DR. MARLOWE: Well, I think we know that it is changing. We know that this humanistic model in the Army is becoming dominant as the people who first initiated it move into general rank. A lot of them are three and four-star generals. It has permeated the training base. The real issue to me has always been that the formal structure of the service and the informal culture of the service really often have very little to do with each other. What we really don't know is what the drill instructors, the drill sergeants, and the mid-level NCO's are inculcating. How much is this affecting the kinds of templates that are out there, and how much does this then become responsible for creating the situations of chronic stress, if you will? Obviously, when you talk about inter-negotiation into the group, I would say that that was probably impossible with fighter jocks 15 years ago.

Maj McGLOHN: That is why I say, "never say never." You said the Marine Corps will never change the way they do their training.

DR. MARLOWE: Not in my lifetime.

Maj McGLOHN: You never know. Seriously, before people like me did things like that, I think that would have been the statement.

DR. MARLOWE: The problem as I see it and the problem that we deal with is the lack of institutionalization. The service is personality driven. There were a series of attempts made by a Commandant of the Corps who changed it up. The next Commandant threw every reform out, because we were going back to the old hard core way. This is one of the chronic problems in the services. We are driven by the whims of the man with stars on the flag.

Maj McGLOHN: That is what I really agreed with. In the big room people kept talking about leadership, leadership, leadership. In my squadron in Korea where I was the only female, the leadership was excellent. The first thing that the squadron commander did was give me my patches and welcome me as one of them. He told me, "I am the rater, I am the one who is writing your OPR (Officer's Performance Report), so I want you to come to me if you have any problems." That set the stage for how everyone else was going to treat me. It has been different in other places that I have been stationed where there have been more women. It has been based on leadership. I think that is the key.

LTC NORWOOD: One of the issues that has been raised in a couple of the seminars that we have had leading up to this was the issue of not seeing women as different, or minorities in general, because that makes you stand out even more. There is the problem of trying to get to an end point where there isn't sexism and there isn't racism and so forth. How do you get there from here? There is one point of view brought up that said you should do away with EEO (Equal Employment Opportunity) outside the chain of command. Discrimination should be dealt with as a chain of command issue; again a leadership speech might be helpful.

DR. MARLOWE: I think it is critical. I will go back to the racial integration of the Army. Truman put out his executive order in 1949 and no one paid any attention to it. Following the initial disaster in Korea, we could no longer afford segregated units and they started integrating units. They looked for a message to send.

The message was a very simple one. A two-star general in Japan was assigned a black captain as one of his staff officers and he refused to shake his hand. On the front page of every newspaper 48 hours later was his relief. You are gone. They then relieved two colonels for the same reason. The message was very powerful and it got across very quickly and the Army was integrated. If you are prepared to give the message that this is something we are very serious about the squadron commander says, "I am your boss, you are one of us." He is making a statement to his squadron. "This is a member of my squadron and by god you are going to answer to me if anybody treats her differently."

One of the questions is, "how do you get people to line up this way?" When I have looked at cases of sexual harassment, I go back to Germany. I had been talking to a young captain, a very attractive, bright young woman. She is describing her last two run-ins with her battalion commander chasing her around his desk tearing her clothes. She goes to the brigade commander and he says, "you are a big girl; you can take care of yourself when somebody makes a pass at you." What is the message? The message is, "I am not going to do anything. I am going to leave things as they are. If he wants to tear your clothes off, that is fine and your problem, not the Army's problem." If the brigade commander at that point brought the battalion commander up on charges, it never would have happened again in his brigade. But he didn't.

Maj McGLOHN: That is why Tailhook was so talked about, because of the operational arm response.

LTC NORWOOD: I don't know if you can measure different systems or different ways of trying to implement changes like that, but it was something that I hadn't heard. The other issue that was brought up was that apparently in some of the war colleges the commander and staff like to spread the minorities around so they can say there is a woman and an African American in each group. This then further isolates the minorities and draws attention to them which can bring, for them, again some difficulty.

MAJ FRIEDL: Like one young woman in the War College. I gave a talk and there was one female MP who had to jump up and express views.

DR. MARLOWE: Like Dr. Craig Llewellyn says, "I don't think you win people's hearts and minds. You win people's hearts and minds only when there are contingencies that say very powerfully to them, you have problems if you don't behave that way." There is going to be a time lag before attitudes follow. It may be a generation or two generations. The initial issue is changing the behavior, because if you change the behavior then we would hypothesize you would reduce many of the stressors that are involved.

Maj McGLOHN: I tell my patients that. We have to change the behavior and the feelings will follow. It is a lot easier to do it that way than trying to change your feelings and then change your behavior.

COL GIFFORD: Certainly with sexual harassment that is what you want to do. The last thing we want is what the Army used to do for race relations, where we would have all these movies on why there should be better race relations. The last thing we need is more information. Those who are perpetrators of sexual harassment (I am thinking here primarily of the male harasser, the female being harassed model), they don't need more information that they are not supposed to do that. They already know that. They have chosen to do that anyway. What we want to do is alter the behavior.

DR. MARLOWE: When you put it on a fitness report, that starts changing behavior.

CAPT BLAIR: What they sometimes do is ask them what the motivation is behind harassment. It is always interesting when you have somebody who has plenty of opportunity for sexual outlet who chooses a forbidden object in his immediate environment where something is going to get him into trouble. You ask if what is going on with that particular individual is worthwhile. I have known of very few sexual harassers who would limit it to that particular person as an outlet for their sexual activity.

LTC KNUDSON: Could it be the power, wanting to feel powerful over someone, especially someone who you think maybe you won't get power over?

COL GIFFORD: I would certainly hypothesize that. One of the things that has frustrated me in the military when we do surveys of sexual harassment, or make clinical observations like you are talking about, is we always go and ask all the women, "have you been sexually harassed." We have gotten better at asking the questions so that we know what behaviors may have occurred.
We always find the numbers are large. We always find they don't report it. We always find that if we ask them why they didn't report it that the reason is because either they think their chain of command would do nothing or they would be punished. I have yet to take one of these surveys that asks me if I have ever sexually harassed a woman, under what circumstances and why? We really don't know. If all these women are out there being harassed, if those sorts of statistics that Dr. Wolfe showed are true then somebody is out there doing it and I don't know why they are not surveyed.

Lt Col RUNDELL: There is an answer to that, and that is that it needs to be done but it is hard. There have been a lot of focus groups and a lot of surveys.

DR. MARLOWE: But there is an indirect method. What Stephanie Rosen is doing right now indicates very powerfully that once again we get into the command climate leadership problem. Where we are having problems with harassment, we are having generic unit problems to begin with. We have units where the leadership is, to say the least, very often threatening, incompetent, et cetera. One of the things we haven't done in issues like harassment is to look at what else goes on in the unit. How unhappy are the males in the unit? What is really going on here is just the end of the spectrum in terms of the utilization of power and the demonstration of appropriate power over people.

LTC KNUDSON: How do you even study the places that are so afraid to even let her do surveys?

Maj McGLOHN: It was not easy to get permission to do what I am doing; doing psychological testing and interviews on pilots, trying to get pilots to sit down for three hours or three-and-a-half hours and take a bunch of tests. It is not very easy. I initially thought I could go about it by asking commanders. Most of them told me no. They were not really interested in that, all the way up to MAJCOMS (Major Commands). One particular MAJCOM said, "no, we are not interested, have a nice day." Then I went to the general who is in charge of my base. He said that he thought it should go to General Fogelman. It went to General Fogelman and General Fogelman sent letters to the MAJCOM's asking for their help and I all of a sudden got a lot.

Lt Col RUNDELL: The same thing happened with the HIV survey. It took two years to do this, but we got 97% response and enough focus groups and enough trial runs of it to get the confidentiality and anonymity belief part of it down relatively well. It took going to the Chief of Staff. General Sullivan had to say, "you will do it and you will do it right. Soldiers will get eight hours and they will march to the auditorium and they will all come and there are no sick days, and they will all sit there and take it."

DR. MARLOWE: This is what it has taken for almost everything. To go to the Gulf it took General Sullivan and General Varner and then the CSA to make the phone calls and say, "you will let these people in." It is exactly the same phenomenon. We do not have an institutionalized structure.

Lt Col RUNDELL: The questions are sensitive ones, particularly for men, but there are ways to do it.

COL GIFFORD: Obviously, no one is going to answer this real honestly unless they really believe the anonymity and the protection are real. What I was suggesting is that we ask men to confess to a crime and then tell why they did it. Obviously, the GI is going to have some concern. I guess the reason I am frustrated on this is that in a lot of Army approaches, at least, sexual harassment strikes me as the old thing of, "let's see if we can find more ways to pin it back on the victim." I think we already have a sense that women don't like the harassing, so let's look at who is doing it and change it at that level.

CAPT BLAIR: I really like the approach of trying to understand the harassers and trying to figure out what is going on with them. I have my own theory on that, and it is based upon the discrepancy between the actual sexual drive in the American male and what he feels is necessary for other people to believe about it.

In the Navy, for instance, why does somebody with much of a sexual drive sign up to go on board ship for six months at a time, or to deploy in the Army? These are real interesting questions. I believe there is a kind of necessity to present yourself, if you are an American male, as being very sexually active, unless you create a situation in which it makes it impossible for you to do it. I would assert that in regard to a question that came up a few minutes ago about a proper mix. I think 50/50 is wrong because it supplies a female for every male and gives every male the almost obligation to attach himself to a female; whereas if there are not enough females, then he has a perfectly good reason to say, "well, I didn't get one of the ones that are available and I am okay," and everybody else thinks he is okay.

Maj McGLOHN: Whatever happened to frontal lobes. That is what I think frontal lobes are for. I mean, everybody has drives and we all have frontal lobes, and maybe that is why we choose to go on ships because it is part of our career.

DR. MARLOWE: First of all, let me go back to where Dr. Blair was, because I think he is defining a very good research project. I would also like to say that a great many males are not in the sex business when they are deployed. You sit there and you talk to them and they say, "look, my wife and I have a compact, neither one of us fool around and this is the only woman I am going to know for the year I am here." This is not that uncommon.

I think we tend to forget how highly married many Americans are. I think as part of the women's health study, what you have defined is a research hypothesis and need in something that hasn't been done, which is looking at the harasser. Everybody sits around and says, "let's look at what harassment does to women." This is the first time anybody has said, "let's look at the harasser." Now you people have just said that. Let's find out why these people are doing this. Indeed, if we take seriously every sex survey done in the U.S., we are not a bunch of ravening soldiers. What is really going on with these people? Why are they doing things that are injurious both to organizations they are supposedly committed to, and to themselves?

COL GIFFORD: Any great risk is not only injurious just for having done it, but they occasionally get caught and punished. They are taking a huge risk, if as you hypothesize, they are not sexually deprived. That supports your hypothesis that they are doing it to live up to the role they think they are supposed to, which is self presentation.

CAPT BLAIR: That is true harassment. Perhaps these men feel that it is ignominious to have a woman under their power with whom they have not had a sexual relationship. That is, how can they face their friends if they have not succeeded?

DR. MARLOWE: That is another thing. How much of it is role behavior for their peers?

Lt Col RUNDELL: Also in asking those questions, what is your leadership like? If leadership were beefed up in this area, would this give them more tools to try to keep their behaviors constrained? Maybe not.

COL GIFFORD: How would we beef up that leadership? The leaders out there already know that part of their responsibility is preventing it. Yet, we know that they are doing it very unequally. Is that characterological or have we simply given leaders, predominantly male leaders, a slogan but no tools to carry out the dictates?

DR. MARLOWE: We have given them feudal privilege to do whatever they please. There are no contingencies.

LTC NORWOOD: I think that both our Air Force members here and others made really good points. One in terms of, if you could operationalize it, what are the things you did to be accepted by the group? Then Dr. Rundell told the story about the colonel who reacted constructively after the woman burst into tears. That is something that is hard to deal with, I think, unless you thought about how to handle something like that. That story will stay with me as a way of handling a situation where there is a difference, where you can make it into something positive as opposed to something negative.

Lt Col RUNDELL: I firmly think General Fogelman is supportive of anti-harassment efforts. When you have a leader like that and you could bring him some data that actually says if you target this group, here is some evidence that that will make some impact, he has some cover to do it, as opposed to doing it off on his own; just kind of this is his agenda.

MAJ FRIEDL: Who is General Fogelman?

Lt Col RUNDELL: He is the Chief of Staff -- he just came in.

Maj McGLOHN: General Fogelman obviously doesn't espouse sexist viewpoints that previous Chief's may or may not have held or he wouldn't endorse the study that I am doing, which hypothesizes that men and women aviators are the same.

DR. MARLOWE: I think actually there are now three service chiefs, plus the new Army service chief coming in who very much think the same way.

Maj McGLOHN: Is it possible, maybe we have already done this, to compare the bad leaders with the good leaders and say, "this is what you want to do if you want to be a good leader."

Lt Col RUNDELL: The thing is, you create a "you had better be this way" mentality.

DR. MARLOWE: We have done that. We can tell you who is a good leader and bad leader very, very quickly. In fact, we are privileged to be in the only military in the world that will let us look at leaders this way. None of the others will. None of our allies will. The question is, are there consequences? If you look at the Army's leadership manual, 22-100, it is probably the best example of its kind ever done. If everyone behaved the way we tell them to behave, we would never have any of these problems. The real issue is, are there contingencies for not behaving the way we say you should behave? The real answer is, in most cases, no, not unless you kill somebody or do something really terribly drastic.

COL GIFFORD: Those consequences are for mission failure, not for poor command climate.

DR. MARLOWE: It is the contingency, it is the institutionalization aspect of it. How seriously do we take this? If nothing happens to you for doing something, I offer you the Serbs. Why should the Serbs care about the United Nations force? The answer is, for no reason on earth, because they have demonstrated over and over again, "I didn't do anything." It is the same thing. If the leader does these things over and over and no one pulls his chain, why would he stop? The law of behavioral economy says, "there is no reason to alter things. It is costly."

MAJ FRIEDL: The study would have to be large scale because of some of the things that Dr. Wong said, that there is no unitary population to study. There are many, many sub-groups and that kind of study means going to the top right at the start of the process. Some of the Joint Chiefs need to say, "we are going to do it and I want you to cooperate with these people."

Maj McGLOHN: I think it could be analogous to the grief leadership, knowing that it is okay for a general to cry with the Captain O'Grady's of the world. If there is a comparable thing for women ...

DR. MARLOWE: Absolutely, but let's go back to Gander, where there were people who cried. The President came and visibly expressed his grief with tears. His military aide, a Marine general, cried with the President. There were battalion commanders and company commanders in the 101st who expressed to their troops that they did not want to see soldiers crying. Nobody ever said to them, "hey, wait a minute, you are doing it all wrong." Nobody said, "oh, boy, that is going to be a big black mark on your OER." That was their privilege. That is the problem. It is the problem of having no contingencies in terms of everybody has explained very carefully now what the leader should do in a situation of grief. However, if he doesn't do it, if he does all the wrong things, nothing happens, unless he kills somebody.

MAJ FRIEDL: It depends on his boss. I mean, it does start at the top.

DR. MARLOWE: Absolutely.

Maj McGLOHN: I think these issues fit into two of those things right there; training needs and command policy. We are talking about command policy being that there have to be consequences. The training needs still have to be met as well. I am thinking of an example. My husband taught UPT. When he first went back to UPT to teach, he had female students, which he hadn't really experienced when he was in UPT.

MAJ FRIEDL: What is UPT?

Maj McGLOHN: I am sorry, Undergraduate Pilot Training. He is an instructor pilot. He came home and told me something. I was not a psychiatrist yet but I was a female and a physician. He said, "Susie, what do I do about women when they cry after I debrief them and say that they screwed up? I don't know what to do." It really was an issue. It wasn't just an issue for him. They all didn't know what to do. Should I let her go to the restroom? Should I tell her to quit crying? Should I cry with her, what should I do? It really is an issue.

LTC KNUDSON: What did you tell him?

Maj McGLOHN: What did I tell him? I said, "let her do what she needs to do. She is dealing with the stress in her way. You have a different way. Just let her get it over with and when she is ready, you can talk."

LTC KNUDSON: I was thinking that back in airborne school in 1980, the women were all crying. The drill sergeant just ignored it and went on and everybody was happy. They are crying, and they are yelling at you.

DR. MARLOWE: This is a trend. Most men haven't learned this until their daughters are about twelve. Most of the people who are responsible for the behavior don't have daughters who are yet twelve, or don't have them at all. Nor have they taught them the difference between the cultural patterns we have taught women and the cultural patterns we have taught men. Frankly, it is our mothers who do that. My mother told me, "men don't cry," from the time I was that big. It was, "boys don't cry, men don't cry."

Maj McGLOHN: Women can't be angry.

DR. MARLOWE: Women can't be angry but they can cry.

Maj McGLOHN: If you are angry and if you are angry with yourself for screwing up a ride, you are going to cry, because that is how you have been acculturated.

DR. MARLOWE: That is right.

Maj McGLOHN: I taught him that so he is comfortable now with that.

Lt Col RUNDELL: He may model it for others, and if he is teaching teachers, then he is in a good position to model that.

DR. MARLOWE: That gets to the whole issue of training and training in a basic behavior that many people will not learn until it is too late. They are too old for the jobs they were doing at the time.

Lt Col RUNDELL: I remember even in the aerospace primary courses, I don't remember a shred of gender-related information.

LTC NORWOOD: What I have found tremendously helpful, although I know it is soft and probably political science, is <u>You Just Don't Understand</u> by Deborah Tannen. When I give that to couples that have a lot of conflict, that makes a tremendous difference. It is usually in terms of them not getting into a bad group kind of a thing but different, like, "you are from Paris and someone else is from Rome and this is kind of a difference in the culture."

CAPT BLAIR: Today when I heard about Women's Health Day, it sounded like contraception was top of the list. Maybe there is room there for understanding that boys are different from girls, and that they react in different ways. It is really hard for men to have a woman cry on their hands. It bothers them a lot. If they could learn, perhaps, that this is an okay thing for women to do and they are not terribly troubled by it, they can get over it and maybe even keep on talking to them while they are crying. It may even help much more than anything about contraception.

MAJ FRIEDL: If we could get back to the unit cohesion issues, I am curious if there are any examples of where the addition of women to a unit has ever ended in a spectacular failure?

DR. MARLOWE: No, and part of it is, remember, women are mostly in support and services support units. The cohesive processes in support and service support are different than they are in direct engagement combat units. People tend to cohere around technical skill. The real issue is, "do you know your job?" There is so much mythology about this, and so much mythology about what women do to a unit.

MAJ FRIEDL: It seems like that is the real problem that has to be overcome.

DR. MARLOWE: Yes, and yet that mythology has never been proven. We have no exemplar of a unit collapsing or problems coming into being or what-have-you. Look at some of the examples about physical strength. The Army's requirement is two men are needed to carry a litter. Two men have to be able to lift it over their heads and put it in an ambulance. Go to any combat theater, and you will never see a litter being carried by less than four men. Speed is important, and therefore you have to distribute the weight and you have to run. We live on these myths. After all, some of the most stressed units that we have in all of the services are medical units. They also have the highest female content. Yet, we expect nothing but high performance. When you look at them, women are judged, because men are judged. Does he or she know his or her job? You find the same thing is true when you talk to maintenance units and diesel mechanics.

One of the things that people tend to forget was first laid out very elegantly with infantry in Korea. In one of the better sociological studies done of the unit, what the person did was look at sociometry. The issue became, do people pick people singularly? The answer is no. Person A, out of this platoon, is the man I would want to most go on patrol with because he has the most skills at patrol. B is fun to be with. C is the man I would like to go into town drinking with because he has got real street smarts. And on and on and on.

We make these kinds of judgements continuously. We don't simply reject one person or the other. We tend to behave as if we deal with people unitarily, particularly when we cross gender. We talked about it all day today, the whole issue of making gender the diacritical, if you will, and the defining statement about what it is we are looking at, when really it is only one component among many.

Maj McGLOHN: In the Air Force, the combatants are fliers. In my study, I asked them about combat. Of the people that I have talked to so far, I think all but a couple have said they would feel comfortable being in combat with both genders. Their reason is because we are professionals. I want to be with somebody who is the most qualified. I want to be with somebody who knows their job, and gender doesn't have anything to say about that. The last bastion of maleness, at least in the Air Force combatant world, was fighter squadrons, and now there are thirteen female fighter pilots. I haven't heard anything of those units collapsing yet. My husband trained two of the three first female fighter pilots and he said, "they did great, they fit in with the crowd, they weren't that much different."

MAJ FRIEDL: I think Rangers will collapse.

Maj McGLOHN: I don't know.

MAJ FRIEDL: That is our last bastion and we will know the Army has arrived when at least ranger training is open to women.

Maj McGLOHN: We think that they will and they think that they will. It takes us doing it to find out if they don't.

COL GIFFORD: A lot of it is we think they will. A lot of this is self-protective to protect certain career groups. It is to protect the male ego against the possibility that the women will fit in well and there ought to be a fraction in the fields. Historically, the image has been a man among men or whatever, and that is pretty tough to change.

DR. MARLOWE: There are other factors. I do not foresee women going into infantry of any kind. The reason I don't foresee it in the near future is because it remains an aspect of the profession of arms in which you have to be prepared to kill people with your bare hands and use brute strength.

MAJ FRIEDL: Women can't do that?

DR. MARLOWE: Not the kind of man that we are training and use.

Lt Col RUNDELL: Then we are doing the wrong training.

DR. MARLOWE: Well, I will tell you, the Canadians tried it and it didn't work. The Dutch tried it and it didn't work. Let's not glamorize war. Ground warfare is something in which you wind up having to rip somebody's throat out with your hands, eviscerate them with an entrenching tool, or beat them to death with a stick.

MAJ FRIEDL: But you said the Iroquois women did that. Their role was to torture the captives.

DR. MARLOWE: They were captives. The women did the torturing. They took you out in the middle of the night, they painted you black, they tied you to a stick. Then the women came up and tortured you. I think we have to be very, very clear about the obscenity of ground warfare and what it requires. It requires physical strength.

The basis of the cohesive process in ground warfare units is not affective; it isn't love. It is instrumental. It is, "can this guy keep me alive? Can you make sure that the enemy won't come in and kill me? Can I trust him to do what he is supposed to do? Can he trust me?" It is a reciprocal. When you get down push to shove, at least for the next 10 or 15 years, it is, "can this person do with his bare hands if necessary, what will maintain my life when the bad guys get that close?"

MAJ FRIEDL: Didn't the women at the Battle of Stalingrad do this? At least when they are protecting their home turf, they do it.

DR. MARLOWE: You know, we really don't know.

Maj McGLOHN: I think until the man has a woman in his unit who is as qualified as he is, does the job as well as he does, and sees it for himself, he is not going to believe it. That is what the fighter community went through and is going through, and that is what the infantry units will have to go through.

MAJ FRIEDL: The Rangers are going to scream before it is all done.

Maj McGLOHN: You have to choose people who are qualified.

DR. MARLOWE: I have no problem with aviation, I have no problem with women fighter pilots, women flying Apaches. The only place I have a problem is with direct engagement infantry, and that is because of what happens when push comes to shove.

Maj McGLOHN: I found that people are not comfortable with people joining their club. Whatever their particular club is, that is the one that they don't think women can join. Once women have joined and they find out that they do fit in and they can do the job and they are qualified, then they have to eat crow.

DR. MARLOWE: If they can do the job. I happen to believe that at present, given the nature of infantry warfare ...

MAJ FRIEDL: We have to make women stronger.

Maj McGLOHN: Show me proof that there is no woman that can do that job.

DR. MARLOWE: Right now the experiment is in Canada and it failed. No woman made it through training.

Maj McGLOHN: I would have to hear what the experiment was like to know why they didn't.

DR. MARLOWE: It was designed to produce success and it didn't.

LTC KNUDSON: Didn't they try to send a woman through special forces training once and it was a disaster?

DR. MARLOWE: I don't know. I know the Canadian experiment very well, but it was really designed to produce success and it didn't.

LTC KNUDSON: I can't remember who told me that, but it seems like someone told me that. They said the group turned against her and she had to drop out.

Maj McGLOHN: Maybe it wasn't a case that she wasn't qualified or couldn't do the job, but because their culture wouldn't allow it.

CAPT BLAIR: I think we should begin to sum up. I want to make one comment about this exclusivity, that is, women can't come in, they will fall apart. One of the oldest ways to make a cohesive group is to make it exclusive. That is, you make the people who are in feel good by saying, "those people out there can't possibly enter our group." If you are interested in cohesive groups, you may have to see some of this happen until you have proven at least some subset can get in. That is what you are talking about.

CAPT BLAIR: We take up again at 8:30 tomorrow morning and we go until 10:00. We have an hour and a half. At that time we will begin to put things together for our reappearance with the larger group. However, I would like to ask our reporter to take a minute or two to see if he can't sum up some of what we have said today.

COL GIFFORD: I was going to get the notes from the recorder to do that.

CAPT BLAIR: Perhaps some of the major points we have hit so far.

COL GIFFORD: Without regard to those five points, although as you point out we can categorize them, it seems to me we talked about two main themes. One was sexual harassment and one was general female roles within the military services and the range of those and what they might be. In the area of sexual harassment, we noted some things that have been done, but talked a lot about discussing the harasser rather than the harassed, which is an area that, based on the knowledge in this room at least, is under-researched. In the role issue, we talked a lot about role expectation. I don't know that we have reached any point, though, that would relate to any of those things up there. I don't think that we have reached anything that is a research hypothesis at this point.

CAPT BLAIR: I would like to add a suggestion, and that is that in the training part, we perhaps need to train people in what role is expected. This is something that has been mentioned and might be worthwhile. Thank you for your participation.

DISCUSSION GROUP I - SESSION II

Sidney Blair, Ph.D., M.D.
CAPT, MC USN

CAPT BLAIR: It was interesting to me that we emphasized the social aspects rather than the biological and psychological aspects of women's adjustment in the military. We did come up with what I thought were some unusual points of view in terms of investigation. We did want to study the harasser rather than the harassee, to see if that would aid in our understanding of what was going on with sexual harassment. I think we also took a rather unusual view of what educational things might be done. We are moving much more into the direction of a social education rather than strictly a biological education based on how we manage contraception when we are in a mixed environment. It is really rather naive to think, isn't it, that these days people don't know about contraception. Perhaps the reasons why they don't use it are really more appropriate to understand. We can start from there.

PARTICIPANT: Are we supposed to make recommendations for areas that could be considered for research, or are we supposed to just say, "These are the important issues"?

CAPT BLAIR: I think it is appropriate for us to come up with a product of some research hypothesis that is examinable; that would be a research finding, or an educational program, or a suggestion for what a policy issue would be. I personally feel a recommendation for a new policy should be based on information. So, my natural tendency is to say, what are the investigative aspects of it?

PARTICIPANT: I would reinforce that. I see so many research programs justified with, "This will improve training by X amount. A commander at the training school indicated that training needs to be improved in that." Would they institute this improved training even if you did it? I really think that with respect to the last three items on our chart that anything we say ought to be noted as speculative; that these are the sorts of things that it might lead to, and the sorts of policies.

PARTICIPANT: Are you suggesting that maybe we should explore some of the biological approaches to some of this? For example, on your wintering over group, if you want radical suggestions, the men should get the Depo Provera to take care of any kind of sexual interests for the nine months. There wouldn't be any activity and that would take care of some problems. Maybe that is an approach in an extreme circumstance.

CAPT BLAIR: Perhaps I didn't express my thoughts about that very clearly. The problem is not really to stop sexual activity, as activity. The social strain comes from people who feel as if they must perform, or behave as if they would perform, or behave as if they wanted to perform, even though they don't really want to do that. They fall into roles which are maladaptive because of this social pressure to behave like a male or for females to behave like stereotyped females.

One of the things that I mentioned is the woman's challenge to the men that they were all homosexuals because they did not want to go to bed with her. I think all of you have heard this expressed the other way. That is, women have been accused of being lesbians because they wouldn't sleep with the men.

PARTICIPANT: I am going to go back to what Dr. Gifford said, at the risk of repeating what I said yesterday. There is a real problem with this area of research and others that have political valence attached to them. These are shoals that have to be negotiated. There is no getting around it. You have to consider the possibility that you make things worse, not better, by proposing some fairly radical things. If the Chiefs of Staff of the Army, Air Force, and Navy feel like they are actually going to get something useful out of this, they will support it, and they will tell all their people to support it.

PARTICIPANT: I think too often we announce which of the policies it is needs changing before we collect the evidence, and that is when we get into trouble. We are not hired to do social reform, although we have an obligation to point out when we have evidence that says current policies might lead to problems or are causing them.

PARTICIPANT: Do you want to have your Tailhooks? We can't guarantee that, but here is research designed to get some data that may help you to set policy to debrief future Tailhooks.

PARTICIPANT: So, for instance, in the area of sexual harassment, the issue there is, do you want to have fewer sick days per woman? We have some evidence that harassment affects the number of sick days, apart from any due to the harassment incident itself, over and above that. Do you want to have fewer women showing up in the registries like the Persian Gulf illness registries or whatever? Well, here is our idea how to do it.

PARTICIPANT: So much of the policy is also driven by the supposed fact that women are going to be a problem in Ranger training if you put them in there; they will disturb the social dynamic. We don't know that, but that is the assumption. The policy is based on that assumption. There are certain assumptions like that, that we can track down and say that clearly we need to do research and find out whether that is true or not.

PARTICIPANT: What Dr. Gifford is saying is that some leadership may not want to know that.

PARTICIPANT: I guess an example of where we should stay in the research is, I can't imagine people not wanting a nurse to be able to lift patients better; or not recognizing that a nurse or an administrative person might be hit by a SCUD missile and therefore might have to move debris, body parts and things, to save herself, to save other people. It would strike me that the Army, which has invested many millions of dollars over the years in looking at upper body strength for men, would not want to make sure that women could be all that they could be, too. Sometimes leadership has difficulty in seeing the need for research before making policy recommendations.

PARTICIPANT: Some of what medical researchers do in some situations is learn to ask the questions that they would like to get answers to in whatever way they want the answer. At the same time you collect the data that really means something but being very careful about how it is handled. The way to get science done is to be sensitive to the political issues as well.

PARTICIPANT: The example that we have worked on with sexual harassment would be narrowing down to something relating to looking at harassers and different sorts of harassers. I would not want to jump ahead and announce either the command or medical policy that would result. I would be prepared to announce the hope for medical and command gains; the medical gain being less medical treatment resources consumed by women who are harassment victims and healthier women overall. The command benefits would be largely the same but with the added benefit of less time spent in legal and administrative actions dealing with the incidents after they have occurred because we have reduced the number of incidents. Those aren't policy issues, those are pay-offs. What I am comfortable going in and presenting to the four stars is what the pay offs are, not what the policies are.

PARTICIPANT: You are going to have a proactive role as the senior researcher who knows these are things that need to be studied and answered. If we waited for the message from on high I think the message right now is, don't study sexual harassment.

PARTICIPANT: Going back to the strength training part of it, they have to know that there is a problem and part of our job is to tell them the problem. If you just look at those policies and call them pay offs on points four and five, then that changes the matrix a little. If you tell them we have discovered that there is the possibility of remediation, we have reason to think there is remediation for this observed gap in upper body strengths and this will make women do their jobs differently, that is very different from going in and saying that we have information that will let us write new policies for you.

PARTICIPANT: This is what they want.

PARTICIPANT: Right. If they say we are re-looking at the infantry and we would like more medical information that is different, that is command driven.

PARTICIPANT: The flip side for the scientists is that when you do write up your article and you get it published, it doesn't end up in the New England Journal of Medicine or Science, but ends up in some lesser known journal. This isn't science, this is research designed to prove a point of somebody who has a point to prove. It is a real difficult area, particularly for someone who wants to be famous and get their name in a famous medical journal.

Maj McGLOHN: One of the things that you said earlier is that you take what you are given and then you make it how you want it to be basically. That is what I did with my project. The committee came out with these general things that they wanted answered, and I had some of my own hypotheses. I had hypotheses, and I had a given program area, because I am working with aviators. If I was an infantry doctor, maybe that would be my given program area.

Then I went and wrote a research protocol that would test my hypotheses. I didn't necessarily say what I thought policy would be, but I did go to them and say what I thought the pay off would be. The pay off tied into what they asked for. I was still able to test my own hypotheses. I didn't have to guide my hypotheses by what they wanted to know.

PARTICIPANT: It can be done and that is the way to do it. I think the new Air Force chief is quite supportive of a firm policy against sexual harassment.

PARTICIPANT: It was kind of a breakthrough. General Fogelman was supportive of all the research but at the general officer level there was some dispute.

Maj McGLOHN: In my particular project, what I really stressed to them was that if we are going to make mixed gender squadrons and if we were able to look at that, then we would improve mission effectiveness and safety.

PARTICIPANT: That is the pay off.

Maj McGLOHN: Right. I am getting some benefits on the side because I am going to do psych testing on many pilots and that has never been done before. The norms that we use to look at evaluees are for astronauts from the 1960's and 1950's. They are norms that do not make any sense for what we are doing. So, there is a pay off for the rest of what I do, and then there is also the pay off for what they want, which is to learn if mixed gender squadrons work. I am looking at a population that has had mixed genders for a long time and they are all telling me that it is working and they are explaining why. I asked people, "Do you think your squadron has improved or worsened with the presence of both genders?" and the majority of them have said, "Well, I don't know because it has always been mixed gender."

I, of course, say, "Well, what do you imagine?" Then the majority of them, both men and women, said, "Well, I think it has improved because we have more perspectives, we have a broader way of looking at things." On an airplane, where there are multi-crew aircraft, we need different perspectives. Those are the kinds of things I am hearing in the data that I am collecting and I think that that has implications for policy. I am not the policy maker. I just need to provide the information.

PARTICIPANT: A way to sell research is to ask what are the strengths that keep sexual harassment from happening in our environment? This approach would focus on studying the 90% of people who are not involved in abusive relationships to determine what makes those work. That is a lot more palatable to people who don't want their names in the paper saying we are going to study harassers, which is sort of a red flag.

PARTICIPANT: What you do is study everybody. There will be all kinds of control groups and you study everybody.

Maj McGLOHN: I tell aviators that I am looking for ranges of normal and that I am not doing any tests that look for pathology. I am not asking about pathology on any kind of an interview. I tell them that my purpose is to look at the different strengths that people bring to their jobs to learn if there are different strengths between men and women. I am not asking, are men superior or are women superior at such and such a task? I am asking about what the women's strengths are and are they any different from men's? That is very palatable to people because they want to feel that they have something to contribute.

PARTICIPANT: I am not a researcher but I agree with you totally, that this idea of looking only at women is wrong. We should look at everybody and ask what are the differences, what are the benefits?

Maj McGLOHN: What are their strengths? What can I bring to this crew that will improve it, not what am I going to do to make it a detriment. I go to men and women in equal numbers and ask them all exactly the same questions.

CAPT BLAIR: This is really a very interesting theme. It is, what are you going to manage to do to make research palatable in the military? What are the skills that the researcher needs in order to get the research done?

Maj McGLOHN: You have to sell it.

PARTICIPANT: It is more than selling. It is also packaging.

PARTICIPANT: It is very much packaging. We were concerned, when we were setting up women's health, that we were going to have projects where people wanted to prove that women either couldn't or could do a job better or worse than men. You never actually match your groups appropriately anyway. There is no way you could set that up properly if you wanted to do that kind of study. You are turning it around to say, "There are people who come to the table with all these different strengths." That is exactly the way we have been trying to promote it. There are many jobs in the Army and we need different kinds of people with different kinds of skills for all those jobs.

Maj McGLOHN: One of the things that I found doing AIDS research that has been a real problem with methodology in gender research is that they have not used homogeneous groups. They have compared a male stock broker to a female housewife and then said that the differences were due to maleness and femaleness. The beauty of what we are doing with this study is that we have people who are at the same education level, the same age, the same occupation, the same background and the same race. We don't have anyone black or Hispanic in our study, who is flying airplanes, not yet. So, it is a very homogeneous group.

PARTICIPANT: What I am struck by is that we have had some women Navy aviators come for consultations, and they describe a very different environment. I would like to compare how it is that the Air Force and the Navy differ.

PARTICIPANT: What is going on with the Navy anyway? I don't know which topic area to dig into except that I am a little surprised that there has been quite so much focus on sexual harassment. I know, for instance, at my command there is an extensive program of sexual harassment prevention training. We have a command assessment team. We give a questionnaire every year that asks about command attitudes and whether they are sexually harassed; there are policies in place. Dr. Pat Thomas has spent twenty years studying this topic and there have been a couple of surveys. While the topic has changed so that we are talking about it in a very non-specific way for what needs to be done, I am mystified that so much time is spent on that.

PARTICIPANT: But you have studied it and yet we still had Tailhook.

PARTICIPANT: Then what is the specific thing? Maybe studying the harasser is what the group has come up with.

PARTICIPANT: Another example is the female fighter pilot who crashed. Tailhook isn't the only example of what seems to be evolving as Navy attitudes.

PARTICIPANT: That is true, but then again, as someone was pointing out, we have 10,000 women aboard ships. Since 1978 we have had women aboard ship. If this is what this group has chosen to select as a topic area, if I am with medical, it doesn't have anything to do with sexual harassment. It is whether or not the people have the training and the OB/GYN equipment. With that number of women aboard ship, what is the pregnancy policy? If I am with a different group, it is a different set of factors: what are the exposures and is that going to be bad for pregnancy? There is this whole vast array of issues that we have to address. To tell you the truth, on the shipboard study, we decided not to address sexual harassment because there are other groups that are doing that and other forums in which that has been done for a long time. It is not fully successful, as you are pointing out with Tailhook, but it was a different thing with the Defense Women's Health Research Program, not to get into spinning in that cycle, because that has been supported by other research monies within the Department of Defense, at least on the Navy side. Also, while we considered stress a crucial aspect and were looking at stress, we just didn't want to get into the sexual harassment, because that is a big topic and a topic all of itself.

PARTICIPANT: I am not saying harassment should be the focus necessarily of this group, but it is not something that just cropped up. As I recall, it is mentioned in the initial legislation, and certainly in the language. It gets back to the point that somebody was paying attention, maybe for the wrong reasons but it had somebody's attention. Despite the fact that I think, overall, DESERT STORM is a remarkable success story for all the services general adaptation, some well-publicized horror stories came back of discrimination. On the one hand you had people like myself going around saying it is a great success story for gender adaptation and then they see all these basically crime victims. My response is that doesn't mean that it is not a success story. It means that in a city of 550,000 you still get some crimes committed if we define the sorts of harassment that they reported as crimes. I have no idea if the Chiefs of Staff of the services feel that harassment is one of their key problems, if we were to go to them and ask what policies they consider important.

PARTICIPANT: The other issue that came up here, is how do you sell the program and what do you sell? You are not going to sell years of work; we have women on 95 ships and we are going to literally hundreds of commands. Every ship that you go onto you have to sell to the commanding officer. You have to sell to the people on board the ship to participate. You have to sell to the fleet medical officers and the fleet surgeons.

What doesn't work, I can tell you, is we go on board ship and we have a questionnaire and it is called a "Woman's Health Survey." This won't work because the attitude now about sexual harassment is that it has a lot of political valence. If you walk in the door and say you are going to do another sexual harassment survey, you have already lost your political points with the group.

If you want to have a cohesive group, they prefer the approach of, you are our working force and we are here to provide you research that supports the best medical care, the best support, the best family support, the best whatever it is. Whatever your issues are we are interested in them. We are not going to focus on the divisive issues; that is how you make the sale. If you are really going to do comprehensive studies on health and well being and needs aboard ship and contribute to the whole ship's group, then you have got to do it as, "You are the population, you are the workers, and you are all standard to me." Otherwise, you get into trouble.

PARTICIPANT: That sounds like another reason to support the recommendation that was made here. I think studies of women ought to be done in the context of soldier or sailor.

PARTICIPANT: Absolutely, and that is why this is called a Navy shipboard study. We don't give this just to women. For every woman enrolled in our study, a male is enrolled. We match on age, race, and sex if we can, as well as division and length of service. We are able to do that beforehand. We have databases that can list all the women and the listing criteria and the men from the ship's logs. We pick the men and the women before and we know who they are.

An objection was raised about one question in the survey about an anonymous personal history questionnaire that asked if pregnancy would be used to alter deployment schedules. It asked if they knew someone who has done this. Another section that was objected to was in regard to questions about people's real motivation for pregnancy. The questions objected to were, "What were your motivations, to have another child, to change your deployment schedule?" What you can do with that is look at what people's perceptions are versus what people actually do. The objections raised were not so much about the questions and issues raised but the objections were raised because the questionnaire was billed as a health survey. It was a behavioral question and it was a perceptual question. As a researcher if you walk in with something that appears in any way divisive you are not going to be successful.

I don't know where all that fits in, but it fits in somewhere with the first issues. Then there is the issue of how you package up and sell your research. From my viewpoint, the questions are so big and so varied that you have to focus on the total force. That is also how we stay out of the political soup.

PARTICIPANT: There is one thing about Tailhook that has bothered me and that is that the Navy appears to have the strongest anti-sexual harassment policy in the services.

PARTICIPANT: Yes, they do.

PARTICIPANT: My gut reaction is that it sure sounds hollow.

PARTICIPANT: I am not an expert on Tailhook, although I was just with experts on Tailhook, and there is a new book out called Tailspin. I think it depends on how you want to read Tailhook. Many people are totally outraged by the sexual harassment part, which is outrageous. I know in my career in the government there are always rules. You know, you don't take a lunch from a contractor, the government doesn't buy alcohol. There are all these things.

Tailhook is like a potpourri of every single ethical problem, whether it is government buying alcohol, contractors taking you out, or whatever it is. It is like when you get to a certain point of lack of ethics, it is just one more thing. It happened to come out of that. So, I don't know what to say about Tailhook, except that it is an ethical disaster in all aspects.

PARTICIPANT: If you talk in terms of sexual harassing, a lot of the ethical disasters happened afterwards to cover up. Talking about sexual harassment walks into the trap of condemnation of people. Most people's view of sexual harassment is that that implies that somehow what we are talking about is the changing roles of women in society, the services in particular, and that people's attitudes toward that are germane to their behavior. Instead of talking about sex crimes there was at some level of command a complicity and a failure to obey that may have been very low level. Somehow there was complicity in covering up a crime that was framed as harassment, which somehow acts like attitudes toward social changes in the 1970's and 1980's and 1990's are irrelevant. And they are. That goes back to 1945, too.

PARTICIPANT: I think it was interesting when you say it was a crime. Then there was a whole contingent of people that say, "What were those women doing there anyway?"

PARTICIPANT: That is classically what has been said about rape victims. "She asked for it. Why was she walking down the street at 9:30 at night? Of course she got raped." That has been the standard problem with women and sexual attack.

Maj McGLOHN: My point is that people say the whole sexual harassment issue is not a big issue any more. To me the issue is the climate and the people who want to succeed. The women, I don't know any of them, who went there who were pilots felt like they belonged to that club. They had landed on a carrier, that is what Tailhook means. You had landed on a carrier, so you are part of Tailhook. That is what they thought that they needed to be in to be a part of that group so that they could succeed. They were treated like someone who wasn't a part of the group, as someone who was something else.

PARTICIPANT: When you get debriefings behind closed doors, they say things that they don't say in the newspaper. The only reason I mentioned Tailhook is to say that what people say in the newspaper is the policy may be different than what goes on behind closed doors of briefing rooms. I think that is what you two were saying, to be careful how enthusiastic you get about what you go and take to the officers.

Maj McGLOHN: From the volunteer's point of view, having gone and talked to a set of people now in my own research, I have been told by the women that they are tired of surveys. They are tired of surveys that are directed at them. They are tired of surveys that are so-called random because they get every single one of them, and they are tired of people looking for pathology.

That is why I really stressed, when I was going out getting volunteers, that I want men and women. I explained to them up front that I got this money because Congress directed it through the DWHRP (Defense Women's Health Research Program). I explained how I got the money and then I explained what I wanted to do with it, which is not to look for pathology. I want to look at what works and why it works.

I think if you are really interested in the climate, which is the climate that sexual harassment occurs in, you can look at what works and why, because there are other squadrons, other units, other times that it works, and other ships that it works. Why does it work?

PARTICIPANT: Maybe for the meeting, our contribution, instead of a list of content research hypotheses is to comment on the process.

PARTICIPANT: What works?

PARTICIPANT: And a list of the topics.

PARTICIPANT: It is like you are saying, "If you walked in there and you come in with something that is perceived as divisive, then that doesn't help that unit."

Maj McGLOHN: They all think that when I first walk in there to give them a briefing.

PARTICIPANT: Yes, a chip on their shoulder.

Maj McGLOHN: The men are saying, "What do we need to be here for, that is a women's thing?" Then the women are saying, "I am sick of answering these damned surveys."

PARTICIPANT: Women are 13% of the Army and the recent requirements say that they should be 50% of the subjects in medical research. So they are going to automatically be five times over-sampled. Most of them will say, actually, I joined the Army because I wanted to be a soldier.

PARTICIPANT: There is no such thing as an anonymous survey. I was the only O-6 nurse for 29 years at the Air Staff. It was pretty obvious, when I answered a question, who I was. I didn't always answer the question properly.

PARTICIPANT: I think I get a lot more honesty from people because I look at them in the face and I establish a rapport with them and I tell them why I am there. I explain it and what I am going to do with the results. When I explain to them how it truly is confidential and how it is anonymous and how I cannot link their data to them, and I won't do it for a commander and I won't do it for a unit, then they are okay that this makes sense. I have only had one person decline. That is because I have explained what the pay off is for them, which is for them to be able to contribute to better working relationships in the Air Force. That is what everybody seems to want.

PARTICIPANT: I think that is right.

PARTICIPANT: There are subgroups, especially as women get higher in command. If you look at the 3% Asian Americans, it doesn't take a rocket scientist to figure out who these people are if you narrow down their assignments. So, how do you study and get truth?

PARTICIPANT: It is harder with senior women.

PARTICIPANT: I tell people that in my surveys (I have officers and people in command) if there is only one first sergeant I say, this is anonymous, but here is what that means. Then I point out my equivalent of saying, "I don't know your IQ," to point out that I don't really have to tag the units internally so that I can evaluate by unit; that in fact, we don't have any simple way of going back and sorting out, that this is really Bravo Company of the 141 Infantry. That is a leap of trust on their parts. They are very easily identifiable.

PARTICIPANT: You are identifying one of the big problems with questionnaire research. Sometimes those who are subject to it have motivation to do it wrong to say things which are, for instance, outrageous, simply because it is one way of expressing the fact that they don't want to fill out any more questionnaires.

PARTICIPANT: Yes, that is why you have to do it properly. In the last four ships that we have been on, (and I have this wonderful crew; they are all retired Navy that go out and give the survey) we had 100% participation. We went on board the EISENHOWER in October and we had about 60% participation. It was low because the questionnaire said that it was a woman's study. That is a non-starter right now. They were overdone. I mean, they couldn't stand another thing. It was amazing 60% were willing to participate. Because after "60 Minutes" and everyone on the earth coming on board, their attitude was, "Let's just get down to it now. We are headed out here now and we are not men or we are not women." I would say that is the prevailing attitude.

If you really approach it on the other aspect, they are more than willing to help and they even like it. There was one part of the questionnaire that I was concerned about, the part I thought no one would like, the self-reported exposure. It goes on and on; they loved it. It turns out that they like to be able to tell you what they are being exposed to. They want to make sure that they are not being exposed to something that is hazardous and they are willing to participate. They take great care in doing that, which surprised me. I thought they were just going to rush through it or skip that section. Again, it is everything that you men have been talking about. It has something to do with leadership. It has something to do with approach. It has something to do with what we are facing. I don't know exactly where that goes, but if we are going to focus on sexual harassment, it might be best to focus on what works and take that approach, rather than just take a survey of how much of it is going on or something like that, because I really think that is adequately covered. Probably from the psychological aspect, there might be some way to box that and not make it sexual harassment. Just make it, "What makes this group work so well?" regardless of whether it is all men or all women.

PARTICIPANT: What are the ingredients that make the units cohesive and multi-gender, multi-ethnic, multi-cultural units?

PARTICIPANT: Exactly. Apparently they are somewhat different than what they were traditionally, because of what worked traditionally; the exclusivity of the group and that other people can't be part of it. You felt better if women couldn't be part of it because everybody needs to feel like they have a special mission, particularly if they are going to put their life on the line. They are not out there doing something that everyone would do. Apparently you can have women in the same position and that doesn't matter. Then they have to consider that woman in that same special way or whatever it is.

PARTICIPANT: What I have found in my research thus far is you are special. Whether or not you are a man or a woman, you possess a certain kind of quality that gives you value. It doesn't matter whether it is a man or a woman; we are professionals. That is what makes the person a part of the group, not what their gender is; and we are good at what we do.

PARTICIPANT: I have actually been finding some things that are of interest that could benefit from further training. You know, there are a lot of things that are working and then there are a couple of issues that they are still concerned about. Those are things that I think can be addressed.

PARTICIPANT: I just came back from the senior NCO academy and there are 369 E-8's there. The interesting thing they did at this academy that we didn't know they were going to do was, (there were about 60 women, about 60 blacks) they separated us into seminars with about 14, 15 people each. In each seminar, there were 2 blacks and 2 women.

The two women in my group were an E-8 Navy and an E-8 Air Force. The E-8 Air Force was an older woman. The Navy E-8 was a younger woman. These women took on the nurturing mother roles. We had no problem with that. The men in this group went to these women when they were having problems back home. They talked to these women about what was going on back home. They talked about being away from home for eight weeks and how to deal with this. There was no problem as far as sexual harassment was concerned and I didn't see that in any of the seminars as well.

PARTICIPANT: Did the women see that as being Uncle Tommish, or is that not an issue, as far as playing that role?

PARTICIPANT: I haven't been in that situation, but again, from some of the seminars that we have had, particularly for senior women, there is a sense that if they get together to talk and share their view of the world, that men are very threatened by that. One time a group of women sat together to have breakfast and there were a lot of hostile stares about what they were doing.

I think that any group that stands out physically, whether it is by race or by gender, when they get together others are always thinking, "What is going on over there?" The women's perspective was that I think there are some gender differences, for example, relatedness and other things. Maybe for women it is nice to not always have to be the nurturers. When they are all together they don't have to do that for a while. They can just talk.

It has been fascinating in this whole process, when we have a group of just women talking about women's health issues, it often takes a very different spin than in mixed gender groups talking about women's issues. I don't know what to do with that.

PARTICIPANT: How is it different?

PARTICIPANT: I am trying to think.

PARTICIPANT: They are all suspicious about EEO.

PARTICIPANT: Well, for one thing, women tend to be more active. I notice, at least for myself, that I tend to be more willing to jump in and say things when it is an all-women's group. I tend to hold back a little more if there are men present.

PARTICIPANT: I don't know how to characterize it but it is more like some kind of a pain. I think most of us don't like to even talk about women versus men issues, because it makes us feel different and we like to think that we are a member of the Army or the Air Force.

PARTICIPANT: What about the attitude that as long as women act like this they are accepted, but if they act like this, they are not. As long as women act like mother hens, everything is just fine.

PARTICIPANT: I think that is more a problem for senior women. I think when you are a sweet young captain or whatever, things are not so hostile. My observations are that if you get higher on the pecking chain and people are more power-oriented and striving that way, then maybe things get a little more uncomfortable.

PARTICIPANT: If you are assertive or aggressive as a female, that is bad. But a male acting in the same way would be accepted.

PARTICIPANT: But does a female colonel have to keep her eyes averted?

PARTICIPANT: I don't. I mean, you accept me as I am and if you don't that is your problem, not mine.

PARTICIPANT: I do think one of the things that should come out of this research conference is the amount of time spent with male voices on tape and female voices. I suspect that the results would not be something that we would be real happy to report.

PARTICIPANT: Even when you look at the attendees, there are two-third males to one-third female. There are two women on the panel, if you are going to count Major Sutton. So, you don't even have one third. Yet, the women are deciding what the women's issues should be.

PARTICIPANT: I think it is a question of diversity, too. If you are a minority, there is more pressure on you to be the best you can be so that you don't let down people. I can't speak for you, Sergeant Jackson, but I know for me when I lecture I feel if I make a mistake like, "Oh, I am letting down all the women medical students."

There are some gender differences - for example, we tend to ruminate more so that we don't just leave things behind when we go home. There is a lot of this where there is a lot of overlap, I think.

There was a good article on success in medical academia for women that touched on the soft issues that are hard to discuss such as the feeling that when women get angry they tend to cry rather than just be forceful. Is it okay for women to do that and still be thought of as a good leader? Is there room for diverse styles where some women are more "male"? There are a lot of different female and male leadership styles.

PARTICIPANT: That seems to be okay, whereas if the woman doesn't fit the mold or the way it is supposed to be, that is not okay.

PARTICIPANT: For instance, regarding crying, hasn't a man leader ever cried in an accident investigation? In the Army, after men get killed in an accident I tell the battalion commander it will help if he cried a little at the memorial service. When the man cries, that is just showing he is a good leader, that is grief. If the woman cries in the accident investigation, that is a sex-linked trait.

PARTICIPANT: This may be a feature of my unreconstructed male leadership style, but I have also had male soldiers cry after arguments in the office.

PARTICIPANT: There is no wailing and bawling, but there are tears.

PARTICIPANT: With the woman it becomes a gender linked thing.

PARTICIPANT: I think with a female you would expect it. If it did happen, that would be something that you would expect.

PARTICIPANT: I think that is a very important comment, that we men can be troubled by women who are not emotionally reactive.

PARTICIPANT: They are not fitting our stereotypes. They are being described as tough. I am not sure that every man there likes that, that she was a real tough woman.

PARTICIPANT: I think that is one of my issues. I don't want to have to be a tough kind of woman leader. That is just not who I am. I feel this pressure that I should have to want to go out and be a Ranger, but that isn't me.

PARTICIPANT: Are we getting into biological roles?

PARTICIPANT: I don't know how much is what. There certainly are biological differences in lots of different areas in terms of psychiatric disorders. But again, so what? They are different and we can treat them.

PARTICIPANT: Everything we are talking about is starting to overlook the gender as any big distinction.

PARTICIPANT: That is the woman's choice to choose, whether you want to be a tough woman.

PARTICIPANT: I don't want to be in the infantry. If there are women who want to and can, they should be allowed to.

PARTICIPANT: I think there is extreme diversity within genders. The reason I am interested in studying this area is that there are still roadblocks based on gender, despite that fact. What I want to do is go to the people who make the policy and say, "Here are facts." Here are facts, not just my opinion, that there is more diversity within this group than there are between the two groups. I want to give them facts. I want to do homogeneous gender research and show them that male pilots and female pilots are more alike than they are like the general populations of males and females. That is a fact that I can show them.

PARTICIPANT: How is that different in the Navy? It just sounds like such a different world.

PARTICIPANT: I am confused about your question about the Navy.

PARTICIPANT: My sense is, it sounds to me like in the Air Force women are accepted and it is sort of the family model, or we each bring different strengths to our missions and we are all Air Force pilots. We bring glory to our country. Whereas the Naval aviators that I talked to (these are senior women who were some of the pioneers) still were very troubled by that recent death of the female Naval aviator and all the rumors that went out that she wasn't fit to fly.

PARTICIPANT: It all has to do with clubs and how long someone has been in that particular club. In the club that I am looking at, which is AMC (Air Mobility Command), women have been in that club for quite a while, so they have become acculturated into that culture. When you try to break into a new club, there is a lot of resistance in the beginning. Those kinds of things that have been well publicized in the media have been reactions to new entrances into clubs.

The Air Force has had their problems with females in fighters. I don't know how well publicized they have been. I have known about them because I know those people. My husband is a fighter pilot so I get to hear the stories and those kinds of things.

PARTICIPANT: But you are not talking to fighter pilots, now. They are a different population.

PARTICIPANT: The reason I am not talking to fighter pilots is for two reasons. One is practical. There are only 13 female fighter pilots and they are spread all over the world. For me to go TDY and talk to one person and then an equal male would not be practical.

The other reason is that I understand what works. Right now they are going through that transition period, the fighters. They are having to figure out how to acculturate the females into their squadrons. AMC has already done that. I am looking at why this is working.

PARTICIPANT: I guess what I was thinking was, can we save a lot of pain and agony if we could figure out how to more quickly change club membership rules?

PARTICIPANT: Is that going to happen for fighter pilots?

PARTICIPANT: In the Surgeon General's office, they look at who can do the job. That is the person who gets the job. They model that behavior and it goes all the way down.

PARTICIPANT: It gets acculturated quickly.

PARTICIPANT: Are there lessons that we could use to go out and teach the units about change?

PARTICIPANT: Like for the men who are going to get the new women? For example, if we did put some women in the Rangers.

PARTICIPANT: Can we really do that for Rangers and fighter pilots?

PARTICIPANT: They have their own way of looking at the world and it works for them with the job that they have to do. The women that I have met who are choosing to go into that field are very similar; they are very similar to those men. They even give them nicknames.

I have heard about the transition into the nicknames as part of the acculturation process. People realize, once the woman is there, if they fit into their kind of culture, it doesn't matter if they are a man or a woman. There is that initial problem but once they get to know the person as an individual, it is not as big a problem.

PARTICIPANT: It still is an exclusive club.

PARTICIPANT: It is an exclusive club that admits women. What you are talking about is how can we make this work faster? It will work on its own. My hope is, looking at squadrons where it has already been done and people are doing well and looking at what are the last few issues that are still bothersome to them, can we address those with training or policy or whatever? I think that will speed things along.

PARTICIPANT: As far as when these women are allowed to be in the club, are they still assuming the big sister role that the men tend to want?

PARTICIPANT: I think it varies from person to person. In every squadron that I have been in, that my husband has been in, there has been somebody whose shoulder everybody cries on. Sometimes it is a man and sometimes it is a woman. I think sometimes women occasionally are more likely to choose that role or be chosen, but men are in those roles also.

PARTICIPANT: Do you think that is compatible with being fully in the club? Usually it is the person who is the most admired or the most liked that people want to go to and want to talk to about what is going on in their lives.

CAPT BLAIR: I think perhaps there may occasionally be some resistance to thinking you are fully in the club as a woman and still being looked at that way. I remember talking to a woman who was one of the first pilots in the BXE-6, the Antarctic squadron. She really appreciated being accepted into the club, but she very much was accepted in the club. She felt it necessary for her to push away anything that had any suggestion that she was a female as well as a pilot, trying to protect herself against what she viewed as a way of excluding her or making her different.

PARTICIPANT: The question would be, did she do the same thing before she was a member of that club? I mean, some women do not ever accept the role of being the big sister or the mother. Was it different because she was in the club or was that her behavior even before she got in the club?

CAPT BLAIR: The way she talked about it, she was pretty aware of what was going on and there were some very interesting aspects. The fact that she was the first woman was a very mixed thing for her. She kept saying to herself, is this because I am a woman or is this because I am really good? It didn't matter how good she was, and she was very good. She always had that question in her mind. Is it because I am a woman that they are allowing me in here? But she was naturally a kind of nurturing person and wanted to put that aside because she did not want that to be the reason why she was accepted.

PARTICIPANT: That has been the challenge for women who have gone into male dominated professions from the beginning. Can I still be a woman and still be a part of this club? Is the club defined by maleness or what we perceive to be maleness? I think that what we find is that it is really not; that is the perception. Women executives, do they have to wear suits that look like men's suits to fit in the board room? Well, I don't think they are doing that any more, but at the beginning they were, because they felt that the only way they would fit in was to be a man.

Then as the culture changes and you find out that what you really have to be is smart, assertive, or whatever it is that you have to be to succeed in that particular culture, you don't have to be what is considered male. I think that also frees up men. I have heard that from the pilots I have talked to who have said, "You know, I don't have as much pressure any more to fit into a mold because now I am finding that my group includes men and women who are diverse so I can kind of be more who I am; I don't have to be so male," whatever that definition is. I don't have to hunt as my hobby. I can play the violin, or whatever.

PARTICIPANT: That is another thing I was trying to say yesterday. I think the woman who burst into tears and the colonel's reaction to it is a good example. Women bring things to the military that can make it work better, not that women are just as good as men.

PARTICIPANT: They have been a civilizing influence.

PARTICIPANT: It is what commanders said in DESERT STORM, "How does it feel to be there?" They were saying it before, that the Gulf was a hot deployment test of this. They said, "Well, for one thing, the men are a lot easier to deal with in mixed gender units, because the men actually think about what they are doing." I think that you put it well. It is not that they are thinking about what they are doing. It is that they are freer not to play up to roles that they feel they have to.

PARTICIPANT: Once diversity is accepted, because of the addition of a different group to this crowd, everybody is allowed to be more diverse. You should be allowed to be independent. Just because I am the woman doesn't mean that I have to be the one who serves the food at lunch time. I don't do it at home, why should I do it at work?

PARTICIPANT: But if you want to?

PARTICIPANT: If you want to, that is okay, but that should be my choice, not just because I am of the female gender.

PARTICIPANT: Well, that is the way the world should be.

CAPT BLAIR: Perhaps there are a few summary statements that we can feed into the report.

PARTICIPANT: I am not going to create anything up there in my role as a reporter. So, if somebody doesn't say it to me here, I am not going to say it up there.

CAPT BLAIR: We can set ourselves some guidelines. They haven't told us what we are going to have to do in the way of reporting.

PARTICIPANT: If the group would like to see what I am going to say I can put it up there and we can look at it.

CAPT BLAIR: Well, it says here, in the last plenary session, you will be asked to briefly summarize the discussion and pertinent recommendations of the group. If there is an hour and a half in the last session and there are five groups, that tells us roughly how many minutes to allow.

PARTICIPANT: We ought to present for ten minutes so that there will be room for discussion.

CAPT BLAIR: Certainly we need room for discussion.

PARTICIPANT: We have talked mostly about climate; how can we create a climate that is conducive to good working relationships?

PARTICIPANT: I certainly support that. We have a choice here, after these discussions, to say that our topic area is sexual harassment. I would not do that. I would go with what you are saying, that we instead migrated around choosing our topic area as command climate, or whatever you want to call it.

PARTICIPANT: Then the research hypothesis is how you go about what you were saying. Can we say that we talked a lot about process and our hypothesis? There is a process that you can go through to really look at climate in a way that would be meaningful, and then talk about some of those ideas we had about process, and then we can go from there?

PARTICIPANT: The number one big thing is to study units and not women. Do not study women in the Air Force. What you do is study soldiers, airmen, and sailors.

PARTICIPANT: Don't study women, study units. Then study what works. Don't always concentrate on pathology because that is not finding anything.

PARTICIPANT: I would argue that that is true for some of the things that we talked about yesterday, for PTSD as well. On PTSD we spend all our time talking about the people that have PTSD and for most of them the rule of thumb seems to be that three-quarters of the people are just fine a few months later. However, we spend all our time looking at the quarter who aren't and wondering what we can do about it. Why not look at the three quarters that are fine?

PARTICIPANT: That is what Dr. Cornum talks about all the time. She says, "I was a POW and I am not suffering from PTSD. How come nobody is interested in finding out why I didn't get PTSD?" To me, that is what we should be focusing on.

PARTICIPANT: So, resilience and hardiness are issues.

PARTICIPANT: Yes, how do you train that?

PARTICIPANT: Could we say something like impediments to a good climate? That is putting in some negative things, but try to frame them in a positive way.

PARTICIPANT: I think the positive spin is, the impediments to creating the proper climate are lessened.

PARTICIPANT: It is back to leadership.

PARTICIPANT: Effective leadership is a slogan. They always know out there that they are supposed to be effective leaders. The question is, what are effective behaviors?

PARTICIPANT: For example, how did General McPeak get to the very top?

PARTICIPANT: There were things that happened before he became a leader.

PARTICIPANT: That is what we are looking at.

PARTICIPANT: Pay offs, what is the right way to phrase the concept?

PARTICIPANT: Present pay offs to the leadership.

PARTICIPANT: I think the other question raised was to solicit from leadership what some of their concerns are.

PARTICIPANT: We should recommend soliciting leadership's concerns and then explain the pay offs of research to their concerns.

PARTICIPANT: Another area needing further study is the area of leadership and command climate created by leadership and what leaders get rewarded for. On the whole, leaders already know they are supposed to be good leaders, they know they are supposed to be caring. They don't necessarily know the behaviors that constitute those things, but they do know the behaviors that they are reinforced for.

PARTICIPANT: Is caring the right word?

PARTICIPANT: I only use it because it is in the Army leadership manuals; caring, care for your soldiers. You go to these units that are just in terrible shape and the soldiers are really being dogged out, men and women. Then you go to the lieutenant and he is a caring leader, and he knows that. He was taught that in ROTC and he was taught that in officer basic. He knows the most important thing is to take care of your soldier. Now, one of them could have a wife dying of cancer and he says, "You had better get your gear cleaned up, somebody else can go see her in the hospital." He knows that caring for your soldiers is the most important thing because he read it. We need to get away from trait labels and slogans and down to what behaviors leaders do. So, that is a different sort of pay off. Identify contingencies that control leader behavior.

PARTICIPANT: That is really a two-part thing. Identify where they hurt and then figure out what you can do to make them happy.

PARTICIPANT: What you want to know and what you want to change, from this study, what I think are ways that would improve whatever it is that you want to improve; it may not be exactly what you want to hear.

PARTICIPANT: What is the leader's research priority?

PARTICIPANT: I think it is just looking at demographics as they change and as your workplace changes, and there may be some adjustments that you need to make. I think if you focus on an occupational model that looks at it, then you can operationalize the things that somebody needs to do to create this work environment, where people can be all they can be. You have to operationalize it.

PARTICIPANT: If we can answer the questions they want answered, we can also answer some of the questions that we want to answer, too.

PARTICIPANT: That is identifying the pay offs to the leadership. You have already got that.

PARTICIPANT: You can still get done what you want to get done. You can. It can be done. But I don't have as clear a way of saying things as you do.

PARTICIPANT: A broad scope of research that incorporates the scientific and operational clusters.

PARTICIPANT: You can say packaging can contain a broad scope, including operational and scientific questions.

PARTICIPANT: So that it broadly addresses both scientific and operational priorities?

PARTICIPANT: In some sense, the notion is it needs to give them what they want and what they need and it is not always the same.

PARTICIPANT: We have a changing force. Twenty-five percent of the Navy that is coming in now is women. The thing is, you can't win the next war unless you use the women and use them effectively and your groups work. That is the story. We have a volunteer force, we don't have a draft. We have a volunteer force that is going to be a lot of women. We have units and traditionally they would work if they had men in them and now there are men and women. Leadership would like to know it is going to work. The question is what do you want to know or how do you want to know it? Where you get into trouble is, if everyone is just touchy feely all the time, that doesn't tell you whether or not it is going to work. That is what they want to know, is it going to work? So, somehow it is kind of like epidemiology. You can't just keep looking at the process. You have to look at the outcome.

PARTICIPANT: That is what General Rodman was saying is the rational approach. But it is also a political approach.

PARTICIPANT: It is political, but the research community has to look at it. We have to figure out how can we say, "Yes, this group is going to work as good as it would have if it had all men," and therefore you can trust your national policy to it, and then your country can rely on it.

PARTICIPANT: Outcome measures.

PARTICIPANT: Yes. It is like STD research. If you just study knowledge, behavior, attitudes and beliefs, and you can show that those change, people might still go out and get STD's.

PARTICIPANT: The thinking that we have no venereal disease problem.

PARTICIPANT: You also have to look at how they acquire more STD's on a deployment. So, somehow or other we have to do it.

PARTICIPANT: It is matching parts on the sides. They say, "Yes, we need to make sure that we use women effectively; what I don't want you to do is go out there and come back with some agenda that says that we should have women in the regulars, because I don't want that."

PARTICIPANT: How are we going to get into that research mode whether women are good or not in the Rangers? There are no women in the Rangers.

PARTICIPANT: One of the costs of this is you may find out that you end up deferring that. There are some things that they not only aren't interested in, there are some things they definitely don't want to know, because they have got their own agenda for making policy decisions.

PARTICIPANT: I guess maybe a way of putting it would be blend your agenda with command's agenda.

PARTICIPANT: Identify the paths of leadership, just like you say, and then maybe I don't have a hidden agenda, maybe I do. I think women should have access to any job the military has to offer. Maybe that is my agenda, let's say. What I can do is I can go to a place where women are well integrated and I can explain to the leadership how that came about. What factors about that group makes them that way? Then if Congress decides to make the decision at some point, then they have got some research to back it up.

PARTICIPANT: When somebody says, "We are not putting them in Ranger training because we understand they can't do this, this, and this," then we will say, "Wait a minute, we have information." Then you can base policy on the best available facts.

PARTICIPANT: Then when policy catches up to what you are doing, you have the facts to support whatever decisions can be made.

PARTICIPANT: We can think about agenda leadership or agenda research.

PARTICIPANT: Research shouldn't have agendas. You have everyone else with agendas. You have all the politicians and everybody else.

PARTICIPANT: Politicians worry that researchers do have agendas.

PARTICIPANT: Maybe we should say that agenda management is important.

CAPT BLAIR: I think it is time to stop.

PARTICIPANT: Are we finished?

CAPT BLAIR: We are finished. If someone wants to stay back in the subcommittee and work over this a little bit more, feel free.

DISCUSSION GROUP I - SESSION I

Harry C. Holloway, M.D.
COL, MC, USA (Ret)

DR. HOLLOWAY: I am Harry Holloway, and I have already advertised myself as being from NASA, but perhaps it would be a good idea to re-introduce ourselves. As some of you know, I am Associate Administrator of Life and Microgravity Sciences at NASA. I am actually on loan from DoD to NASA for a three year period. Part of my work is to manage a broadly based scientific program in physical, biological, and experimental studies. I have spent most of my life studying problems and what have variously been labeled extreme environments, both in the military and outside. Space was a hobby and I am now being given a chance to come down and rattle my cane in their bailiwick. That is my background and I present that as an introduction. Other people can say what they are about, who they are, and where they come from.

Col TERRIBERRY: I am Cindy Terriberry, currently at the Air Force Surgeon General's Office. I am working in readiness. My current job has me in charge of re-engineering medical readiness and re-thinking how we go to war. Force packaging by specialties is essentially what we are working on. What do I mean by this, force packaging by specialty? If you need an OB/GYN team, then you will put it together and you will have pre-packaged a three or four-person team with the equipment that they need to go forward and hook onto the present structure. If the contingency involves pediatrics type operations in Somalia, you have that pre-configured, ready to go, and already trained. It seems to work. I have to translate that. Military operations are no more.

My graduate work is in psychiatric nursing, but I do liaison-type of work, therapy and psychosomatic responses. I have personal experience deploying to DESERT STORM for six months with the unit out of Homestead Air Force Base. We returned to Homestead and we all got blown away by Hurricane Andrew. I have been at the Air Staff (the Pentagon) for the last three years. I think that qualifies me for combat and stress. That is my background.

DR. WOLFE: I am Jessica Wolfe and I am a clinical and research psychologist.

DR. NICE:: I am Steve Nice. I am currently the Director of the Naval Health Research Center. I have held that job for ten years now, but I have been there for about eighteen years total. I came originally to study the Navy POW families from the Vietnam era. I am a psychologist by training and it evolved into health psychology and some other areas including epidemiology. I was the head of the Health, Science and Epidemiology department, which Frank Garland now heads, and then shifted to this job. My duties are primarily administrative right now.

DR. THOMAS: I'm Pat Thomas from Navy Personnel Research and Development Center. I direct the Navy's program of research for the personnel side of the house on women and multicultural issues. I have worked in the women's arena since 1975. I am kind of considered the grandmother of the whole thing. I am a psychologist by trade.

Col MARSH: Where is that at?

DR. THOMAS: San Diego. We are sister labs; the Health Research lab and the Personnel Research lab.

DR. GREEN: I am Bonnie Green. I am a psychologist and a professor of psychiatry at Georgetown University. I spent most of my career doing research on different traumatized populations. In my earlier career, that included manmade disasters. I studied Vietnam War veterans and more recently women with breast cancer. We have a study going now that is a comparative study of women who have been through different types of traumatic events. I have been interested in the very long-term impacts of traumatic events. I have done follow-ups in the second decade with some of the disaster survivors, and in diagnostic issues.

LTC CORNUM: I am Rhonda Cornum and I was originally an Army chemist and then turned Army physician. Although I am currently a urology resident, which has nothing to do with this, I was previously a flight surgeon at Fort Rucker. I flew a combat search and rescue mission in Operation DESERT STORM got shot down and captured and came back. I have direct combat experience.

Lt Col BROWN: I am Dan Brown. I am also on the Air Staff. I am Chief of the Clinical Investigation and Life Science Division at the Surgeon General's office. Since I was on the steering committee, I am cognizant or aware of all the protocols that came in from the Air Force side of the house. I am familiar with all the different studies that we are doing as well as this one. I have a doctorate in microbiology, so my experience in this particular field is less. I might contribute a little bit from the infectious disease standpoint, but I will do the best I can from the psychology standpoint.

Col MARSH: I am Roy Marsh. I am a psychiatrist. I work at NASA, Johnson Space Center. I am retired from the Air Force; an ex-pilot from early on in the Air Force. I am not sure exactly why I am here, except that we do have female astronauts and they function on crews. My job involves medical operations. I am one of a two-person team. I am a psychiatrist and we have a psychologist. Heretofore, NASA never had a dedicated group looking at psychiatric aspects of mission support from A to Z, from selection to training to in-flight support. That is what we are doing.

Col CAYTON: I am Tom Cayton. I am with the Air Force Surgeon General's Office. I am a clinical psychologist. I don't know how many jobs I have. I guess the one that currently might have relevance is my job as the director of the Air Force's Drug Testing and

Substance Abuse Control Programs. Also, until I was with the program, I was a consultant to the Air Force and, in that capacity, did some research on cardiovascular activity.

MAJ SUTTON: I am Loree Sutton. I am an Army psychiatrist and I have spent the last couple of years working on Dr. Ursano's trauma team. Actually, I was asked to join the team based upon my experiences with psychiatric support for the First Armored Division in the Gulf War. At this point, I actually have one foot in USUHS and one foot at Fort Leavenworth. I am on my way next week to join the Command and General Staff College.

DR. HOLLOWAY: I don't know how to organize the work. I think I have some idea from what we have heard before. I suggest that we might use this first session to discuss and locate problems and potential recommendations in these areas having to do with development and the impacts of unusual environments on military populations. We clearly need to keep an eye open to the gender issues and how they should be included, perhaps listing what we see as problems that need to be addressed. We can focus the next session tomorrow on putting together the recommendations that need to come out of it; taking it from the point of view of doing a little bit of free thinking to list the issues and then discuss those in terms of focusing and establishing priorities. In the next session we could put some recommendations before the group. I see no essential reason why we all have to be in favor of something that somebody feels ought to be put forward and placed in our recommendations. I don't know what the feelings are about approaching it that way.

DR. NICE: Is the primary goal to outline the research strategies or the general policy issues?

DR. HOLLOWAY: I think there are certain topics and we might want to go through them during this time and look at the problems under those topics. We are talking about preventive programs and general issues that are policy issues. I guess some of you here are involved in staffs that have experience on the issue of understanding the difference in terms of research and things that you need to do in order to generate policy.

A second area is the area of identifying problems and attacking them, in terms of action programs; something ought to be done and we will evaluate an outcome. Or this might be an area where you have to do research in order to derive or put forward a program. Given the maturity of this group, it seems to me that when we are talking about starting a program, we ought to be pretty careful about identifying a fairly mature database from which to derive that, or to establish that as an operational program for evaluation. That is just a thought.

Those are the areas which came to mind in the guidance here. Our guidance says that we are supposed to be looking at ways in which this might influence training and command and women's health issues. We are to examine how these are effects of combat, trauma, contingency operations, and deployments. It is pretty clear when you think about combat that there is some sort of violence occurring between two groups that is normalized in some sense. Trauma can occur over a much wider range and is not contained by that concept.

Contingency operations, as you well outlined for us in the age-old context, can certainly occur without combat. These are circumstances that nonetheless can be extremely stressful. We heard descriptions of Rwanda and those kinds of businesses. I recently worked with the WHO (World Health Organization) in the UN (United Nations) command in former Yugoslavia. I have to say that I think that UN work is as stressful as most things that we could conceive of.

Finally, there are deployments, places where people are suddenly moved to long distances which may or may not be combined with any of the former three. The kinds of recommendations we are making, then, are research, health care, training, and command in health issues clearly in a policy realm.

Col CAYTON: I can see three, maybe four or five dimensions. There is a physical dimension. I can see things like physical requirements such as that psychological dimension which I would consider personal risk. You have a social dimension of essentially relationships to others. We have extremes of environment, all the way from space to submarines.

LTC CORNUM: I have a hard time determining whether I am supposed to come up with some practical things like birth control or some really nebulous intellectual finding which I am sure is out there. My observations of women being deployed were pretty painfully simple-minded. One thing I noticed was there was no birth control available. I was the only female physician who was there the first month and I was the only one out there with birth control pills. Well, I didn't take enough for everybody.

Col CAYTON: This is because of a policy that says that you can only dispense a maximum of thirty days from the pharmacy.

LTC CORNUM: Right. Luckily I had been in Vietnam and we never got it, so I took enough for six months. Not everybody did that. You also had the theater leaders saying people don't have sex. When was the last time that you were anywhere that happened? I thought that was very unreasonable. I think the training issue is very valid. It is attributed to the fact that it is kind of like rewarding somebody for breaking a leg. I think sometimes people break their leg accidentally trying to prevent a casualty. Sometimes they do it because they want to go home.

Lt Col BROWN: Could that be a volunteer type policy, because of the risk that you infringe on certain religious beliefs that prevent some people from taking such things?

LTC CORNUM: Some religious beliefs are incompatible with the military.

Lt Col BROWN: That is true.

DR. GREEN: Even for those people who wanted to use it, it was not there. You couldn't go downtown and buy it.

DR. WOLFE: Which is resource overburden.

LTC CORNUM: I think the planners look at things that affect women as extra things, whereas in reality we don't need shaving cream. In terms of total weight of supplies going to the war, we don't add supplies, we have different supplies.

DR. WOLFE: Planners don't think that way. They think, "we still need one thousand people worth of shaving cream plus one hundred people worth of birth control pills."

DR. MARTIN: It sounds like a massive education program.

LTC CORNUM: It is massive.

DR. HOLLOWAY: Let's come back to this. It does strike me that the existing driving force is a basic policy issue in discussing this case.

LTC CORNUM: It is just like a haircut for the black guy.

Col TERRIBERRY: It is true, there are no haircuts for women over there. You don't go to the barber.

DR. NICE: Did you have lists that are policy, or is it on demand? Is it done in different ways, or somehow an open policy, or anything like sick bay requests?

LTC CORNUM: I don't know about the military experience. Certainly in this experience there was no taking of anything. There was no capability.

DR. NICE: There are policies in the field with a lot of variance across units, certainly across ships and things.

DR. HOLLOWAY: Coming back to this dimensionality that you mentioned, the physical dimension and the psychological dimensions are vital. Having been in a few combat areas, the non-arrival of food is a big deal.

LTC CORNUM: Hot coffee and hot food are very important, as everybody already knows.

MAJ SUTTON: It sends the message out that perhaps your status within the military is still on a trial basis. After all, every other thing in the military has to establish that it is needed as part of the structure, that it is required, and then it shows up.

DR. HOLLOWAY: Let's take it the other way. The military generally has had real problems because the complexities of logistics change. It likes to have one kind of ammunition, one kind of bomb. I forget how many items you had in your medical supply depot. It was 200,000-some main order items. Trying to find something is a huge problem in being able to provide care, in terms of the hospitals over there. The point is that is also handled by the new computerized logistics chains that are being put in place for the services. There is now a technology to enforce this policy. It is not an unreasonable thing but it is not easy.

There are those people who have not been out on military deployment. There is a famous quotation from von Clausewitz that addresses this. He said, "the only thing required for winning battles is to deliver more of the supplies and more of the troops at the appropriate place at the appropriate time so that the enemy is placed at the maximum disadvantage." That is all that we have to do. The next line is, "that, of course, is impossible." The point is that there are many conditions created in a complex deployment. All you have to do is have them at the bottom of the ship in terms of unloading and they are going to arrive in the sixth week of deployment because that is how long it takes them to unload the ship.

DR. WOLFE: People are raising an interesting issue here. It is not like you are talking about requiring six brands of tampons. You could put it at a pretty low level if you wanted to.

LTC CORNUM: We are talking about a 1994 American Woman's Survey which said that men do not want to admit that menstruation exists. It is not like it is some mystery that only happens in the military.

Col TERRIBERRY: Again, it is more of a policy and logistics issue. When you are deploying in the field for a certain length of time, you are authorizing a new set of uniforms and underwear. You need to realize that women have underwear, too. They actually tried to do a survey on what size bra women wanted. Well, the question is, "how many of this and how many of that and you can't just wear generic." Of course, you can. You may not look real elegant in it, but who cares. The men didn't get a choice of which brand of boxer shorts they wanted. They got government issue.

Col CAYTON: I don't like them.

LTC CORNUM: I wore them because that is what came.

DR. HOLLOWAY: Now we are talking about a straightforward policy issue. It is also a preventive issue.

Col CAYTON: Actually, the right underwear is very much preventive. A lot of it is preventive in nature, when you think about it.

Lt Col BROWN: When you are thinking of men and women, I don't know if there were things that didn't come. I know that when reservists were attached to Marine units for the deployment, they could not get paid. It was impossible because the two systems did not talk to each other. They were over there for months and months with no pay check. I think a lot of things went through the cracks in the logistics change, certainly with the Marine Corps reserve. Maybe it was a people thing. I am sure there were women's things. I know in hospital ships that uniforms didn't show up. They wore what was available, but they weren't in uniform.

DR. WOLFE: Don't you think it is both things; that you are talking about problems in delivery that are generic and then problems in identifying the forces that need them? The VA (Veteran's Affairs) had the same problem. The canteens and the supply service only had extra large pajamas. It is predominantly a male institution and they decided it was easier to get one size and the one size would be extra large. It was not that they don't make the medium and small pajamas. It wasn't that they couldn't get them. It was as if they were saying, "we deny you exist."

Col CAYTON: You are not important enough for me to go to the extra effort.

DR. WOLFE: It is a pain in the neck for people who try to do something about it. I think systems resist change.

DR. HOLLOWAY: It does strike me that when we can identify a problem, we identify it in only two areas. Are there other areas of this sort that are pretty concrete that we can identify?

Col TERRIBERRY: In my unit, when we got ready to go, I looked around and I said, "we have all ranks, all ages getting ready to deploy. Nobody has done this before in a unit. There is no experience for anybody to turn to for support." This was very apparent to me because I had spent fifteen years of my career married to a fighter pilot, being overseas, being deployed, or having him deployed and gone for long periods of time. In that environment, you have an overseas environment which engenders a whole different cultural bonding together. You also have across the ranks, people who have been there and done that, in the family sense, both in the active duty component and in the spouses who remain behind. For the new people who are infused into a unit, there was somebody there who could act as a big sister or a big brother to help you get through whatever the trauma of this first separation was.

I had a unit that had none of that experience. There was nobody that anybody could lean on. I was probably the closest in terms of having been to something like that. I watched, when we went overseas, marriages that became essentially geographically separated come apart at much higher rates than I ever remember experiencing as the fighter pilot wife.

When we came back, most of those marriages came apart in very high numbers. I know that throughout Tactical Air Command (now Air Combat Command), those were some real concerns. What were the trends and issues of that, the significance of that? There was no support system designed to help that.

DR. HOLLOWAY: Is this for both the members, family and deployed?

Col TERRIBERRY: No, just one member. Actually, it doesn't matter. We as medics didn't do this as a business. This was the first time in literally seventeen years that this had ever happened. Vietnam was the last experience where 98% of the people didn't do that every day, who were on the support tail or the logistics tail of the military. There was no frame of reference, there was no experience to lean on. It really became a command and leadership issue, as to how well the unit did.

Lt Col BROWN: It certainly did. I was over in England and we deployed in North Nepal in various hospitals and there was considerable variation in how well those units actually got up and going and the problems that they experienced. This is sort of anecdotal but it was primarily related to the leadership issue.

DR. HOLLOWAY: Were there gender problems in that?

Col TERRIBERRY: I don't see this as gender specific. I really don't.

DR. HOLLOWAY: I want to make a comment, because I think they need to be represented, because reservists did have a chance to do some evaluations. The reservists were faced with this. I can join the reserves and go to them forever. By the way, during this affair where was I? Well, I was in the most central, important and knowledgeable place, and that is the Pentagon. Actually, I was the acting dean during this time of the medical school and spending my time also down in the office of the Assistant Secretary of Health Affairs, with all this work flowing in. There were some kinds of information that, contrary to most beliefs, were very valuable.

For instance, look at the reserve unit in Philadelphia where they suddenly deployed. You get a call from the head of the small hospital in Philadelphia who says, "out of my seven surgeons, you are deploying five of them." This hospital is going to be bankrupt within about three weeks. Those surgeons represent that hospital's earning power and if you take them out, it goes under. Now we have to talk about whether two or three deploy or whether the hospital closes. By the way, you know that after this man hangs up that you are going to be hearing from the congressional representative from that district in Pennsylvania. As a matter of fact, there were some interactions with that group. It was not a question of these five guys going around and saying, "gee, whiz, I don't want to go." In fact, all of these surgeons, if anything, thought, "gee, it might be kind of neat and interesting to do a bunch of trauma surgery and do some of this deployment stuff." However, it really is true; the hospital would have gone under.

Now you are pulling resources out of the civilian sector in striking ways. Furthermore, reservists lost huge amounts of money. That became obvious right after the war in which you had medical reservists deployed and their overall income dropped a digit. All those six digit incomes dropped to five digits or four digits. That is an aspect to stress. As far as I can tell, that is a non-gender issue. That cuts right across the board.

Col CAYTON: There is another issue that concerned me to some degree, and I think a couple of people here as well. That is, if you are talking about function, what is your unit of assessment? Is your unit of assessment the individual, the team, the small organization or the division? If you get beyond the individual, then the impact of the teamwork becomes not just is this person capable, but how the other people judged that person's capabilities. You have the classic fighter pilot who says, "I don't trust any woman on my wing. She can't pull her weight and I had to be over-protective of her; therefore, I can't be optimally effective." That is independent of the truthfulness of that. That person holds that opinion that can influence their behavior and, in influencing their behavior, that decrements their effectiveness. The problem in that is their behavior and their perceptions. I think there is an issue of the research and training of how you go about changing the perceptions of the people who feel that way. How do you go about identifying it and how do you go about changing these people who feel that way?

Col TERRIBERRY: I think that is real important. The issues we talked about this morning were caveats. Do you make women a target by focusing on them and coming up with the wrong conclusions when it is actually an interaction process? Women are part of the equation. You can't just look at one part of the equation and draw your conclusions. You have to look at the system within which they function and you have to define that in terms of the unit and the boundaries.

DR. HOLLOWAY: Is that a leadership issue?

Col TERRIBERRY: This is more than leadership.

DR. GREEN: It is also a research issue.

Col TERRIBERRY: I think it is.

DR. GREEN: It is more research on the performance of teams and how they work together as teams and the women included. Basically, the ongoing argument for excluding women is that somehow there can't be this cohesion unless it is all homogeneous. It seems to me that that would be a really important place to do more research to test that out. It seems that so far nobody can rebut that.

DR. MARTIN: We have had shuttle crews that are rainbows. They are male and female and they got the job done; they worked well together. That may be a research issue in the process of education and figuring out ways to help people change in other arenas.

DR. GREEN: I haven't heard anybody argue from that perspective.

DR. THOMAS: Neither have I.

DR. GREEN: It is described as an exception; your people are exceptional people.

DR. MARTIN: It is because he only accepts the cream of the crop.

DR. HOLLOWAY: Let me make a suggestion to you. We at NASA will agree that the ones that we get from the Air Force and the Navy (those are the two sources for getting our pilots, both men and women) are exceptional. Do you want to do a news story on that? The pilots want to do a news story on that.

DR. THOMAS: I think along with looking at teams, we should look at team composition. One thing I have heard over and over again is, how many women can we tolerate before decrementing? It is almost worded that way, that you are going to hit some tip-over point at some point. You just mentioned the issue of blacks. If we are going to look at team performances, look at the team composition, too.

DR. NICE: We do have real readiness issues that are life threatening. A ship has to go out on maneuvers and they are going to be outside a certain range. Women who are currently pregnant, while they may not be transferred off with the twenty-week group, are still not allowed to go out with the ship if the ship goes outside a certain med evac distance. I must also say that the Secretary of the Navy has said that pregnancy is a normal, healthy outcome for women, and we support and endorse that.

DR. HOLLOWAY: I am really glad.

DR. NICE: However, the reality is, if a woman is transferred off for pregnancy, there is a long pipeline for getting a replacement. That does negatively impact the readiness of that ship, and somebody has to pick up the slack; correct me if I am wrong here. It seems to me that if personnel were able to make these transitions faster, or put that on a higher priority, the ability is not really degraded. In terms of the small team, the new person they put on does have to be integrated in and trained up and all of those things are a real cost incurred.

DR. HOLLOWAY: This is putting it perhaps in an equally prejudicial kind of category. Aren't these the same issues that you have when you do administrative discharges off the ships? You only have to look at the number of men who have to be evacuated off. It only requires that they are treated the same. We will require pregnancy tests on all the men who get administrative discharges along with all the women who are shipped back for pregnancies. We will do it on both and we will have the whole system equal. Will that make it better? The answer is, no, it won't make it better. The problem is that we treat this as some kind of specialized category rather than as an expected casualty rate.

There are two kinds of research issues here. One is the most difficult kind of research to do. That is the social psychology of the senior command decision-making process which grows out of what you proposed before, the I.W. Thomas theorem, that anything believed to be real has real consequences. Having looked at that issue, the other issue is, can we stack the force? The question is, are there any operational studies or recommendations we can make about that, or ways to do that?

LTC CORNUM: I have one. I was shot down with this twenty-year-old infantry sergeant who was a pathfinder. We were captured together, and we were debriefed later, ad nauseam. Someone asked him, "what do you think about women in combat?" He said, "oh, they shouldn't be there." They said, "what do you think about about Major Cornum." He said, "oh, I would follow her anywhere." His basic stereotype and belief is based on his experiences. He made his decision based on sisters or girls he went to high school with or his mom. I have never met the girls he went to high school with, but I met his wife and I met his mother and I wouldn't go to war with them either. When we make our decisions, we can only base them on what we have experienced. Our senior leadership didn't have women in the military when they came in. Their decisions are still based on who they marry and who they went to school with and their sisters, perhaps. I don't know.

I think the message here is that people can learn, just like this pathfinder could learn. If we continue to prevent them from having that experience, they never will. We will simply perpetuate this nonsense. Dr. McGlohn is doing this great study where she is interviewing female fighter pilots and male fighter pilots. She is finding exactly what you would expect; that they are the same kinds of people. They may not be in the same segment of the bell shaped curve. The ones who segregate themselves out that way are the same kinds of people. The same thing would happen in the military if you would allow it.

DR. NICE: I think a lot of people say that, though. The stereotype is that the good female pilot is viewed as an exception.

DR. THOMAS: Unfortunately, the existence of good female pilots hasn't changed their views of the acceptability of women pilots as a group.

LTC CORNUM: They still have an experience of one hundred in the group and they are learning.

DR. THOMAS: I think that is a bit rosy. The reason I think so is we did the first research at the Naval Academy when women first entered the academy. We were looking at men's attitudes toward women coming to the academy. The first class, of course, felt there was no way women should be there. "I am so glad I am getting out of here in the last class without women."

PARTICIPANT: That is what the Marines say.

DR. THOMAS: We naively hypothesized that once the men were gone who had only known a single gender class, that things were going to be better. Ten years later we went back and used the instrument. Guess what? No change; it was the same. No change whatsoever.

DR. WOLFE: The exposure didn't do it.

DR. THOMAS: The exposure didn't solve it. That is not sufficient.

DR. WOLFE: I think we should follow that up because that would seem to be the logical solution; that if you introduce greater numbers through increased exposure, that would change attitude. You are saying that didn't really occur.

DR. THOMAS: Not at the academy. There are certain conditions that must exist in order to have that occur, and perhaps all these conditions don't exist.

Lt Col BROWN: Is that the culture of the academy?

LTC CORNUM: There is a sign as you walk in the door, "Bring me men."

DR. THOMAS: Only about 10% are women. I think it is up to 12 % now.

LTC CORNUM: I don't believe that at all. I don't think there is some kind of magic number you need.

DR. WOLFE: It may not be a magic number, but it may be that the majority group perceives it as frivolous. In other words, they may perceive that the senior administration doesn't take the issue seriously, that is why the number is so low that they can disregard it.

DR. HOLLOWAY: I want to suggest another hypothesis. You are dealing fundamentally with how we acculturate and teach expectation in adolescent males in this country. There is a considerable, if you will pardon the expression, "fix" to be done here in order to realize the full potential of our population. The question has to do with what is the meaning of "fix" and taken in its plural meaning. My question about that really is the following. It is really true that with the integration of African Americans into the American services, it was at first a very rosy almost honeymoon picture in the 1950's in which "all the problems" were solved. There has not yet been a mutiny in the U.S. Navy, but those two aircraft carriers that were set on fire by their crews occurred actually in the 1960's and the early 1970's.

PARTICIPANT: 1972.

DR. HOLLOWAY: You are now coming into the second phase of the business in which command had to get serious across the DoD about this issue in terms of what it meant to develop cohesion. Cohesion had to be within the unit, by the roles in the unit doing their jobs, and not by external diacriticals that were derived from skin reflectants. It seems to me that those kinds of issues are the kinds of things that we are talking about here. It seems to me that from that data I would in fact predict your data is what would happen. If we simply allow presence without carrying lesson with that presence, it is not going to work.

Lt Col BROWN: Was that an intervention, the cohesion that you are talking about?

DR. HOLLOWAY: It was a specific intervention that came directly out of the drug studies you have heard about. It became actual policies, out of the Chief of Staff's office. The critical step that was taken with regard to it was taken in 1974-75, first in the Army and then all the other services got it in one way or another. By then there was already a fully-developed program to teach that, but the critical one was no staff study will be presented to the Chief of Staff that does not consider the impact on the social organization of the unit and its effectiveness. Nothing will come to me that doesn't explain to me exactly what you do; no personnel policy, no policy of logistics, no policy of recruitment. Every one of them must carry that as a dimension. That came out of the data that came from this other time here. It is a very conscious program.

DR. WOLFE: Are you saying that it is not there at the top right now?

DR. HOLLOWAY: Not with regard to women. I am saying in regard to women, it is not there in terms of a policy statement that you take each lesson and use it up and down the line. It seems to me that there has been something of that because of Tailhook. Tailhook has been a sufficient public relations mess for the services that there has been some action that has been taken on that.

There are other trends as well. Every direction you go, this is going to be one of the things we will need to think about and think very carefully about how to do that.

Lt Col BROWN: What were the two dimensions that a staff study couldn't be presented without?

DR. HOLLOWAY: Actually, it is only one dimension, and that is the impact of the social organization of the unit and the cohesion of the unit, which is presented as one concept. That is, you have to tell me how this is going to influence the capacity of people to live and work in their units. Particularly important there is that people would come in and say, "the cheapest way to do personnel records is by individual replacement."

I found, by doing over two thousand interviews in Vietnam in 1971, only one commanding officer that knew the birth dates of the crews in his units. Why did he know the birth dates? Because he was an expert in computers and he could break the codes of the personnel system, which is otherwise impossible, and had acquired it. That is why he had it. Otherwise, no one had it. So, the men were asked the question, "do you know your unit?" It was very simple;"no." That was a simple question.

Lt Col BROWN: Did that increase cohesion within his unit or do we know that?

DR. HOLLOWAY: We did only a brief study of cohesion within his unit. He did indeed have one of the few units in which the findings for using anti-malarials to prevent malaria was higher than the rate of positivity for health.

PARTICIPANT: I love those outcome measures.

DR. NICE:: I think you are exactly right, that this needs to be a top down, strong-willed approach. One wonders, then, what would be the best approach to start initiating those kinds of policies?

DR. HOLLOWAY: In the past, it has been building a database. Clearly, when the Chief of Staff says he is going to do that, he knows there is going to be lots of work associated with it. His staff is going to have to be wrestling with this thing for some time. He will want to be very careful on every one of those items, that he gives that kind of status.

DR. NICE: I think you can manipulate through external encouragement. I think of recent NIH rules on funding; that studies will not exclude minorities or women, or they won't be funded. If you do, you need to justify why you have done it. That is relatively new. That has changed the way scientists do business.

Lt Col BROWN: That is across all agencies.

DR. WOLFE: I didn't understand what you said about building a database.

DR. HOLLOWAY: You have to show the Chief of Staff that there would be a consequence to his doing that. Show that his Army or his Air Force or his Navy would fight better, would be able to deliver at a lower price the same thing so that he could give a good product. Show that he could lower, perhaps as another variable, some rate of ineffectiveness within his Army by putting that particular kind of policy into effect.

DR. WOLFE: I think this is a very important issue in part for research, because research in my view is traditionally focused on psychopathology and pathological outcomes which shows basically the adverse effects of not treating people well. You are saying, "unless I can motivate a command to change."

DR. HOLLOWAY: This depends on the weight of pathology associated. That is, if you demonstrate that you can influence a phenomenon that occurs in 30% of the soldiers, you will get all kinds of support. If the problem you are dealing with affects 3% of the soldiers, well, who knows what 3% means.

DR. WOLFE: If all they do is get out early, if they don't do something expensive like shoot each other, then it doesn't matter at all.

Lt Col BROWN: It depends on how expensive it was to train the unit.

DR. THOMAS: I think that we are hearing that a lot right now with the down-sizing at the Department of Defense. "Why should we even have to wrestle with any of these problems involved with women? Why don't we just use men? Let's protect the women."

DR. NICE: We are doing a long-term study of health rehab programs and a four-week versus six-week. We transition everybody out at four weeks or six weeks. This is the third year of the study. What we are seeing is, accidentally, people are dropping off the map now; coming out of rehab with no alcohol-related incident. They are just not being re-enlisted. We suspect strongly this is pretty much zero tolerance of past behavior. This is the mindset that we just can't afford this kind of behavior any more. I think you are right. People may become vulnerable.

Lt Col BROWN: Haven't the rules for category C been recently changed also for going out the door?

DR. HOLLOWAY: Category C means --

Lt Col BROWN: Or Code C.

DR. WOLFE: What is Code C?

Lt Col BROWN: It means you are not deployable. In fact, there is congressional language that just changed.

DR. WOLFE: Keeping women who they consider undeployable and keeping HIV positive people is about the same thing to some people. I don't blame the "average joe" for resenting keeping those people, because they meant he was going to deploy more often. He was going to go to the National Training Center and he was going to do all these things and these people were going to stay home. He thinks, "why should I keep these people who are going to stay home?" I don't blame him for thinking that if we are going to protect them, then we shouldn't have them.

Col CAYTON: I also agree with you in terms of the issue of the female pilot that crashed, with the allegation that she had been carried. You really have a problem if there is a perception of reverse discrimination.

LTC CORNUM: That is really unfortunate, because all pilots do that. When somebody goes in, they all try to pick up something that sets the one that crashed apart. When you are talking to psychiatrists this may sound stupid but they all try to identify something about the guy so that they don't feel like they are at risk. It is very easy with her; she is a girl, obviously.

DR. HOLLOWAY: To come back to an issue here, we are talking about 461 HIV-positive individuals who are in service. That is really quite a different discussion. It is quite a different discussion than the issue of women. It seems to me that if women are retained in the service, that we retain them not for functional reasons. We retain them not for any of the other reasons, but we retain them because this represents the way we are currently organizing our work force. There are advantages to organizing the work force in that way. Now, this argument inevitably has many dimensions: moral dimensions, political dimensions, economic dimensions, and all those others then are tied to it. The question that this group may want to think about is, should we be creating a database that enters into this discussion and determines, perhaps, part of its outcome? Should data be collected that demonstrates the effectiveness of women? Should you be collecting data that demonstrates the ineffectiveness of women? How should that be approached?

LTC CORNUM: I think we should blind it all. I really do. I think they should get rid of the picture in their personnel file and they should get rid of the gender.

Lt Col BROWN: The Air Force just did that.

LTC CORNUM: They got rid of the picture, but they still tell if you are a man or a woman.

Lt Col BROWN: It is kind of hard with some names.

LTC CORNUM: They should get rid of that when they are looking at these kinds of things. This soldier passed the weight test, this soldier got 100 on the PT test, this soldier did this, this soldier did that. I think the fact that you have the data available says someone is going to use it for something.

Lt Col BROWN: An anonymous review.

DR. GREEN: I would like to get back to the issue that a number of people were mentioning this morning about leadership in terms of research and policy recommendations. Once people were in or how they were treated within their particular unit and the way that the unit leader conceptualizes their participation sounds like it makes a huge amount of difference. I don't know what research there is about that or training there is about that, specific to gender issues.

DR. HOLLOWAY: If you want the knowledge from the research there are two questions here. How does it get to the leader? The answer is, it must be a part of the component schools of the Air Force or of the Army or of the Navy. It must be one which reaches component schools, e.g. basic infantry school. That way senior captains and majors, will know this material. If you want lieutenant colonels to know it, it has to be taught at Fort Leavenworth for the Army. It has to be taught at the Air Staff College. It has to be taught at the Navy College, any one of your senior colleges. Remember that officers are in education for their entire career. The only officers that are front end loaded for education are medical care. Most others are developing their education all the time they are in service. So that, if you want to have an impact, one answer is that you have to impact that system.

DR. WOLFE: A multi-pronged curriculum.

DR. HOLLOWAY: Yes, you have to have a curriculum that enters it. That is a policy issue, what do you want at each step? It is like a curriculum in a medical school. A number of people here work in medical schools. There is never enough time on that curriculum, never enough time. There are always important issues. The important issue that you don't cover may cause deaths. If a logistician doesn't know how to do a particular logistics, his unit may be decimated because it happened that way. You can go back and read the studies that clearly show that. It becomes a very serious issue how to get it there. The second is, how do you do your research so that it can be presented and not misunderstood or mis-attributed in that environment. Perhaps there are some ways to do that. It is a very tough problem.

LTC CORNUM: I did go to Air Training Staff College and I can tell you that it is not talked about there at all.

DR. THOMAS: Leadership isn't?

LTC CORNUM: Leadership is, but effective leadership and people's performance is not.

PARTICIPANT: It is not?

LTC CORNUM: They talk about leadership, but as soon as you talk about leadership, women are not discussed at these schools.

DR. THOMAS: Are minorities?

LTC CORNUM: No.

DR. HOLLOWAY: Let me tell you something else that is not discussed and this group may find that this is too abstract. One thing that is not taught almost anywhere is about followership. We are talking about a reciprocal relationship here in which all of us, as we perform various levels of leadership or otherwise, are also exercising followership. Yet, this is treated only in terms of the dominant position, not in terms of the important other aspect, or other limb of this relationship that results in performance. That is not very well covered.

Col TERRIBERRY: I would argue that in the enlisted basic schools that followership is very much the curriculum.

DR. HOLLOWAY: I am talking now about the officers' schools, how they teach leadership. If you don't advance your follower, that follower gets fired. Remaining at a given position and performing well in that position as a follower is explicitly discouraged; you are fired if you do that.

Lt Col BROWN: Philosophically, in the Defense Women's Health Program should the research drive the policy or the policy drive the research?

Col CAYTON: Yes. Your policy should be based on getting empirical data and your research and your policy should direct what questions you need to answer.

Lt Col BROWN: In February of 1995 in the Navy, nine out of eleven of the fiscal year 94 projects the Navy is doing are actually geared in one way or the other toward this issue or parts of it. Was that research to drive this policy decision or did this policy decision drive your research, or either way? I just ask that question.

DR. NICE: That policy came out when we had developed our instruments. When I first saw the instructions, I immediately saw that there were five points that the Department of the Navy wanted empirical data on. We modified our protocol to capture that.

Lt Col BROWN: You modified it after you saw those?

DR. NICE: Yes. I tell you, when the dust settles on this thing, if we haven't answered those questions, then we have a big problem at the end of this thing. We are also working with that PAT (Process Action Team) formulating women's health policy. We are driving our empirical database into that group so that they can use those numbers to formulate additional policy. We have played with some of the issues from a research perspective. We are talking to customers, fleet surgeons and force night watchers and finding out what grabs them. What is it they think are the important things to study. We are studying those and then feeding those to the policy people. We often bridge the gap between the operational forces and the medical policy makers.

Lt Col BROWN: You are under medical direction?

DR. THOMAS: I am personnel and I can answer that, too. In regards to the new pregnancy policy, they set up two working groups: one for single parents, one for pregnancy following the Persian Gulf War. Over a period of about eighteen months bringing in the various groups to talk about policy in regards to pregnancy, we for several years had a policy of involuntary discharge of all pregnant women. I think that was true of all the services. Then in 1975, 1978, and the 1980's, we went through a period of time when we would waive certain types of medical conditions. You can go off and you can ask headquarters if they will waive some of it.

Then we turned to this recruit policy where, in the Navy at least, you would be kept in uniform in the Navy if you became pregnant except if we decided that we wanted to release you. Pregnancy is not normally sufficient reason for discharge. They had to consider what we did before, whether we wanted to go back to that policy. In other words, can we tolerate the level of pregnancy that we are now experiencing? They did ask the researchers to come in and test it in these groups as they are formulating their policy. From a personnel side, I personally was asked to come in and feed in what I knew about the impact of pregnancy on absenteeism and about a number of other issues.

DR. HOLLOWAY: I will make a comment on that organization from the Army point of view. I will go back to the drug issue and the issue with regard to African Americans in the service. With African Americans in the service, the issue is to evaluate policy. That is, we have collected data specifically as directed in the policy so that they could discover whether it is coming out okay or badly. We have to get a measure out there somehow so that we can guide this thing.

On the other hand, on understanding social organization and combat effectiveness, we drove that research with the understanding that we had to have some way to lower substance abuse rates. Our original studies in looking at the various medical options were all bad. They were all ineffective, they didn't do anything. The data was clearly there. If the data was clear and we couldn't drive it down that way, the other way had to be to reorganize the unit and the overall environment and get some ideas about that. We did that and then drove policy with research.

DR. WOLFE: Can we go back and talk about how you format research, because I would be interested in hearing how you format research so that it doesn't take a performance decrement approach or a deficit approach. Is showing limitations of pathology about people a way of demonstrating need for improvement? In other words, how do you flip research so that it can be shown why things that happen can be made better?

It seems to me that from the research on women, they are able to say that women need the following things. That is because there is some policy right now that will accept women. If that, itself, is still at a shaky level, it seems to me that special attention ought to be given to the phrasing of questions in the data collection and the structuring of research protocols.

DR. THOMAS: One of the approaches I take is - and I have talked with some people about it - to never conduct research just on women, to always include males. We examine men and women in my research with the idea that there are going to be gender differences that we are going to uncover. Hopefully, the bottom line is that it is pretty equal if you put it on a scale.

DR. GREEN: You can't always do it; for example, study breast cancer.

DR. THOMAS: I am in the personnel area, so they view it primarily as billets. They are asking, "are these kinds of people interchangeable in these billets?" It is much easier.

DR. HOLLOWAY: I want to come back to the question of the simplicity of research formats. I want to go to two studies one of which directly relates to women directly, but one does not. One of the simplest and most effective studies for dealing with policy in the Army was to take people who were administratively discharged from the Army because they were bad boys with character disorders. Then do an extensive character study pairing a control group from their unit in Germany that were not being discharged from the Army to demonstrate there was absolutely no statistical difference between the two groups. What does that show about policy? We laid that on the table and we said, "this is a problem in leadership, folks. This wasn't a problem in this kid."

Lt Col BROWN: They didn't want to hear that, though.

DR. HOLLOWAY: As a matter of fact, they changed policy on the basis of it when they got enough data. We did just a very simple thing. The people in Stockholm didn't call us about that particular study right afterwards to make sure that they got it on the list, but it was very simple to demonstrate the difference.

The other one is another kind of policy study in which you look at how a particular team performs and you take an assumption from that team that is made standard in terms of the organization and test that assumption. In this case it was, "how do you load large cannons?" In fact, Dr. Manning, who is here, did that study and it changed all of our doctrine for how artillery operates. You had to pick up a ninety pound charge, load it behind the shell and fire in rapid order. This was something called the X-99; I think, the code name for the gun.

We demonstrated that if you put a very strong man on every one of these teams, surely that would be a great way. The teams performed ineffectively, because when doing rapid fire what the teams did in self organization was always shift the job to the man who could load on his own. All he had to do was extend the firing time by ten minutes and the team was on the ground dead and totally out. Therefore, the issue was not strength, but teamwork and leadership for organizing those teams. Who could maintain effective firing rates for twenty-four hours. Those data are the kinds of things that led positively. You will notice how the question was framed. I think that if you are in a relationship with folks inside who can give you some guidance, they can then formulate data in a particular way so that it will translate into those policy terms.

Col CAYTON: The drug issue that we haven't talked about is that there is a significant difference in the use rate for males and females. Why? What contributes to that? Is there a way that we can use the lower rate in females to help us reduce the rate for males, as a postulate? As a matter of fact, one of the things that I remember although there weren't many women in Vietnam, was that we delayed pulling all of the last women out of Vietnam because they were the low use group.

DR. NICE: I would mention just as an aside, that it seems to me quite possible that if that effect were reversed, that drug use would be one of the primary areas that we would be recommending for research. If women were much more likely to abuse drugs, we would see this as a performance issue. When it is a situation in which we have a positive effect, we don't open our minds to that very readily and seek out those relationships.

LTC CORNUM: When women do something worse than men, then we want to study it. If they are doing something better than men, it is an exception. We have to make them look worse, no matter what comparison we make, because you can't get any money on them if you don't do that. I think it makes them look bad.

DR. MARTIN: Well, maybe you can somehow couch this in your use of research pattern, as opposed to sex or whatever; available resources, pluses and minuses of different kinds of resources. This drug study would be an example.

Col TERRIBERRY: I think any time you have a group that is out-performing other groups you should look at it. What is driving their success? What lessons can you learn from success rather than studying failures, to figure out how to cope with great failures?

DR. THOMAS: But you don't get money unless there's a problem. That is what happens to us when we start talking about looking at successes.

Col TERRIBERRY: The analogy here is preventive health care.

DR. GREEN: Even in the context of doing research on problems, maybe we need to define them more broadly. We know, for example, that women have more anxiety disorders and we know that men have more substance abuse. Maybe we should be studying those things at the same time as indicators that things are going on. Even if they are going along differently in one way or another. If we broadened our questions, then we wouldn't have to focus on men having more of this, women having more of that. We can look at dysfunctional symptoms or behavior that arise from a variety of different conditions.

LTC CORNUM: I think PTSD, which we have not talked about at all this afternoon, is a perfect example of that. Instead of studying people that have it, perhaps we should study people who have horrifying experiences and don't have it, to see what problems those people have that we should somehow be training as opposed to identifying all the causes.

Lt Col BROWN: That was a good question to come up and I didn't even hear it out there. What preventive strategies do we have out there to reduce trauma?

DR. GREEN: The people who don't have it have less trauma.

DR. WOLFE: Well, but hardiness is something that you are born with.

DR. GREEN: Well, it is both. There are different dimensions. Basically she is right; it is less exposure.

DR. HOLLOWAY: There is the data from the Israeli Army, from Zahava Solomon's data, that suggests that early interventions of some type reduce the rates in some ways. It is not clear in that data. There is one confound there. It is not clear whether there is a selection factor for people who get treatment and people who don't get treatment. Insofar as it is a dose/response curve, it does suggest a preference for early intervention.

DR. WOLFE: Before you go on to prevention, you were saying about studying different problems in people at the same time because that would give a more balanced view.

Col TERRIBERRY: If you wanted to study assault and harassment in women, what would you be studying in men, assault and harassment against the men, or compensation by the men?

DR. WOLFE: Maybe you would start at the other end. Do you know what I mean?

DR. THOMAS: We are getting more and more indications that men suffer from assault, either prior to entering the service or even while in the service. I was really startled recently with some data about that. In my sample 2% of the men in my sample, which wasn't that big a sample on shipboard, had suffered from sexual assault within the last six months.

DR. WOLFE: Within the last six months?

DR. THOMAS: Within the last six months. We know that a percentage of men do experience sexual harassment. We know that. If we are going to look at absolute numbers, as one captain pointed out, why are we, in all of our sexual harassment training, having male on female harassment when numerically, if you look at it, it is more female on male. It is kind of mind boggling.

DR. GREEN: Well, maybe we shouldn't limit it to sexual. Men are certainly physically and verbally harassed. Maybe we should describe it as harassment and assault rather than sexual harassment and assault.

Lt Col BROWN: When you say sexual assault, male to male, or female to males?

DR. THOMAS: That we don't know.

DR. GREEN: Are you saying that harassment was more to women?

DR. THOMAS: It is a much smaller percentage. If we say 4%, which happens to be what we keep getting, 4% of our enlisted males are sexually harassed, they say. We get 4% of a force of over three hundred thousand and compare it to the 33% of the enlisted females who are sexually harassed but there are only fifty thousand of them.

DR. GREEN: You are saying numerically.

DR. THOMAS: It is still a problem. However, if you are a female, the percentage of assault is higher. That is a problem to measure it among both and recently. After all, it is a perpetrator who is the same sex and an officer.

DR. HOLLOWAY: I hate to put any stop on this particular discussion, but I want to take us to our next task, which is to identify the things that we have talked about. We have talked about policy and research. Some of you who will not be coming back tomorrow may have some recommendations that you have from this. So, write them out and we will represent them.

DR. WOLFE: We will be happy to help you work on these problems.

DR. HOLLOWAY: Perhaps this evening, we will have some discussions among ourselves as we think about ways to begin to cut into and identify approaches that would make an action out of this to take to the Air Force Surgeon General's office. If you will think a little bit about this. By the way, if you miss a recommendation and you don't come back, and it occurs to you on E-mail, ask for my E-mail card and ship them in late and we will turn them in late.

DR. WOLFE: When are you turning this in?

MAJ SUTTON: The final product is due in April of 1996, so we have some time. Having said that, the end of the funding period is 30 September, so we really want to get the data collection done by the end of September.

DR. WOLFE: Tell us again what type of recommendations you want.

DR. HOLLOWAY: Research about medical practice.

LTC CORNUM: I have another one of those. The way that the military works is that if you are active duty, you either have to be taken care of by a military physician or you have to get sent out on supplemental care; that is, local care, a local hospital pays for that. If you are a dependent and CHAMPUS pays for it, the local commander doesn't care how much of that you spend. At least they didn't until very recently.

Col CAYTON: That has changed totally.

LTC CORNUM: That has changed, but it is still perceived in that way in many places. If you are an active duty female and they don't have OB/GYN at your base, then you don't get one. There are none available at the reduced rates that CHAMPUS providers will pay. If you are an active duty man's spouse or mother-in-law or something, then you get it. You get your local OB/GYN doctor to do your PAP smear as opposed to your local flight surgeon to do it. That is perceived by the military women, I would say, as discriminatory.

DR. GREEN: I don't know really where this fits, no one has brought it up before. For me, part of the whole overview of the day had to do with this issue of, to what extent should we conceptualize these things as separate women's issues versus more general things? I think that is an ongoing debate that somehow needs to be communicated. We need to keep those things in mind. To some extent, if we broaden our questions, if we look at men and women with regard to all of the different questions and so forth, we will accomplish some of our goals. Then there are some things that are issues that have had under-attention because they are associated primarily with women. NIH research up until recently was on heart disease and was only done on men.

DR. HOLLOWAY: Or in DoD to some extent.

DR. GREEN: The solution though isn't to be gender blind in all areas. Whatever the tension is between those two perspectives, we have to carry that tension and that balance forward as we think through these issues without going too far in one direction or the other. That is not a recommendation, it is just a challenge, I think.

DR. HOLLOWAY: Let's think about a way to make it a recommendation, in things of that sort. There ought to be a recommendation that is fundamentally a guideline to make people think. One of them, it seems to me, is a guideline that says, for areas which have been under-researched in the past, there may need to be programs to create a database which will be an adequate database for a total force. You have a supply program, you have a database problem. You cannot have a portion of your population. This also, it seems to me, gets down to the issue of minorities, over-sampling minorities, and understanding their role in a particular area.

I was interested in the comments that came out, for instance, about Pacific Islanders and people from the Far East. There are all kinds of assumptions that are made if you come from a particular population, that you come from the median of that population. A mutual friend of ours, Dr. Mikai, is the first Japanese payload specialist to fly on board the shuttle, a woman thoracic surgeon. This was after the Japanese space agency presented a long description of the average personality of the Japanese. There was a long discussion about that; they are sort of schizoid and withdrawn. Dr. Mikai got up to comment on everything that has been done. This is before she flew. She said, "sounds very interesting and very accurate." She said, however, that when she thought about herself, she noticed that she was less like the average Japanese and she was more like the average astronaut that she had met at Houston. She also noticed something about the average astronaut. They weren't very much like average Americans.

LTC CORNUM: Out of the mouths of the Japanese ladies comes great wisdom.

DR. MARTIN: We had heard that the Japanese selection committee chose her because of that. That shows wisdom on their part.

DR. HOLLOWAY: Yes. I won't go into the problems with the Germans. There is a certain message there that we also might think about in terms of talking about sampling, because sampling may mean segmental sampling of particular parts of the population.

DR. THOMAS: She might have been in this country for five generations for all we know. That is something that we have not done. How acculturated are these so-called minorities?

LTC CORNUM: It is clear they are not average.

DR. THOMAS: Most of the people we get are almost indistinguishable from Caucasians and that is the trick of it.

LTC CORNUM: It is like the female fighter pilot thing. They are not the median girl if they are a pilot.

PARTICIPANT: An athlete rarely misses an Olympic event because she accidentally got pregnant.

LTC CORNUM: People who are responsible don't get pregnant at inconvenient times, regardless.

DR. HOLLOWAY: We are at our 5:00 o'clock boundary. However, I want to go back to one reference here. It is the reference to tears and the presentations. Dr. Sutton knows that I can cry because I was once discussing one of her papers in which she described the kind of care that she provided in the Gulf. I was completely in tears because of the great love I feel for people who care for soldiers. I was always knowing sadness whenever we talk about war. If we keep coming back to these various stereotypes, there is one quotation that I think is appropriate about tears. That is how Caesar described his victorious armies: "The legions wept." In all of this enterprise, there is a great deal of sadness as you get into those elements and how to express that and the range of its expression. That may have something to do with adjusting. When someone says, "at last we can talk about the fullness of this experience because we are appreciating talking about death and loss," that is really not kidding. That is really not kidding. We will get together tomorrow and put together these recommendations and I hope we will all have a chance to get together this evening.

LTC CORNUM: That is actually a very interesting thing about tears. I know that it doesn't make you less effective to cry. You can still drive fine, you can still fly fine and you can do all the things you can do without difficulty.

PARTICIPANT: Men don't respond well to tears.

LTC CORNUM: You change your behavior based on their expectations, even though your behavior doesn't intrinsically hurt anything.

DR. HOLLOWAY: I sometimes show films, because of interest in combat and combat actions. The film "Platoon Anderson," is a real film of a real platoon operating in Vietnam, filmed by the French Television Service. In the film these are largely the soldiers; there are some blacks and some rednecks and some have never even seen a flush toilet before, and for their country they are now over fighting in a terrible war. We watch two of them get killed. It is pointless and terrible. At one point, they are assaulted and they are being ambushed. A young man who is using fundamentally what we would call a shot gun(it is a grenade launcher) is having to stand up, expose himself, and fire. He is doing so very effectively. He is leaping up and firing. The tears are pouring down his cheeks and he is totally unaware that he is crying. He is firing. I tell you, you had better not get in the way of those grenades. The tears won't keep you alive. These are very important emotions to understand in those circumstances. The assumptions about them are sometimes as misleading as all the other assumptions. Well, thank you all. We will have some more fun with this tomorrow.

DISCUSSION GROUP II - SESSION II

Harry C. Holloway, M.D.
COL, MC, USA (Ret)

DR. HOLLOWAY: I thought we would start off with a little summary from our work yesterday and then see where the group wants to go from there. I will turn things over to Dr. Sutton, to review some of our work from last time.

MAJ SUTTON: In terms of findings, we found that the military services retain women because of the way we are currently organizing our work force. This has moral, political and economic dimensions. We also found that, in terms of presenting research findings, we need to be aware of the audience and be sure that our findings are built in context; that when a significant difference is found, that we investigate to find out the reason why. We also found that unless you study and look at successful outcomes, you cannot build a prevention health program. We found that when you study issues other than sexual harassment, the male and female populations tend to look much more similar.

In terms of our recommendations, we made the following recommendations for the total force supply. Birth control pills should be made available. Equity in health care access, for example OB/GYN care, should be made available. Also pregnancy tests and tampons should be made available. Underwear should be available for women soldiers as well as the clothes for men soldiers.

We recommend that research requests are framed to both generate and evaluate policy outcomes. We recommend that data be requested and built into databases that are appropriate for use in a military educational system; for example, to be used in junior through senior staff colleges.

We recommend that research be done on the effects of stress that gives equal weight to factors leading to both disabling and non-disabling outcomes; for example, identifying risk factors for existing PTSD. We recommend that end-points be used which are militarily relevant; for example, days lost as well as identifying medical symptoms. Another recommendation is that we include the appropriate risks in comparative populations so that these findings can be put in context, rather than be attributed to a single gender or single demographic characteristic.

We recommend that some studies be focused specifically on the attributions process, which results in stigmatizing a certain population; for example, higher ranks for ethnic groups such as Far Eastern or African Americans or NCO's or women. Additionally, we recommend that research be conducted that defines specific support requirements for elements of the total force. We also recommend making proposals to carry out action research that increases the interpersonal skills and sensitivities of officers, NCO's and enlisted ranks.

DR. HOLLOWAY: I would mention one thing, which is a derivative recommendation, that was not talked about. The thing that was talked about was the issue of including those skills. That has now been re-framed in terms of this is research.

MAJ SUTTON: Another area that we haven't yet talked about, but should be discussed, defines the factors in interpersonal communication and develops them to enhance performance. We recommend that research be done that facilitates the development of desirable end points and metrics for a women's health program. We also recommend outcome research that is related to measuring outcomes that can monitor and serve as a metric for a woman's health program. We recommend developing and validating measures for both individual and unit or small group performance. We recommend understanding the cultural and social attitudes in the populations that we draw our members from. This could certainly be viewed as a joint service endeavor and perhaps best performed by the National Science Foundation.

DR. HOLLOWAY: This has to do with the issue we talked about, how do we find out about high school seniors, what do they think, what are they bringing forward? What are the groups that are coming from college and from the officers corps? What are they going to be bringing in terms of attitudes?

MAJ SUTTON: One last point for discussion is the notion that we want our Army to be us and to reflect the image of us. The question is, does the American public image of us include women?

DR. HOLLOWAY: How do you affect that? You might want to go over Dr. Green's input. She left us a set of notes.

MAJ SUTTON: Yes. This is input from Dr. Green. She has listed leadership, impact of leaders on group morale, cohesion, integration, especially with regard to women, and research and training. Broader questions include sexual assault and harassment including physical harassment. She recommends studying anxiety and substance abuse together and outcomes that are differentially associated with gender as negative outcomes associated with trauma. She also comments about forming an adequate database for a total force as a way to keep in mind the balance and tension between being gender blind and not calling attention to women as having special problems. This is as opposed to compensating for under-attention to issues that are associated with women; for example, breast cancer, tampons, and OB/GYN care.

PARTICIPANT: What information is she proposing be in it?

DR. HOLLOWAY: I think what she is talking about is the following: one recommendation that was made is that we have records in which gender does not appear in the overall records. For those of us who went through the period when the Secretary of the Army took all demographic identifiers off the records, the overall intent there was to help the African American have an equal footing. What, in fact, happened was that after two years somebody said, "Well, how are African Americans doing? Well, who knows? How do you track it?" There is a phrase that I think is in this place, "The helping hand strikes again." The issue here, is the "helping hand". You try to correct a current abuse and you create a future abuse by doing so.

PARTICIPANT: It is just the opposite of the intent?

DR. HOLLOWAY: That is correct. It ends up that we are unable to monitor. As an example, let's say that one of these emerging viruses has a particular affinity to the XX chromosome combination, which particularly in Pian Disease is not inconceivable, in which case you would then intensely want to know what are the exposure rates, how does this happen?

PARTICIPANT: Also, if you are going to plan logistic support, you have got to know how many females to know how many tampons to load.

DR. HOLLOWAY: It is that kind of balance that you should be coming at; that is, both the issue of how do you increase fairness and equity on one side of it, and complete the task on a practical side? I think it was that issue that Dr. Green is raising.

MAJ SUTTON: We also have a matrix here that Colonel Cayton put together. On the Y axis he has five different categories: physical or medical, psychological, social, logistic, and political. Across the top, research, policy, training, command and leadership. Under the intersection between research in the physical and medical dimension he lists PTSD sufferers who do well and how they do it; secondly, assault. Under the intersection between research and psychological factors: lower use of drugs by studying the female population. He amplifies this. He asks, "What characteristics of females help reduce substance abuse that we might be able to use to reduce male substance abuse?"

In the third category, also under research, in the social dimension, is: marriages coming apart, negative acceptance of team members, perceptions of reverse discrimination, harassment, and finally, assault.

In the next category, the policy issues in the physical and medical dimension include pregnancy testing and OB/GYN care for females. In the psychological dimension: birth control, tampons, underwear. In the logistical dimension there is birth control, tampons, and underwear. In the political dimension: evaluation of the social impact of all organizations and cohesion.

Under the training category, physical and medical dimension there is PME (Professional Military Education). Under the psychological he also lists PME. In fact, PME is under all of these. For the social dimension, he includes non-acceptance by team members and PME.

PARTICIPANT: In other words, what he is saying is that PME should address all of those?

MAJ SUTTON: Right. It has to get into the educational system.

PARTICIPANT: But it doesn't, necessarily.

PARTICIPANT: I think the training issue is to extend the whole range. When we think PME, we generally think of those additional courses after they have been in for a while. It needs to begin with the intake educational process, at the academy level or enlisted basic training, wherever it occurs; whatever you call it, wherever it occurs.

MAJ SUTTON: He also includes here in the last category, in the social dimension, family experiences with deployment.

DR. HOLLOWAY: What is the service's investment in assuring the stability of marriages of its members? There is a presumption in "maintaining and marriages breaking up." Is it a social dimension of the responsibility of the services? I think the Air Force has been the most serious in addressing that.

DR. THOMAS: I have fielded that question several times. I don't have any idea about the rate of marriage break-ups. If you want to know what we are doing about it, we have our family service centers, we have counselors, and of course the Chaplain of the Corps. There are more informal things like when a ship deploys you should have your wives, ombudsmen, and videotapes to send to the ship all the time to show.

DR. HOLLOWAY: Then you have others, too, which are real leadership issues, like the captain meeting each family and every member of that family before you deploy. They really work at it.

MAJ SUTTON: Right. We are very aware of it.

DR. HOLLOWAY: But what is the responsibility? Should we be measuring divorce rates and is that an appropriate outcome measure? Other questions here include, where does social concern become social intrusiveness?

COL BROWN: I was just trying to remember. I have seen all these metrics that are now being produced by our family advocacy group. They show us family violence issues, parental child abuse and suicides. I don't remember if in their statistics and their metrics they showed divorce rate.

PARTICIPANT: I think you also need to look at the dissolution of the family structure because of the performance issue.

DR. HOLLOWAY: That is the issue I am raising here.

DR. NICE: I used to be involved in some family research for the Navy; family separation, that kind of thing. One thing we certainly don't know is the divorce rate. The other thing is we don't know as much about the demographic composition of our "dependent population." We have a sense that we have a lot of Pacific Islander families. They may or may not bring special needs, language issues, health care, and other cultural differences in terms of reticence to engage the health care system without their certain sponsor being there. Kinship networks, I think, were stronger among the Pacific Islanders as a group. Thus, it is very difficult to integrate them into wives clubs and some other support mechanisms that really were designed to reach these particular folks and that have not really been very effective. So, I think we not only don't know divorce rate, we don't know much about other issues. Among them are wives.

DR. HOLLOWAY: In research that I was involved in, (this dates from the 1970's and therefore it has that kind of a dated quality to the research base) we examined communications on Army bases. We discovered that you could do a drug survey at one barracks and nobody in another barracks would ever hear about it. There was no cross-barracks communication. It was totally absent. You could be 50 feet away and you might as well have been on the other side of the world, except for the Hispanic population, which cut entirely across the base and was organized around its own Hispanic center and not around the unit center. This exception is very striking in terms of social organization. It was part of material we used in some drug abuse prevention programs, in terms of being aware of different populations. How much of that research do we need? Is this an area that we need to address with regard to women's health to put it into a context? The issue of preserving families, is that an area for research?

DR. THOMAS: I think one thing that fits well into women's health and which has not been raised is the effect of mother absence on children. We have done work in the Navy on father absence during the deployments on the family and not mother absence. We haven't had any interest in that sort of thing because we hadn't had many mothers that deployed. It is obvious that we are going to have more and more mothers deploying. I do agree with you that that does affect performance. If the children or the family back there is in difficulty and that news gets out to the ship (and we have very good communication back and forth), I think there would be an effect on the performance of the military member.

COL BROWN: When we were deployed, there were single parent families in my own unit (I was chief of a laboratory). I saw where that really degraded their performance because they seemed to be more worried than parents who had someone else.

DR. HOLLOWAY: In the Air Force and the Navy, it is my impression that you get into the really high performance pilot issues. My experience in that area is that a misbehaving teenager is a family problem that is one of the more disabling. These men (these are men in this case because it refers in my experience largely to male populations) really are disabled by these family issues.

Col MARSH: It depends upon their ability to compartmentalize. Certainly those things can have an effect. I don't think that has ever been measured. How to measure that is very difficult. I was mulling over how to talk about a philosophical issue of how much intrusiveness the organization should have in the family. It is kind of a fine line. I think the organization needs to recognize the family, the spouse and the kids, but still leave them alone in a sense. We try to do this. This is becoming real apparent on the longer missions when the man values information greatly from his family and he gets to talk to his kids and his wife on a regular basis. If they don't get a chance to do this because communications are sometimes unreliable, they both miss it. The family unit is very important.

DR. HOLLOWAY: Certainly the Russians, on their hand, have made a great point of including that as part of the maintenance of their cosmonauts.

Col MARSH: There is a crew representative who looks in on the family occasionally. Everybody is wrestling with the long-term as opposed to the short-term. On the long-term missions, the crew will have to rotate people. It is very important that they are largely kept informed of what is going on, to try to include them. If the Army had wanted you to have a wife, they would have issued you a wife. That is not realistic, from my point of view, anyway.

Col TERRIBERRY: What I have observed over the past 20 years in primarily the fighter pilot community (which has been male dominated that whole time), is that there were many subjects that were not okay to talk about. That you could die was taboo. You absolutely could not talk about it. You could not talk about it pilot to pilot. You could not talk about it pilot to spouse. Spouses talked about it all the time and that is where the support was. If you were having family problems and you needed help, you absolutely did not tell anybody. If you needed help, you did it off the record, secretively, a back-yard consultant someplace. It has been observed that when women come into the system they are much more open about that level of communication. Now does that mean that we cope better in the same environment than men do in terms of performance? I don't know. Maybe when you start looking at where are their successes, what communication styles work better, what helps, what doesn't help, that may help.

DR. HOLLOWAY: This is an area where we don't have much empirical data.

Col MARSH: I think that is changing down where I am. The reason it is changing is that there is a persistent presence and a recognition by management that this is an important issue. It is not intrusive, but it is accepted more by management. There are performance issues involved. You use your psychological people as a resource; good commanders use their resources. There is a gradual, slow, persistent education process going on.

DR. HOLLOWAY: I want to say a word about that in the NASA example, because there is one illustration that is an illustrative case. A psychiatrist assigned to JCS gave a press interview with regard to family problems that had largely deleterious effects. The sharing of generic processes about a population can stigmatize that population. In the case of the astronauts, it is a very small population, and the overall effect is another sword. That is the situation that every astronaut lives in terror of. Some of the most negative comments in astronaut biographies have to do with the early medical care afforded them in the context of the Apollo program.

My point here is this. There is one area of study here, and that is, if we are talking about going into this area, it is providing data to and framing for physicians and the medical system in general, so that their behavior is appropriate to make this kind of opening up possible. That may be an area of research that has really to do with women's health.

There was an interesting and fascinating image prepared in a fictional sense by Clancy in Clear and Present Danger of Buns Nakamura, the first female ace in a high performance F-16 aircraft. Buns Nakamura is fascinating, as an example of a male fantasy of the first female ace. It also raises an interesting question and that is whether or not the overall general characteristics of women will move into the role, or whether women who move into the role will be the women who do not have those general characteristics but, in fact, more generally conform to this stereotype.

DR. NICE: I go along with your point. I think it is a very good one. The point is, things may start changing in terms of what women bring to the force. Your recognition that medical providers should be sensitive to it is true; certainly researchers should. POW's, I think, had similar concerns, as did the astronauts. We need to change from a leadership capacity or women may start being discriminated against in subtle ways that people may not even be aware of.

DR. HOLLOWAY: A very explicit area of my concern about function is the dysfunctionality of stereotypes in the task in high risk situations. I have been working on a project to try to isolate the factors and functions to increase security in areas that require high security. Suppressed information puts the security system at risk. It does not help the security system. If I have to sneak out and get the help with my marriage and not identify it and find my own non-secure source to now provide the help, I have, in fact, penetrated the overall security barrier, not facilitated it.

PARTICIPANT: Most every pilot that I have known or asked about is mission-oriented and that is their primary goal. The way to their hearts and minds is to be mission oriented as well, and to present things in that light. Family considerations, that is part of the mission.

DR. HOLLOWAY: The question here is both about policy and research as a new group enters these leadership positions and the followership positions. Does the group have suggestions about research and ways to frame that research? It strikes me here that there are undoubtedly some good questions in this area. It is somewhat formidable in terms of the fact that we do not have a vast database.

Col TERRIBERRY: Actually, the corporate world may provide information. There are social psychologists who study communication status within corporations, styles of management, what women bring to the table, and how that causes shifts. It may be worth doing a literature review to look for parallels.

DR. HOLLOWAY: That brings something to my mind in working with overseas groups. Corporate groups have done studies to examine the requirements for their overseas executives and the support that must be provided to them, and how that will facilitate or not facilitate the mission. Maybe that is the kind of research that examines the way in which family is critical to mission and mission-related variables. An examination of that in research terms, particularly those of social psychology and organizational psychology may be an area in which people can make fruitful proposals of research.

DR. THOMAS: USUHS is looking at variables in the performance measurements such as how does caring for the family have a positive effect or not have a positive effect on an individual performance?

DR. HOLLOWAY: I guess we would agree that the military members of both genders need to be examined.

DR. THOMAS: Absolutely, and the types of families need to be examined. We do have unmarried single parent families that we need to be concerned about.

DR. HOLLOWAY: We talk a lot about single parent families and here I think I need to speak out for another group that I haven't heard mentioned very much at this conference. One of the groups that was most stressed in the loss after the Aeroflight crash in Newfoundland when 242 members of the 101st were killed on the return from Sinai were families with good support. They were single soldiers without children; the people who are single.

DR. THOMAS: Their parents. They belong to a family.

DR. HOLLOWAY: Yes, I think they do. But if they are 101st Airborne troopers and you suddenly lose 242 people, which means you are on duty, you don't have a chance to go to your family, you are in fact miles distant from your family. In fact, what the commanding officer did for the 101st because of the data, was draw in all of his brigade commanders and say, "Your job is to model and my job is to model, for these young 17, 18, and 19-year-olds who don't have the foggiest notion how to mourn for the loss of their friends and recover in the mourning process. You will do that publicly. You will show them how to do that. You will provide that leadership there." That was really a very successful effort. It was very demanding personally and emotionally and not an easy job to undertake.

My point here is that we really also need to examine the needs and requirements of the single soldier who may not be near their family and who may be in the process of making friends and buddies. They would be relatively inarticulate in communicating their particular difficulty precisely because of their lack of connections to the organization. So, I present here another group that we didn't say much about, but that is both young and it is males and females. Are there other areas that we can think of or recommendations that we want to get out?

COL BROWN: One thing that I have been thinking about, is that part of what we have been discussing here are leadership and educational issues. What I have been thinking about over the last half hour is how in the information age with the information technology that is available to us can we tap into that resource to do education and enhance leadership in this area?

DR. HOLLOWAY: So, research in innovative educational approaches.

COL BROWN: The Internet, whatever, because that is a resource that is there that I think we could utilize.

DR. NICE: I really think that our laboratory, and I am sure many others, is actively exploring methods by which we can get our information out better. As I now collect a database to respond to a particular customer I am looking forward, when I am finished writing up the tech report and publishing it, to turn the database itself over to the customer with some peripherals on it so that they can then exploit that database themselves and draw their own graphs and use it more effectively. I think we are going to be moving into the range where we as in-house laboratories have to put our information and our databases out there so that more and more people can exploit them, because we can't afford not to. It is too expensive.

PARTICIPANT: On to a home page of some sort or into a clearinghouse of some sort? The Defense Women's Health Research Program has a clearinghouse but nobody has put any information in there yet.

DR. HOLLOWAY: Perhaps one of our recommendations to them is allow this to be a source on the World Wide Web or the Internet, or something of that sort?

Col TERRIBERRY: You all are generators of research, I am a consumer of research and as a consumer, to be given a bunch of statistics and graphs and so forth is very nice, but I am still left with, "Okay, how will I use this? How will I apply this? What works and what doesn't work?" I need that question answered. It isn't enough just to say, there is a problem over here, or, we need to recognize this trend, or women have more problems with this. I need an answer that tells what are the methods that work to fix that, to turn it into an asset instead of a liability.

Col MARSH: It would help me to know measures, specifics, about how family support helps performance. It would help me to know what kind of measures were used, something that I could present to a commander.

DR. HOLLOWAY: We talked about the formulation of findings in terms of metrics that can be brought directly into organizational settings independent of the database.

DR. THOMAS: I think what we are saying is that it would be useful if we transition our research findings, if we have a next level that deals perhaps with interventions; that we design and test interventions and pass them on to you. There can be other ways of transitioning the findings, so that it becomes applicable; I agree, this is probably the way the world works, but what can I do about it?

DR. HOLLOWAY: Let me then put on my hat as a researcher in my present life right now as a program operator whose primary job is to present the program and the structure to the president and to the Congress. In fact, in that setting, a matrix or a database are almost totally useless. A graph is of some use. Two lines that state this so that it can be understood that is written in that rarest of all things, declarative English, is absolutely essential. There needs to be a translator function that demonstrates a willingness of a researcher to come into an environment to say, "yes, you have captured the essence," to identify and offer some metric of certifiability on a research outcome and its communication and incorporation into the system, because information is not self activating. Program implementation does not follow the numbers.

That is a part of work that needs to be done. Some studies can be undertaken about the history of successful translation of research results so that you can see how that was done. Usually it follows more the case study methodology and the development of a scholarly base than it does another kind of base to understand what can be done in that kind of area. Sometimes research like that can be helpful.

PARTICIPANT: It is almost as though you need to pair a researcher with a professional marketer.

DR. HOLLOWAY: Yes, there is that. The Air Force has done some work in its systems and systems engineering side. There is a system where they are going from technologic innovation to incorporation within systems, and look at what translation functions are required to do that.

DR. THOMAS: I think there can be research innovations. We have talked a little bit about birth control and we talked a little bit about pregnancy. We could conduct research to find out why it is that young women are not using birth control in a reliable manner, for example. I think also you could carry that to the next stage and say, "Okay, we now know the reasons, what are we going to do about it?" We would try to then design some sort of an intervention and we would test it. That is a research question; did that intervention work? I think this can be applied to a number of different areas.

DR. HOLLOWAY: So, action research can be utilized as a way of perhaps being part of the bridging function?

DR. THOMAS: Right, translating our research findings into some sort of a solid program which you have also tested.

Col TERRIBERRY: Model the successes that we talked about yesterday.

DR. THOMAS: It still can be a research function. It is just a different level of research.

DR. NICE: One of the major parts of the FY94 program, is research focused at policy interventional strategies. It is right there.

DR. HOLLOWAY: Now I will put on my hat as a former researcher and put forward what I think is the researcher's worst fear in entering into this kind of enterprise. This is more advice to the consumer, and that is to make sure that research that is negative is published and made public.

PARTICIPANT: Key point. Negative research is sometimes more important.

PARTICIPANT: I need a definition there.

DR. HOLLOWAY: The situation here is that you have a great drug abuse education program. You evaluate the outcome of the drug abuse evaluation program and you discover that it does not affect things any more than the rainfall each April of the same year. It does not affect anything.

PARTICIPANT: Sometimes negative research, or research that basically disproves what you are after in the first place is very difficult to get published.

DR. HOLLOWAY: It is also very difficult, when this research is going to a policy source that has a policy commitment, for the policy group to go out and announce that it didn't turn out to be too smart. That really has to be one of the researcher's worst fears, because it creates a database in which the research itself can be corrupting. So, you have only things that support the policy and your intellectual and moral underpinnings of the program are damaged in the longer term. One of our recommendations is that negative research has to always be interpreted within a context, because sometimes it, itself, is not the end-all either. It does deserve airing. What are the other issues, practical issues, impractical issues and fantasies that we ought to get out there for these folks?

DR. NICE: We touched on it a little bit earlier. I think the military in itself is a microcosm of the greater society. The Navy had some concern when Admiral Watkins was the Chief of Naval Operations about what was happening in our society, particularly in our high school children; that what we bring into the service is in large part what makes up the service. Closer interface with the private sector and studies of these young people coming in is very important, as well as some studies of our recruits as they enter, because at the formative session, we have certain assumptions about the folks we are bringing in. Those may or may not be accurate.

The young people coming in to recruit training now are not what I used to think of as kids coming in to recruit training. They are not in shape. They have tremendous needs for remedial physical training at the start, and there are large injury rates. So, I think there are training indications that we now are struggling with in terms of soft tissue injury. The rates are enormous and costly. There is a lot of remedial reading that takes place with these people. The recruits are the leading edge of what happens out there that we are going to be seeing five years downstream, that are going to impact our military.

DR. HOLLOWAY: This can easily be done if there is a commitment. The usual problem to doing this is the question of whether you are spending the money on the relevant population, because in order to do the studies that you talk about you study populations that are not relevant to the military. Inevitably you get into the discussion of the support here. The question is, why are you studying them? Well, the answer is, that you don't have data without that data set.

An example of this that has been very, very successful in my opinion is the Michigan State surveys of substance abuse in high schools which was initiated to provide data continuously with regard to future predictions for drug abuse rates in the service. It is funded by NIMH. This started back in the 1970's, as a part of that, so that it would be a constant predictor; and the year after year best predicts future substance problems. Of course, the very critical variable is how many children are using drugs in junior high school?

It is a very limited example because not all of our inputs come out of senior high school. For instance, the group that it will not tell you about is that group that becomes your jet driver, because they don't come from high school. They are coming from a totally different source. They are going to be coming out of college and they are going to be going through another set of builders. You have to look at another population if you want to know about those.

The same is true of a technology-intensive organization like the Navy. On the other hand, the Marines can use very many of the same predictors as the Army uses, because the demography tends to match better. We have to be careful that we define our target population in the service against which you are making your measurements outside so that you know you are really sampling water from the right well.

On the personnel side, are there any issues that are critical here that, since we are in a medical focus, have particular applications on the medical side? We are looking at a very much broader range of issues.

DR. THOMAS: On the personnel side, the enduring issue with women is pregnancy. It seems to be the one argument of why we don't utilize them to a greater extent. One area that I think that has been understudied does tend to have to do with contraception; not just the use of contraception but attitudes toward contraception. My experience in talking with these young women is they say they do use contraception, but their rate of contraception failure is so large that I wonder what is going on. If they are using contraception why is it failing? If you look at the manufacturers, the actual rate of contraception failure rate is down.

Of course, this is a broader issue. It gets into STD's so that you can study men and women. Contraception is not just a women's problem, but it affects women's health much more than it affects men's health. It affects women's performance. It affects women's assignments. It affects a lot of the stigma that women carry about with them. You have heard the story of the major talking about women getting pregnant and how this stigmatizes women as a group, because some women do it and it is looked upon as irresponsible, as not being as into the military. This affects your career.

COL BROWN: In that same vein, how much basic training do our people get relative to what you are talking about? I don't know if it is even part of the curriculum in the Air Force.

Col TERRIBERRY: They have it. I don't know to what extent, but it is incorporated in the basic training.

DR. THOMAS: I sat in on both the basic training for men and the basic training for women so that I would hear exactly what it is they are getting. We are giving it to our young people. They say they are making use of it.

DR. HOLLOWAY: Let me make a comment about evaluation of contraceptives. It is one which is replete with all sorts of marketing lies that are built into the science that are going forward. How is that done? It is done in the following way. Let's take the overall issue of condoms. Because of my work with HIV, it is the one that I am most familiar with.

Rates described for condoms by manufacturers carry the caveat, "when properly used." When one goes back and reads the original papers, one discovers that most subjects were excluded from analysis because of improper use. So that, your overall creation of populations and evaluations are isolated around the issue because the overall argument is, if the drug was not taken, then of course it did not have an effect. The improper placement or utilization of a condom is treated as if the pill was not taken. Therefore, the true rates of failure are not the rates of failure in a population, but the rates of failure within a very isolated and carefully defined and somewhat hermetic kind of chosen population. It is against that standard that you begin to measure real people's performance. But there is no validity to that comparison because that wasn't the original comparison upon which the database was created.

It is clear, for instance, that in the utilization of condoms, failure rates in the context of heterosexual or homosexual intercourse, that the overall critical variables have to do with how the pair use the device, not how the individual uses the device. Therefore, in a situation in which one person is educated and one person is not, there is a unit which is not educated, unless the educated undertakes the overall process, in these moments of passion, to educate the uneducated, which is --

PARTICIPANT: Difficult at best.

PARTICIPANT: Particularly for a 17-year-old.

DR. HOLLOWAY: Once you begin to examine that process, you begin to see that there is lots of fantasy projected into what are the likely areas of success in this particular area. Furthermore, of course, some of the instructional materials themselves leave out are the essentials. Anything that is essential is exactly what is not talked about. So, we really have a problem when we get into this area.

DR. THOMAS: I think it is a problem that we need to study. One of the things that does bother me is this stigma that is attached to a woman who becomes pregnant. I mean, there seems to be no ratification that accidents can happen. Even to married women, accidents do happen, and you are hoping that you are using it correctly, but it fails sometimes. That stigmatizes the military woman.

PARTICIPANT: It is not only the stigma within the services. Now we are jumping right into the political realm. There is a controversy relative to what you are talking about in congressional circles.

DR. HOLLOWAY: Let me go on to state that there is another tricky issue here. The environment in the military is a very toxic environment and it is one of the things that we are still trying to understand as the total toxicology of the various environments.

Because we are an environment of rapidly changing technologies, that toxic base is one which continually has to be updated. That is not a trivial matter, and I am speaking now as a physician, on the risk side for pregnancy. There is that issue that is also a part of this process, and we have to in some ways recognize that as also a realistic consideration in the setting. I do think the overall issues here beg for research that examines issues like long-acting contraceptives and the risk associated with them, all of the same issues as before.

I think the stigmatization needs to be also put in other terms than just stigma. I mean, the issue of pregnancy as a method of control male to female is not an issue that can be ignored also in this process. This is frequently, then, the fundamental theme in that struggle that has been sometimes characterized as the battle of the sexes.

DR. NICE: Pregnancy is also perceived to be a method of control of one's deployability, or that there is operational significance. The perception is that women often times use pregnancy to get out of an unpleasant duty station, to avoid deployment. Research can help in the area of de-stigmatization. Solid data is really one of the only ways to refute these things; and to distribute those findings widely.

PARTICIPANT: Real or perceived; how can you measure that?

DR. NICE: We can look at pregnancy rates over a period of time, and we are already doing this in the defense women's study. The pregnancy rate on a ship is no different than it is, or is even lower than it is, on shore-based facilities. If that rate does not change prior to deployment or is unaffected by deployment, those are very useful data to dispel some of the myths and stigmas. Everybody has an "N" of 1 case, and that outlier then drives the world. You hear it time and time and time again, and it becomes a reality in and of itself, because perceptions can become reality.

DR. HOLLOWAY: Some studies have been done in the Army population pre-deployment and there has never been a found difference in the situation.

PARTICIPANT: So, it is a perception.

DR. HOLLOWAY: It is a perception. It has been absolutely constant and it is not something that changes in the circumstance. In fact, the one thing we can say about it is that if you actually look at pregnancy, it is one of the least disturbing variables with regard to deployment, because if I look at a group of folks and I get X number of women, I know how many of them are pregnant. That is really the critical data to me as an officer planning a deployment. It isn't whether there are X number of twisted knees or Y number of bad backs or Q number of infectious problems that will require treatment before deployment. Can I predict them in a very stable way so that I can plan my deployment strength and match my strength against my deployment? In fact, pregnancy has the very nice characteristic of being a constant. So I know if I have this many, I am going to have this many, in terms of back flow replacements on that deployment date. There are commanders who think about it that way.

On the other hand, there are many who put it the other way around, who treat this as lightning striking and "I don't know what to do with it."

Col MARSH: One of the helps for this is smooth administrative and medical procedures to deal with this and smooth replacement policies that commanders are educated about so that it just becomes another thing.

DR. HOLLOWAY: This isn't research; this is good personnel management and good leadership management.

DR. NICE: I think there are important operational implications of de-stigmatizing this. The Navy policy is the 20-week rule on ships. A woman who becomes pregnant stays upon the ship until the 20-week period. Many ships transfer the woman the day that the woman is found to be pregnant. If women start to perceive that becoming pregnant may affect their career or their opportunity to serve aboard ship, it may start driving pregnancy underground, which can occur, and has occurred. We need to be sensitive to that with these policies as well.

DR. HOLLOWAY: Are there research recommendations to be made? I think the anger and fury at a resident who becomes pregnant during her residency is one of those remarkable events that is part of the medical system. So, the stigmatization and difficulty is not at all an issue that is fundamental to the line. Examining its effects in medical units, per se, I think, is not a small issue, because in fact whatever happens to the rest of the service, it is unimaginable that there will not be women and men as primary and essential staffers to the medical system. That may be an area for special study that we may need to focus on as a population. One issue we have not talked about here is the issue of gayness or homosexuality within women and male populations. Can we study it? Yes, we can study it. Is it likely that you can do so without a disadvantage to yourself as a researcher or as an officer? No.

PARTICIPANT: We couldn't get funding for it.

DR. HOLLOWAY: Any comments about this as ostensible research or an operational problem? Does it need a rest or are we into the age where suppression of data concerning people's sexual preferences will continue to be fundamentally the rule of operations?

DR. THOMAS: I don't know the health issues in regard to lesbianism. Psychosocial issues, perhaps. I have some information on it. The attitude of the military, particularly the Navy, toward gay women is really peculiar, because they don't want women because we get pregnant. They want women who do not get pregnant, but they don't want them because they are gay. It has been said that they are some of the best workers that we have but we have to root them out. I am not sure what health research there might be. I don't know the field very well with regard to health.

DR. HOLLOWAY: It does strike me that the one thing that can be put forward here is that the population that does not have that problem is, in fact, stigmatized elsewhere; that there is something else that does not compute, is a line that comes to mind.

PARTICIPANT: I don't know what you are driving at, in that context.

DR. HOLLOWAY: What I am driving at is the following. You cannot logically make the argument that the problem of women is that they get pregnant, and then be presented with a population of women who are performing at a very good level and not getting pregnant and they are saying, "but they are unacceptable." Pretty soon it does not look like the first argument was stated with a depth and sincerity that you might require of logic in other circumstances.

PARTICIPANT: Within that argument, you run a potential risk, whether real or perceived again, of advocating a lifestyle which gets into the political realm again. You are not doing that, but it can be perceived as that.

DR. HOLLOWAY: Then what we are talking about here is a cultural issue, a cultural issue which has to do with projection and some fundamental reminders to us all. There are elements of irrationality operating in this area that, in fact, lie beyond our capacity to address.

PARTICIPANT: If we were open minded about it, we would want to study what is the cost to the person who has to stay in the closet and perform within our organization, this organization that says, "You are doing a wonderful job but don't tell me what you are."

PARTICIPANT: It is psychological.

PARTICIPANT: Right. It is just incredible. I don't think we ever studied that.

COL BROWN: When it gets to the point that we can study it, then we probably won't need to.

PARTICIPANT: They won't have to hide any longer.

DR. HOLLOWAY: That is probably really the message. This is fundamentally a social, cultural, political question, and although of some relevance, it does not seem to be approachable in the area of do-ability at the present time.

PARTICIPANT: I think it is less approachable today than it was 10 years ago.

DR. THOMAS: Exactly.

DR. NICE: One phenomenon that I want to just touch on again before we conclude, and that Dr. Holloway brought up earlier, is the issue of database tracking and monitoring and how we are doing. I think that what Colonel Terriberry said is important there, too, that we may be evolving toward better organizational structures or processes through which the integration of women into the total force is better accepted. We may be moving in that direction despite ourselves. It probably will evolve over time. Having the capacity to monitor our progress through operational variables would probably be a good thing, so that we could continue to see that we are moving in the right direction. We are going to try to do some of that at our laboratory. I think the longitudinal follow-up of progress is really an important issue.

DR. HOLLOWAY: That falls within this whole range of laying out the different classes; that is, research that will change policy, research that will monitor policy, that will measure effects, and maybe a little of both of that.

I want to thank everyone for your contributions and devotion that you have shown to the topic. I think we have some materials that we can tell the other groups about that will help Dr. Ursano in his formulations.

DISCUSSION GROUP III - SESSION I

Craig H. Llewellyn, M.D.
COL, MC, USA (Ret.)

DR. LLEWELLYN: My name is Craig Llewellyn. I am the facilitator for the group. We will begin by allowing people to introduce themselves. In the directions to facilitators, they wished us to begin that way. Then we will spend time brainstorming to try to get as many ideas out as possible. After that we will decide by looking at the ideas that have been put on the table, whether they can be clustered or focused in a specific way around health and performance issues for military women in regard to recommendations we would make for policy, training and command. As we discuss and develop our ideas and recommendations we should give some thought about whether any of these have specific relevance to the Air Force in light of the fact that the funding for this conference comes from the Air Force. In our second group meeting our goal will be to develop perhaps five (and maybe even fifteen) of the ideas into either program areas to be approached, research hypotheses for study proposals, needs for training or studies to define training requirements. Additionally, we will want to provide medical or command policy recommendations. Let's begin with Dr. Singer and go around the table and see who is here and where everybody is from.

DR. SINGER: I am Margaret Singer and I am an Emeritus Professor from the University of California, Berkeley. I worked at Walter Reed both during and after the Korean War, and I have been a consultant to Dr. Ursano and his colleagues regarding their studies of POW's from Vietnam. My area of interest, dating from the Korean War, is focused on the area of brainwashing and how it works, and whether intensive indoctrination can influence situations. I am interested in the relationship of stress, and what we now call post traumatic stress disorders (PTSD), and particularly how they showed up either in Korea, Vietnam, or the mustard gas exposures from World War II. Sixty thousand troops were exposed to mustard gas, and then told to keep it secret. There is a book that the National Academy has brought out that you might all want to read. It is called Veterans at Risk. It is well worth reading. It discusses the amount of exposure, the kinds of exposure, and the fact that people would keep a secret.

COL WONG: Was it in enemy fire?

DR. SINGER: No. They were doing experimental studies in World War II here in the United States.

DR. MARTIN: I am Jim Martin. I am an Associate Professor at the School of Social Work and Social Research at Bryn Mawr College in Bryn Mawr, Pennsylvania. I have two associations to this conference. First, I am a retired Army colonel. I worked for a number of years for Dr. Marlowe and am still working as a Guest Scientist at Walter Reed helping Dave locate some of the Gulf War data. I am also collaborating with the Navy on the shipboard studies, looking at some psychosocial variables that relate to women's performance.

I have another association, and that comes from having been a staff officer at the Pentagon. I worked with Representative Schroeder and Senator Inouye and other politicians who provided the money for this whole program. I spent two years working on getting these funds into the scientific community.

I would add to Dr. Ursano's comments that I think that this particular appropriation (there are two, one of which is now almost complete) represents about $40 million that has gone to the services and into civilian universities through the Army Medical Research and Development (R&D) program. It is money that has been given without any political strings and I think has been very well managed by the Army science community. Forty million dollars is to be spent in 1995, which is really the focus of this meeting, in terms of providing some direction for how these funds are going to be spent. There are two or three major groups that are providing some input to that program. One is the meeting that I co-chaired with Dr. Wolfe that involved a number of behavioral scientists that met a few weeks ago. At that meeting we developed some strategies for psychosocial research that ought to be the focus of this next effort. That information has been fed to the Institute of Medicine and it is in the process of appearing as a plan for the execution of this next round of research.

I would hope that the results of this conference will, in fact, get incorporated into that plan, as to what the Air Force as a separate service submits to them. Dr. Manning, who is here is one of the members of the study directorate or team that is putting together the Institute of Medicine report. There are many things coalescing all at once.

COL WONG: You mentioned the funds. Is this specifically ear-marked for women's issues?

DR. MARTIN: The focus of these funds, the $40 million last year and this year are part of the overall national agenda, in terms of increasing budgets within NIMH (National Institutes of Mental Health) for women's health research. The Department of Defense was targeted for money in 1994 and 1995 primarily by Representative Pat Schroeder, who is the chairperson of that committee. That was sustained this year, and probably will be next year as well. It was viewed as a large occupational health research program, focused on understanding occupational health issues that relate to women's service in the armed forces.

DR. LLEWELLYN: Part of the broadest program the women's health initiative has.

DR. MARTIN: Right, coming from a lot of advocacy groups to include women's health groups around the country in support of that kind of an issue.

DR. BELL: I am Bruce Bell. I am with the U.S. Army Research Institute. I am a team leader working in the area of Army families. I have been with the Army Research Institute since 1972, so I have a feel for projects that we have done within the Army. Related issues that keep coming up include: What about women's families? What about the recruiting and discharge of soldiers?

Col RHOTON: I am Nina Rhoton. I am here as a woman in the military. I am the Deputy Chief of the Air Force Nurse Corps. My boss was invited, Brigadier General Linda Sterling, but she was unable to attend, so she asked me to come for her. My research background is extremely limited; a graduate school thesis is about it. I came in the Air Force during Vietnam. I thought it was interesting, the talk about heroin use. As one of my first experiences I was sent to Japan and worked in an air staging facility where there were 100% men. They would stay over night, we would clean them, feed them, change their bandages and send them off. The last year we were open, with all the drug abuse, we heard three types of stories: "The combat experience was awful and that is why I got hooked on heroin," or, "I was way behind the line and I was bored stiff." The third story was, "I was on heroin before I came into the service and I will probably be on it my entire life."

During DESERT STORM I was Chief Nurse at Wiesbaden Medical. We received 80% of all the people who were air evauated out of the theater of operations. There were very few casualties. There were a lot of "I fell off the truck," or "I shot myself in the foot," kinds of injuries. They never should have been medically cleared to go over anyway. We did have a number of women come back for some OB/GYN problems. I think that is why I am here, just as an active duty woman in the military.

DR. FULLERTON: I am Carol Fullerton. I am here as a non-active duty woman, a civilian. This group is very diverse, which is very exciting. I am on the faculty of the Psychiatry Department at USUHS, although I am a developmental psychologist. My interests have been in family and children following trauma and stress. I work with Dr. Ursano and have for nine years. The money that brought me in was actually to study CBW, Chemical and Biological Warfare. That is how I met many people here.

I joke with Dr. Ursano that he needed a developmental psychologist to study CBW. I learned a lot and I was able to connect with it. The way I connected partly was with the women who were involved in training exercises. This was at Wright Patterson Air Force Base in Dayton; Dr. Shalev was there also. We were called in to look at the psychological aspects of psychological training for the underground chemically hard shelled group that Dr. Ursano mentioned. The women (of which there weren't many) had difficulty with the MOPP gear. It was interesting. It was a big thing, even though this was not using live agents. They had restrictions on the women who were going to participate. I have forgotten exactly how it went. They were using a simulated substance to see the de-contamination process. They were restricting women with something. There developed an atmosphere of "Well, why are we doing this?"

I wrote several papers with Dr. Ursano which, when DESERT STORM came about, people became very interested in; some of the psychological effects of CBW. I have known Dr. Singer from way back in regard to her work with that and her help at our conferences.

Most of my work has been with Dr. McCarroll and Dr. Ursano studying the effects of volunteers who were working with the dead when there were mass casualty events; particularly up at Dover Air Force Base following the USS Iowa explosion. We were there. In all the studies we have done, we have looked at acute as well as long term outcomes following this type of thing.

We began to study the spouses of rescue workers. We studied Ramstein, Germany where there was the air show crash. Then we studied Sioux City, Iowa where they had an airplane crash a few years ago. We were there and I worked with the fire fighters and became particularly interested in the stress on the spouses of the fire fighters. We were able to start to survey at that point not only active duty members but spouses, and follow them up, primarily with surveys; being there really helped. We went back and we did debriefings.

I also studied Hurricane Andrew and the people who evacuated Homestead Air Force Base. That one is of special interest to me because we were able to recruit adolescents in the families of Homestead people as part of our population. In that one we were able to survey the active duty member, the spouse, and oldest adolescent, which of course had with it the issues of human use. We have been following those people.

What has been unique about our work is our interest in using control groups; being able to have control of comparison groups which we had for Sioux City, and particularly Hurricane Andrew. We had two matched samples, Shaw and MacDill Air Force Bases, that are matched on Homestead. We defined these people as families who had had recent moves and recent relocations. So, part of what we were looking at was traumatic relocation. My particular interest was developmental effects on adolescents who left their friends and never came back.

COL McCARROLL: I am Ed McCarroll. I am a psychologist at the Walter Reed Army Institute of Research. As Dr. Fullerton said, I have worked with their group on disasters; largely exposure to the dead and coping with that sort of distressing type of event.

COL BOATRIGHT: I am Connie Boatright. I am connected in a couple of ways. As a reserve officer (actually I just finished commanding but I am still in one of the Army Reserve's combat stress control units) in Indianapolis, the 55th Medical Company. This was actually the Army's first company sized stress unit, and also the first CFP-1 rapid deployment unit. So, it is a very active field unit that is capstoned with the 18th Corps and trains with them routinely.

As a civilian, I am with the Department of Veterans Affairs (VA). I am their Training Director for their National Emergency Medical Preparedness Program; the VA's role in disaster and contingency response. You may or may not be familiar with the National Disaster Medical System (NDMS) but it has a big tie with that. I think a lot of people aren't aware that we have a major mission with all that.

My most current area of interest is working with the training, development, and deployment of civilian teams into Andrew and Northridge. More recently, I have worked with the urban search and rescue teams, ESF-9, or Emergency Support Function 9 teams, that went into Oklahoma City, as well as our X-ray technicians. I have really been focused on that, looking at how best to train them and deploy them. We have been looking at who does well and who doesn't in those types of operations.

DR. SHALEV: I am Arieh Shalev. I am from Hadassah Medical School. I am a psychiatrist, currently Chairman of Psychiatry at the Hebrew University Medical School. I do research on PTSD and psychophysiology. I have been part of the IDF (Israeli Defense Force) for seventeen years. I started as a soldier in combat units. I have been in all the wars; 1967 to now. In 1967 I was a soldier and in 1973 I was a field surgeon; later on a psychiatrist. I have also been in Special Operations. I ended by being Chief of Clinical Psychiatry for the IDF. I then came to USUHS for a year, where I worked on the CBW project. Two daughters just went through military service a couple of years ago. One of my girls just finished the military, and I am actually married to a woman who was in combat. That is quite intimidating.

DR. LLEWELLYN: I have known Arieh for some time and very little intimidates him.

COL WONG: I am Normund Wong and I am currently at Walter Reed and I am the Psychiatric Consultant in the Office of the Surgeon General and a Professor of Psychiatry at USUHS. I came into the military in 1963. I left in 1968. From 1974 to 1975, I was the Director of Education and the Director of the Carl Menninger School of Psychiatry. That is significant insofar as I started the International Psychiatric Scholars program where I would bring people from other countries to Menninger's and work with them anywhere from three months to five years, to get them adapted, in a sense, to American psychiatry.

Along that line, I was a professor in Japan for a year while on sabbatical. I have been a visiting professor in Japan, the Philippines and Taiwan, and that led to my being Chairman of the American Psychiatric Association Committee on International Psychiatric Education. In that position we looked at programs and talked about them, setting up training curricula and so forth.

That led to my being a consultant for the ECFMG (Educational Council of Foreign Medical Graduates). We review all the people that are coming here and we give them scholarships of $30,000. We review all the applicants coming in. I sit and look at people who want to come here and study at our various institutions and consider priorities and their backgrounds. I consider what they expect, and how they will adapt. To a great extent this is helping people adapt to America and then helping them to re-adapt to their countries of origin. We are particularly looking at women now, because there are very few women who come and go back. When I have been teaching in these countries, I have been particularly concerned about the women's role in the eastern culture and how women adapt here without much casualty, or too much morbidity.

DR. LLEWELLYN: I am Professor of Preventive Medicine and Emergency Medicine. I spent about half my active duty career in the Army Medical Research Command in infectious disease. I had a lot of association with the Department of Neuropsychiatry at WRAIR (Walter Reed Army Institute of Research) back when Dave Rioch was there, as the epidemiologist working on the early drug abusé problems. There were ties between understanding the heroin culture, not the man-with-the-golden-arm kind of phenomenon, but the "casual" users that were, in fact, identified through a malaria outbreak in the Los Angeles area.

This was needle-transmitted malaria and it was a marker for people who were using heroin and sharing needles. Between my department at WRAIR and people down at CDC (Centers for Disease Control and Prevention), what we were able to do is put together what the linkages were. Ninety percent of the people who had malaria were using heroin at least two times a week. They were holding down jobs competently with nobody suspecting that they had any kind of drug habit at all. That was a whole new light. You have to realize how long ago this was, it was in 1970.

I have collaborated with Dr. Ursano and Dr. Fullerton and a variety of folks on the CBW work. Within my own department we have a casualty care research center which looks at the epidemiology of casualties. We have the largest combat casualty database in the world. We have collaborative work with appropriate people within the IDF and the Royal Army and now with the Russian Military Medical Academy in St. Petersburg. We are looking at such things as armored crew casualty rates in Afghanistan; not just the rates but the shoe leather epidemiology from the tactical environment that produced the combat to the interventions that were made, and the concomitant casualties taken frequently in trying to provide aid to people as they are moved back through.

Another center in my department is a Disaster Medicine and Humanitarian Assistance Center. People focus both on the international arena and national, and we work with the National Disaster Medical System. I am coming from that arena.

We trained the original DMAT teams (Disaster Medical Assistance Teams) in the civil sectors. They got a watered-down version of what we do with our fourth year medical students. We are extremely active in telemedicine applications in disaster, but considerably more so in expanding capability for caring at the far end of the telemedicine link, as opposed to focusing on how one can get better consultation in the rear. That is the easy thing to do. The high volume application of telemedicine may have applications to make up for the lack of preparation for handling common female medical problems. It trains the medics, the PA's (Physician Assistant) and general medical officers in how to use this beforehand and then to provide centrally-driven consults. If you wait until they request them, generally things are out of hand. They are so insecure in their own medical skills that they are not about to call you up very frequently.

I would like to share a scheme with you which we don't have to follow to try to get ideas out. It is something that has worked for me several times in the past. The name I remember associated with it is "nominal group process."

I want to ask everyone to write down anywhere from five to ten ideas that they have for topics that they think are important enough that they should be discussed and included in the final presentation of this group. After you write down your ideas we will go around the room and you will get to mention one of your topics on each round. We need somebody who writes better than I do to be a reporter. So, write all these things down.

What all this leads to generally by the time we get to the third round is that people say, "that was on my list, too, or what do you mean by that?" One of the things that this process is useful for is to clarify terms people are using so that we achieve a better understanding of what we are discussing. When we complete this there is the possibility of seeing if there is a way to cluster ideas into some more compact whole. Then there is a possibility of having discussion around what the priority on these ideas might be. For example, if it is clear that there are four topics here which almost everybody in the room agrees on, we can in fact do a prioritization drill. This is something else that has been done in the nominal process. We then go around and ask people, "how many think the item is top priority?" We are asking people to be honest and not vote more than one time for first, second, third, fourth and fifth priorities. There may be a much more direct approach to our task; we can just discuss things. I am supposed to be a facilitator and not a director and pounder of gavel and so on. What do you think? Would anyone be willing to take notes?

DR. FULLERTON: I can do notes.

DR. LLEWELLYN: All right. We also want to get them where everybody can see them, so we will put them up around the room. I will do that. So, why don't you take about 10 minutes or so. Don't go beyond 10 minutes and don't feel that you have to have any more than five.

COL WONG: Identify and acknowledge risk factors for women in the military based on research and measures; what are the factors that we as a group would think are the factors that could be addressed through training?

DR. LLEWELLYN: You are proposing something that the retreat is going to produce. I think what we are looking for is recommendations about what additional work is going to produce.

COL WONG: Have we agreed, as a body, that these are the factors that deserve the highest priority to examine, to work on in future projects, and focus on? What would be good?

DR. FULLERTON: A lot of my issues really fall under that. You could boil them down to what might be risk factors. To me that is a very broad over-arching type thing. I think what we are talking about is risk factors, whether they are physiologic or sociologic.

COL McCARROLL: Do you mean risk factors for disease or death or injury? Risk factors for what?

DR. FULLERTON: I would think all of them.

COL McCARROLL: For success in the military?

DR. MARTIN: What are the factors to prevent this?

DR. FULLERTON: Or what are the factors in people who are successful, in other words, who go through something?

DR. LLEWELLYN: We have to save that one. Okay, we have risk factors. This a topic for research. There are a variety of ways to try to identify what some of these risk factors are and it doesn't look like they all fall in one domain.

DR. SHALEV: Formulate ideas thinking about the assumptions that men and women are equal, that women can perform as well as men. You may challenge that later on but there are specific stressors for women in the military, such as sexual assault, which are very specific things. There are also symbolic-specific meanings for women serving in the military force beyond their performance; symbolically for the unit, for group cohesion and their role in processes such as grief and many other processes as well. Issues to enhance diversity, as opposed to promoting uniformity between the women and men might be explored.

There are female-specific stressors and the de-stressors may be rather difficult to handle by the traditional military structure. We must develop agencies within military units capable of handling the responses to specific stressors, trying to recognize specific trauma and effects on health and thinking about who would be competent. We could attempt to identify who these people could be, a doctor, physician, a commander, or anybody responsible for medical care and train those who are assigned to specific agencies to handle the female-specific stressors.

DR. LLEWELLYN: You are saying that we should basically identify female-specific stressors encountered in the military and then train and develop both intervention policy and also personnel?

DR. SHALEV: Yes, identifying personnel.

COL WONG: Would this be prevention as well as treatment?

DR. LLEWELLYN: If you think in a way of the paradigm of PTSD we believe that one of the best ways to prevent PTSD is to be proactive in combat stress control; that begins with working with command and improving prevention. Does that fit within your treatment paradigm?

DR. SHALEV: It fits, knowing the combat stress reaction can be handled directly by the chain of command. In some cases if it occurs to females it may not be as well handled by the chain of command; if it is a medical issue the M.D. is the one who handles it.

PARTICIPANT: We need a different approach, specific knowledge in a specific area. For the time being, women and minorities may not be able to enjoy the kind of support that a male soldier can expect; which is something he should learn about the consulting process.

COL WONG: Like rape?

DR. SHALEV: Like training medics. First we have to try to prevent that.

DR. LLEWELLYN: You are thinking within units?

DR. SHALEV: Within units.

COL BOATRIGHT: I want to revisit an extremely important item today, paying a lot more serious attention to further study of regulation of menstrual cycle and female mobilization and contingency operations; specifically looking at the methods. We need to look at the indications and contraindications and the risks of bone loss or whatever, and then develop policy that is not mandatory or imposed or coerced but is available by demand and a benefit, that type of thing. That is something I vote for.

Col RHOTON: It seems that when someone goes into a combat situation, there should be current research on pre-menstrual syndrome that should be mobilized and put out to maximize performance.

COL BOATRIGHT: Many females that I know, myself and others, have been on birth control pills or Depo Provera routinely to increase our effectiveness in field operations or deployments. It would be helpful to others. I learned alarming information from someone who has done research about this. There can be extreme bone loss with three cycles missed that way; artificially.

COL McCARROLL: I had thought about the logistics of women and their military equipment and clothing. I was at the logistics school a few months ago talking to some of their people. I asked them about women and the only thing that they had was a couple of back packers.

Col RHOTON: I was looking at the picture of the BDU's of the future, the spider man. How are women going to urinate? Are they going to have a drop leaf? Right now flight suits are very difficult for women because they are a jump suit and you have to take it off. I know when the nurse jump suits were developed, they even tested ones that had zippers so that you could drop the back.

DR. LLEWELLYN: Yes, so you have 123's and 124's. They had the same thing that they had in the H-34 helicopters. It was a big joke when you got newbies on those flights and they would say, "What is this plastic thing?" It was a black cup and it had a tube coming out of it. They said,"Use it to talk to the pilot." Which was not true. There are a lot of simple modifications like that, that would make a great deal of sense.

What do we do with special operators with the federal law enforcement agencies, if they are going to be zipped up in their protective gear for any extended period of time? We have had situations where these men would refuse to drink, and then they would be so dehydrated by the time they were ready to go, that they couldn't do their mission.

DR. LLEWELLYN: Okay, what topic is this under, Dr. Fullerton?

DR. FULLERTON: I don't know if you want to count this as one, but I was going to add onto the menstrual issues. Not just the things that you brought up, but I think some studies show cognitive differences depending on where a woman is in her cycle. We never ask that in our trauma surveys. The fact of where she is might affect her response to trauma and cause decrements in performance.

DR. LLEWELLYN: Regarding Colonel Boatright's approach, if, in fact, it was proven that it was safe to do the Depo Provera somebody would also probably say, "where are the data to suggest that other than making people feel better that this would have any effect on military performance?" So we might have a topic that relates menstrual cycle or premenstrual syndrome to specific kinds of performance.

DR. FULLERTON: Exactly.

COL BOATRIGHT: It is a cognitive functioning end.

DR. FULLERTON: Yes, and that could be studied in different groups. It could be studied in civilian trauma as well, and it would have implication and application for exactly that.

DR. LLEWELLYN: Would you be willing to just say stressors instead of trauma, because trauma is a kind of stressor?

DR. FULLERTON: Yes. That is right.

DR. LLEWELLYN: What I am trying to think of is generalities to the high tech environments: communications, tracking, and virtual environments that women are going to function in. We know a little bit about the difference in male behavior based on sleeplessness. Women will experience all of that and more. Knowing whether they can perform at the same level and prior direction control center or whatever, might be a very strong additional bit of information.

DR. SHALEV: Just one point. When you said decrements in performance, and there are differences in cognitive abilities or performance during the menstrual cycle, it suggests we should also study the kinds of coping mechanisms that women could use to balance those.

COL BOATRIGHT: Right.

DR. LLEWELLYN: Good point.

COL WONG: Along with Dr. Fullerton's and Dr. Boatright's focus on the menstrual cycle, should something be included in that in terms of the ethics of medications, for example, to prevent menstruation for people going into units? What are the ethics of that? What are the ethics of Prozac?

DR. FULLERTON: That is very good, yes. That really answers an issue that is hard to talk about. That is a nice way to phrase it; the ethics.

DR. LLEWELLYN: In reverse, is it ethical to not do these studies to find out whether it would be safe?

DR. FULLERTON: Right.

DR. LLEWELLYN: It is not just the ethics of providing them.

DR. FULLERTON: How does that affect actually putting this into practice. In other words, the response from the women is going to make or break whatever anyway. Also, having women in on whatever it is that you are designing is an issue.

Col RHOTON: Sexual harassment versus gender discrimination is an area to explore. The reason I bring that up is that I think there is a lot of confusion about the two different terms. Over the last two years I have had a number of young women come to me for advice about a sexual harassment situation. When we talk, what they are really talking about is gender discrimination. They feel they have not been given the same work opportunities as men. There is no sexual component to what they are talking about, but they are calling it sexual harassment, because that is the term that they heard. I think there are all kinds of studies and questionnaires, the Air Force just sent one out. I think that they might get skewed results if some of the folks taking that study are answering the questions on sexual harassment thinking gender discrimination.

DR. LLEWELLYN: So, would you be proposing --

Col RHOTON: I am not sure what I am proposing. Just that I think there needs to be awareness and training.

DR. MARTIN: Maybe the issue is to discriminate between those two issues.

DR. LLEWELLYN: Doing a study to see what people do, and then using that as a basis for education.

DR. BELL: We have to start with the methodological study of what is the correct way to ask the question. This may then take you to focus groups and sitting down with various people and discussing what actually happened.

DR. MARTIN: Perhaps recognizing that both of those are important issues.

Col RHOTON: Absolutely. I can think of the times in my career where the issue has been sexual harassment. Those were easy to deal with. It was the gender discrimination situations that were extremely difficult.

COL BOATRIGHT: I have been an EEO (Equal Employment and Opportunity) officer and that would impact policy and the way the policy is written, actually, because it is loosely interpreted.

Col RHOTON: Dr. Thomas made a comment where she said that young black women scored lowest on victims of sexual harassment, and yet were much more displeased with EEO. Well, I think that this is a prime example.

DR. LLEWELLYN: One experience that we have in working with different law enforcement groups around the country is hearing them talk about what happens in the police academies when inner city kids, males and females, come in and they are sat down in a classroom and told about sexual abuse and sexual harassment from the standpoint of avoiding it on the job as well as identifying how you handle it from the standpoint of arrest. There is a stunned response from a lot of them when you say, "That is not right. You are not to do that." Where they come from some of these behaviors are in fact the ways that you gain self esteem in the eyes of the rest of your people. The definitions, from the standpoint of many of the young women, are that the sexual acts that have been forced upon them in fact are not rape because that is the only way that you can be integrated into the group. So, you have the horrible problem, then, if you are trying to pursue that once they get into basic training in the military and talk to them about the kinds of questionnaires that we use, to try to find out how many people experienced a sexual assault on duty; some of them might not identify what we think of as a sexual assault as one.

On the other hand, there is the possibility that by going into some detail on these things in an instructional mode, that you have a whole bunch of people saying, "My god, I was abused when I was a kid," and they really hadn't thought about it in those terms up until then. In fact, this second exposure which may lead to real pathology is a phenomenon. It could be precipitating some of that.

DR. SHALEV: Maybe you should stop studying women only as victims. Every woman that I know of has developed, during her life, strategies and techniques to deter intrusive males. They are knowledgeable about this and very skillful. Eventually one could also study the kinds of defense mechanisms they use and teach these to other women, not just from the victim point of view.

DR. LLEWELLYN: That is an excellent point.

DR. FULLERTON: At Fort Ord when we spoke to women officers who came from military families, a high percentage said they experienced sexual abuse or harassment. I think identification issues are important; identifying whether or not the experiences were ones of early abuse or of coming into the military and interacting with men in the military.

DR. LLEWELLYN: One has to be careful of generalizations. What might be worthy of study are whether there are different attitudes and levels of tolerance.

DR. FULLERTON: Is that true?

DR. MARTIN: I know that that is not a representative sample.

DR. FULLERTON: I am not talking about the data set. I am talking about the officers, a part of the data set; the ones that I have talked to. It is a handful.

DR. BELL: I don't know what the national figures are. It is far from 100%. It is more like 10%.

DR. LLEWELLYN: They cluster in certain places. People who have military family backgrounds generally have a different perspective on where they might like to go and what might be best for their careers. There is the issue of context. The old boy network works. It doesn't help to be from a military family to get into a military medical school, but it is amazing how many of them are there.

DR. BELL: It seems to me that either in basic training or in the jobs, if we had a better way of measuring what the physical demands of those jobs are, that we would be able to go back to people and prevent failure by saying, "Until you meet certain minimum standards we can't let you in." Or we might say, "Here is a set of exercises that you could take to bring yours up to speed." We found when we worked with Special Forces that if they could not run for five miles with a full field pack, there was no reason to send these people down to Fort Bragg to start off training as Special Forces troops because they would fail. If we made them pass that test before they came in, when they were shipped, we cut the attrition rate drastically.

We have been working this problem to a certain extent in terms of we have obvious mental standards and physical standards and psychiatric standards. In terms of women we have not fine tuned it enough. We ought to give it to everyone, but we ought to have certain standards that essentially say, "Unless you can carry X amount, unless you can run at least in tennis shoes for 40 feet, forget it."

COL WONG: Is that for entry into the service or for entry into specific MOS's?

DR. BELL: The work has been done in both places and it is not literally the same. The job may be more stressful than basic training and in many cases it is much less stress. If you are a typist, for example, you will never run with even half a full pack. You will spend the rest of your life at a desk.

COL WONG: Your proposal is to do a better job of screening before they come in.

DR. BELL: I am saying, essentially, that we need to make a better study of what we need in terms of strong ankles for people's ability to run and carry loads.

COL WONG: This has tremendous implications. What do we need to satisfy just the minimum?

DR. BELL: I understand, but it would be easier and cheaper to get them at least through basic training; to look at that and see whether we could fine tune that. Then if we could come up with critical standards for other jobs that would be more fine tuning. We don't want someone to sign up to be a helicopter repairman if they can't twist a wrench at a certain torque. We currently don't have physical standards for our jobs. We do it strictly on the basis of a mental standard. I may be able to think how to repair the helicopter, but I may not have the wrist strength to turn the wrench enough to get the rotor blades off.

COL WONG: The reason I raise the question is because it is a hot issue. Women and men differ in terms of coming into the service. We need these performance measures now.

DR. BELL: We do have different requirements for people to graduate from basic training for men and for women and that is not a controversy. In fact, women do fewer push-ups, women do fewer runs and they carry less weight. I am not suggesting a uniform standard. I am suggesting that we ought to come up with a way of looking at what the pass point is at basic training, and be able to do a better job of preparing particularly women coming in to meet their standard, than we currently do. We wash out too many, in my opinion, for lack of physical conditioning, because we literally didn't realize that in order to get through that they are going to have to do these tasks.

DR. LLEWELLYN: In the draft days they did highly demanding critical performance testing as soon as the people showed up.

DR. BELL: That is one of the things that led to an enormous VA compensation workload, because there are a number of folks who not only failed but re-injured themselves. It is a reason they would not let professional athletes do the tests for fear that they were going to end up wards of the state, in spite of making all sorts of money playing professional sports. Joe Namath was one, for example.

DR. LLEWELLYN: My idea of what to look at is to take this model of what we did for Special Forces and see whether we couldn't do a better job in screening people before they get here. This should be done back at the recruiting station. We should tell people, "Unless you can do 10 push-ups, we can't expect you to train up."

DR. LLEWELLYN: Another way of looking at it is to find out how they get to that level of proficiency.

DR. FULLERTON: I like Dr. Wong's comment about doing that for particular jobs, because that gets you back to the issue of, you are going to run and do this and how do you establish that?

I think, practically, the idea of a person wanting to train to work on airplanes or whatever is needed. It becomes the realistic issue of it isn't just the strength, it is the technique that is needed for the task. When you look at that, is there a different way that a woman could do it and do it just as effectively?

DR. LLEWELLYN: Using different kinds of tools?

DR. FULLERTON: Right. Or they could use the tools in different ways.

COL McCARROLL: That is a separate side.

DR. BELL: That was done in the 1970's and the 1980's. There were specific strength and skill requirements for MOS's. For demographics and political reasons, it was never allowed to go into force.

DR. LLEWELLYN: Not only was that not allowed to go into force, but the part of the study that was rejected was looking at what kind of research and development program could be done from a material standpoint to make it possible for people to do the task. Like you were saying, "If you can't pull the torque you aren't going to be able to take the nut off the rotor blade shaft." There are ways to do this. If we were desperate to get enough people to turn those nuts, we would get a better wrench.

DR. MARTIN: Dr. McCarroll was raising the issue before of developing equipment that relates to gender-specific needs. We might think about the same sort of model in terms of policies that relate to what are identified as gender-specific issues. I would cast that in terms of what are cultural norms that relate to women's roles and responsibilities? The things that I would think about in terms of examples of life course kinds of events are the whole issue of having children and that initial period of being a mother. The issue of being a commander with a number of mothers with young infants and their need to have time off to take the child to well baby care versus a male soldier who may also be a parent but who doesn't have that same expectation would also be an area to explore.

The same is true if we look at the other end of the spectrum in terms of the military career. I can think of a large number of senior women who I have talked to who view their role as a daughter in terms of caring for their elderly parents. It is a very different responsibility than a male caring for his elderly mother. These are issues that can, in fact, be dealt with, with policy considerations, if we accept them as normal life issues that relate to the presence of women in the force.

DR. LLEWELLYN: Conversely, the institution can say, "Okay, this is a significant problem for some percentage of people on the force and we aren't going to make any accommodation."

DR. FULLERTON: Yes, and people are living longer, so you have your parents.

DR. MARTIN: We need to accept that there are cultural norms that may differ between separate sub-cultures and between different racial/ethnic types of groups. There may be different types of issues.

DR. SINGER: I have several that are interrelated. What is currently known about the genetic propensity to develop PTSD? Are there sub-groups of PTSD? There is some biological background for panic disorders. There is a lot being done. Does anyone know if there are people who have a biological propensity to develop PTSD symptoms under a certain level of stress? Or is it that the stress causes those changes in the biological ratios that Giller and all the chemical folks studied? I think this would be very important in the laboratory-related areas and specifically in relation to women per se.

DR. LLEWELLYN: In a way it also broadens the playing field to include all members.

DR. MARTIN: The military would be a good place to do that, because they can follow them.

COL BOATRIGHT: It may be real important data as indicators for who should deploy to certain types of situations.

DR. LLEWELLYN: By being able to identify the biological propensity, you may also be able to identify interventions that will allow coping. Let me just ask you to think about this before we break up. I think we really got some good brainstorming going. We don't have to continue doing it like this tomorrow. I don't want to have anybody feel shut out because of ideas that they have written down if we don't have time to go around to each person. So, I can promise you that anything that is on paper and is legible will get turned in. Why don't you give some thought to whether or not we should have a modified process tomorrow. The last half hour we ought to think about a list to be presented and what the major themes are.

DR. BELL: One of our recommendations is, don't have all your people put on their heavy gear before they engage in an activity. For example, the man who is going to have to do the maximum moving in a fire shouldn't put on his slicker and boots until he actually has to do this or he will be exhausted before he begins. It is the same thing we do with the SWAT people. We tell them not to put on all of their major equipment (46 pounds of body armor and so forth) until it is absolutely necessary. They are so turned on by the gear that they almost want to wear it at their desks.

DR. LLEWELLYN: How can women be afforded the greatest opportunity to participate in areas where they are clearly superior in a military setting? This is a policy implementation question which calls into play the latest research.

DR. BELL: But they are not really superior.

COL WONG: In particular areas; dexterity perhaps.

DR. LLEWELLYN: Perhaps we should modify it to say that studies should be done to identify specific areas where women display high performance.

COL WONG: Higher than men?

DR. LLEWELLYN: Well, you kind of limit yourself when you say higher than men.

DR. BELL: I think it is the overlap of the distributions. A woman may be the best man for the job.

DR. LLEWELLYN: But I don't think anybody is looking at all the new systems being introduced currently and, in fact, thinking about looking at whether women may be better operators of a number of components of these systems than men. It might, in fact, modify the way the ultimate system comes out; whether it is the virtual reality training things or battle control. If you look at the battle lab situations and all the information inputs that are coming in they responded quicker and they were more precise at getting locked on it. This was observed in some studies in the Air Force. The Air Force wouldn't allow women to fly tigers, but studies ultimately showed that female fighter pilots perform better than males using the heads up display that showed you how to lock on to the aircraft. My position is, when women do well or better, how can they be given the maximum opportunity?

DR. SHALEV: Just a very similar point. I would go into the study of gender specific coping strategies in the area of control, dominance, decompression and grief, affiliations and resilience in such a way that we may eventually learn something from women instead of just learning something about them.

DR. MARTIN: By saying gender-specific, I am not sure that all the studies have been done by men, for looking at the coping mechanisms.

Col RHOTON: I would say similarities and differences.

DR. SHALEV: I would be very interested in the differences.

DR. FULLERTON: In particular, you are also looking at the differences between emotion-focused coping versus instrumental coping.

DR. SHALEV: Going back to the existing model, the motion focused and hazards and all that. The question is how to develop some models that will go beyond the ways of coping to learn about strengths. My point would be around considering gender-specific roles for females within limits. My experience is with the IDF. Some women were very important in symbolic roles that may make the unit look more like family. I think that symbolically there is something about women being there in ways beyond a women contributing to the force by having another shooter.

DR. LLEWELLYN: Dr. Shalev talks like somebody who has been in combat because, in fact, in the brief periods of restitution (that is what the U.S. Army labels it right now) one of the most important things is a combination of ventilation and consolation; the comfort that goes on. The people you trust to do that with are the people who have just shared the same kind of experience. It is a very difficult role for many males. They are not comfortable. That is why you don't see many pictures of the male who is being comforted by his buddy in Korea; there aren't many pictures like that; the famous picture from the Gulf War of the sergeant on the helicopter who knows that his buddy is in the body bag, that is touching.

I am not trying to interpret what I think Dr. Shalev is implying. It is not as though this is an MOS and this woman is the official comforter for whatever unit. In terms of legitimizing that as an additional kind of function we really want to know what the reaction to women really is. How does that sound to you?

DR. MARTIN: It sounds like a trap to me.

Col RHOTON: It is almost an assumption that all women are nurturing and I don't think that is necessarily true.

DR. SHALEV: It is not assuming that all women are nurturing, but in the eyes of men, women are nurturing.

Col RHOTON: So then women should be made to just do that?

COL WONG: They would have to be in the unit. It could be a woman. It doesn't have to be a woman. A woman would then be put into that unit that went into battle, so, it expands the role of the woman.

DR. LLEWELLYN: You cannot go into direct combat on the ground. Women are still prohibited from being in direct fire contact because they might have physical contact with the enemy, which is a joke in a way because it has to do with what the battlefield is. Part of what we are saying is, not making this a sole role, but another possible role for women to play, maybe to increase the probability of having people to consider having them with more forward elements.

Col RHOTON: It almost plays up the point that now there is some reason why you are not doing this and this task, and instead doing this.

DR. SHALEV: No, it is not instead, it is in addition to what other people do.

DR. LLEWELLYN: Let me give you a parallel. We have a copy of what the Israeli Defense Force has and a concept that it has to be a combat life saver; we started putting it in in 1984. What that means is that within each squadron crew, there is somebody whose secondary job (not primary) is to also have been certified as a combat life saver. It is advanced first aid; they have some IV's, bandages, et cetera. The purpose is not to put another medic there. It is a recognition of the fact that, given dispersion on the battlefield and the limited number of medics that are there, that life saving interventions frequently consist of putting your finger on the bleeding point and pulling the tongue that is obstructing the airway out of the way, that somebody who is competent in doing those things may be extremely useful.

We even use the same training film that the IDF has which showed that you don't do these things medically until the combat commander, that is, the platoon leader or squad leader, releases you from your primary job. Your primary job is still to kill people.

The way Dr. Shalev said it, you would think of it in terms of that being the woman's role in the unit. I don't think that is what he meant at all. It is the kind of role that some women may be well fit to perform and some men would be, too, because in fact, men are playing those roles right now.

Col RHOTON: If you could develop a unit based on some kind of personality profile of Meyers-Briggs or something and you get a nice mix, you identify each other's strengths and each other's liabilities, someone who is like a chaplain. I see what you are talking about is what a chaplain's function is.

DR. SHALEV: No, it is much more complicated.

DR. LLEWELLYN: It is a combat participant.

Col RHOTON: You are really talking about that only a woman could perform this role? Is that what you are trying to say?

DR. SHALEV: It is like Dr. Ingraham's work. He did work on the concept of grief leadership and he thought that this was the commander's role. I am not assuming that women are more emotionally expressive than men. In the case of those who are emotionally expressive they may lead an entire group to express or deal with traumatic exposures in other ways than accumulating rage, and then acting out that rage. I am saying that if someone could explicitly provide that to that unit, it just seems to me that a woman could do that.

DR. LLEWELLYN: Not as her sole function.

DR. SHALEV: Not as her sole function at all. Go beyond just having another combatant, you know, capable of performance. Performance is not the only thing people do.

DR. FULLERTON: But the point of grief leadership in Dr. Ingraham's work is that it is the leader who gives the okay.

DR. SHALEV: Not the leader.

DR. LLEWELLYN: He is recognizing that by saying that he is not sure that that is the appropriate group.

DR. LLEWELLYN: I am going to cut this off, but I wanted to make it possible for people to respond so that we have it on tape. We have the different ways we hear ideas and the ways one makes leaps of logic or illogic because of a variety of traditions, biases, and reflexes that we have.

COL BOATRIGHT: How can I articulate this? Today we talked about several examples of sexual harassment that we said were identifying poor leadership. That is what caused it, that is the result, especially in Dr. Wolfe's material. I think anybody who has done any of the work on DESERT STORM has observed that. We need to identify what seem to be some of the leadership problems related to the general issue and beyond. I mean, I think we have done that but we haven't gotten the themes down very definitively. If we could do that and then maybe go back and review how we train our leaders or not train them or whatever, and examine what is the intervention there, instead of, it keeps showing up in everything we see.

DR. LLEWELLYN: My guess is that units in which a high percentage of the women say, "My leader wouldn't permit sexual harassment in my unit," are the units which are well led and highly successful units. In some ways, dealing with those issues could be an indicator of whether or not this is a good leader. Instead of tying to focus solely to women's issues, if the focus was on developing good leadership for the entire unit, (one of the principal indicators), if there are women in the unit, is what is their perception about it? That means you have to teach the leader to identify his or perhaps her prejudices. I don't think we have dealt with this at all today. We continually assume that the unit commander is a man. Nobody has brought up whether or not female commanders are harder on women.

COL BOATRIGHT: I wouldn't be surprised.

DR. SHALEV: That is for tomorrow, gender identity.

COL BOATRIGHT: Then what can we do with this? I haven't been doing military school lately but probably most of us can call to memory Command and Staff College and what does a good leader do. I bet they haven't revised a lot of that since I took it and it was pretty no-brainer kind of material. Is there a way to affect that?

DR. MARTIN: I think there is a lot of that work going on in the program at Patrick Air Force Base.

COL BOATRIGHT: Meshed with identifying the real issues?

DR. LLEWELLYN: It lends itself to role play and simulation both at the basic NCO and advanced NCO and basic officer and advanced officer course where, by getting people to play a role, you smoke out biases. Like, for example, dropping Dr. Shalev's bombshell on the table in a group like that and getting people's reactions. Then getting some insight into looking at issues such as, "Why did you respond like that? What was it that you heard? What were these inferences you were making?" I was thinking about how to gather the data.

DR. SHALEV: It has to do with leadership and the role of someone who tolerates diversity, whether it is a male or a female.

DR. LLEWELLYN: Maybe we will know better how to express it by tomorrow. What I want to do now is to get final cuts on our ideas.

Col RHOTON: About three of my ideas have been echoed. I was thinking that perhaps there might be some value in identifying women in the military who had achieved success and actually doing individual studies. Have any of you all read Women's Race of Leadership? It is a wonderful book. What she did was to spend a month with four women who had achieved great success in their careers. She identified the way they led and related to people and then made some comparisons. There may be some value to that.

DR. LLEWELLYN: I think it is a great idea. My epidemiology training says you should put equal time into studying the successful ones and the failures. There are people who are successful and who choose to leave, and then there are people who are successful and stay. There are the failures who are either self declared or declared by the system. One of my big things would be to identify people with specific indicators and then do questionnaires and interviews, to try to get those insights; and not just once. Surveillance with a similar measurement technology over time allows you to also compare whether any of your interventions are making any sense. Generally, in the military, we don't do that. If we make an intervention, we measure before and after that, and that is it.

DR. FULLERTON: We should do this also not just for leaders - looking at people who did well - but look at people who didn't develop PTSD in terms of what their resilience is.

DR. BELL: I am interested in research utilization and I think that is an area that you need to build into a project right from the start. Who is going to use what you find? How do you package what you are doing in such a way that you get it to the people who are going to use it? Can you war game each one of the ideas to see how it is that you are going to put it into the package? For example, if I say high school drop outs have a high attrition rate, I can tell that to the recruiting command or preferably to a manager in the Pentagon. If I tell that to a field commander he will say, "I already know that. I can't control it. This person came who should not be here. Tell me how to manage him." This is a very different question than whether he should have been brought in in the first place.

What I am concerned about is, how much of your resources are you putting into the front end and who is going to use it? How do we package it, and what is it they really want to know? Once you put a conference together and have your ideas more focused, then talk to managers and say, "If I were to come up with a way to increase the number of women recruits, how would you deal with that?" We need to talk to field warriors, not just researchers.

COL BOATRIGHT: It would make sense to do a needs assessment of the recipients.

DR. LLEWELLYN: The very real possibility is that unless you have considerable skill in designing the instrument, what you are going to get back is, "I don't need anything, unless you have a way to change the opinion of the Congress so that we can get women out of here."

DR. BELL: I didn't say survey. The technology I would use would be interview.

DR. LLEWELLYN: You can do interviews for a survey. You can do a questionnaire and you can do it any number of ways. If you are going to do it with interviews, you still have to know the questions to ask and the sequence of the questions.

DR. BELL: The biggest predictor of whether or not research gets used is whether or not the system recognizes that it is a problem. I am not sure that the system has bought the idea that we have the group coming up with what is the problem.

DR. LLEWELLYN: We can ask.

COL WONG: Can I piggy back on that, and then lead it in some other areas? I think there is a need to identify biases and misperceptions and correct them before you get into the needs assessment. Once they are utilized, it is not the way you think it is. You are confronted with facts, then you can decide what you can do about it; that is your needs assessment based on research. We have programs on how not to sexually discriminate. We don't have any programs identifying bias and misperceptions and how you remedy that. They say, "Do not discriminate sexually," or they say, "Here is how you don't do that." But they didn't say, "What do you already know, what do you think, and how are you going to change that?"

DR. LLEWELLYN: You should all recognize that what we are doing is looking for bias, in fact, the study ought to be attitudes. I wouldn't say biases because you have essentially ignored the null hypothesis, the possibility that there aren't any biases.

DR. MARTIN: I would be interested in spending more time examining the unique nature of the services. I would take the position that each of the services are unique cultures. They differ in terms of who they recruit, they differ in the nature of what they do, and they differ in the nature of how they treat people. If we look at ratio or gender issues, we see a much larger number of the black women in the Army than in any of the other services. In the enlisted ranks I don't know what the percentages are, but they are probably three times as high in the Army as they are in the Air Force and the Navy. That doesn't happen by chance. Why are so many black women successful in the senior NCO ranks, for example, in the Army versus the other services? What can we learn from that is happening in these cultures, both the positive and negative?

DR. BELL: You are selling the Air Force. The customer is the Air Force.

DR. MARTIN: It is not just that they are tough and selective. They are a different organization that does different things that I think they should also do differently.

DR. LLEWELLYN: You could describe the study as a way to try to identify whatever the causative factors are so that the other services, if they wished, might take advantage of that kind of knowledge and information.

DR. MARTIN: The three services are really different cultures.

DR. LLEWELLYN: Especially the Hall of Heroes in the foyer of the Department of the Army.

DR. MARTIN: I think there is something that might be learned. What is the fit between those cultures and some of these issues of the people who match into those cultures?

Col RHOTON: The customer is the Air Force Surgeon General. Is that what I heard? I can tell you, he would be interested in this type of information.

DR. LLEWELLYN: Just to share with you other biases that float through the Pentagon and elsewhere, as a joint institution at USUHS (I was the Commandant there for seven years), you get exposed to all of those, even though my major duty at the time was Army. The apocryphal story is that if somebody at the DoD/Secretary of Defense level calls a conference and wants all the services to come, the Army will send two people, the Air Force will send four, and the Navy will send one. Once the work is laid out, no matter how awful it is, the Army men will salute and try to walk right through a brick wall. If necessary, they will just keep bouncing off the wall. The Air Force, within four weeks, will invite you to a multi-media presentation on how they see the problem and it will be dazzling. You will never hear from the Navy again.

DR. FULLERTON: Actually that is an important issue, the use of language and the differences.

Col RHOTON: I think one of the reasons that General Anderson would be interested in this kind of information is, when we really identify our differences, then we can work on ways where we can improve our teamwork. I know that is one of the goals.

DR. LLEWELLYN: My guess is that what Dr. Rundell is saying is true. One of the reasons that you find less differences in the percentages not only of females but of minorities, male and female, in the medical services, is that despite the uniforms they wear, the medical culture with the medical centers and the base hospitals is much more similar.

DR. SINGER: What is being learned about the DESERT STORM men and women that we saw in an early NIMH panel is that there are possibly two segments, as with most medical conditions across time. First, an entity is discovered and second there are sub-groups. It looked, from the folks that showed up at the DESERT STORM panel for the NIMH group, that we had at least two of the high arousal forms of PTSD being described from those DESERT STORM folks versus the flat be-numbing one that had been more prominent for Vietnam. Once again, I was taking a look at the role of what is a very prominent problem. There are many, many PTSD effects and segments.

DR. SHALEV: Maybe there were gender differences in the acute response.

DR. SINGER: Yes.

DR. SHALEV: We have found that in civilian trauma victims, women tded to display more depressive symptoms during the first week than men, and then eventually more symptoms. This might be a very interesting area for study, not only for PTSD but for the short-term immediate response gender differences.

DR. LLEWELLYN: Good. Thank you all very much and I will see you here tomorrow.

DISCUSSION GROUP III - SESSION II

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DR. LLEWELLYN: My proposal is that we look at the recommendations we made yesterday and go through them quickly. If there are things that you would like to discuss about what is there already, make a note to yourself. I want to urge you to think about the points on your remaining list. We would like to get all the lists in that you have, of the topics that you want to present if we went through five full rounds.

PARTICIPANT: Regarding the risk factors we discussed for women in the military, we mentioned training, morbidity, mortality, and success. I don't know if you can have a risk factor for success, or factors that predict success, whatever the factors that predict success are. I have also written down enhanced diversity as an area where studies and recommendations can be made. We need to learn more about taking advantage of and utilizing diversity that occurs in a unit in such a way that all the resources can be brought to bear. An example of that is specific female stressors and agencies within units and how to handle these.

Continuing on with female-specific stressors, there is the area of policy and personnel and how to handle these. That is two ways of saying the same thing but the issue is being able to find out what the female specific stressors are and find ways within units to address those points.

Another area for study and recommendations is further study on regulation of female menstrual cycles; the risks of doing that, and policies to be able to do such a thing; the area of logistics, particularly with needs of females in clothing, equipment, support, and general support matters; these things have not taken that into account that we know of. A recommendation would be to explore these areas further.

There is the response to stressors, specifically trauma, as one example of a stressor, and other traumas and stressors that occur as a function of being a woman that have increased risk due to menstrual cycles. Is that what you meant, Dr. Fullerton? This is an area noted regarding the need for further study.

PARTICIPANT: What effects of menstrual cycles are there that might be related to sleep cycles and other things that could be affected in a high tech environment?

PARTICIPANT: What about studies to explore coping mechanisms that could reduce stress?

PARTICIPANT: Sexual harassment versus gender discrimination is an area that we discussed. The issue of sexual harassment and gender discrimination and how that affects work opportunities. This is an area for research as well as educational programs to deal with these two questions.

The issue of the physical demands of jobs. Studies of what women have to do to get through basic combat training are needed. The question was discussed of having people at a certain physical standard before they begin service to lower the attrition rate and to make a more successful training experience for females in basic combat training. The issue of screening people beforehand to screen out the people who would not succeed.

PARTICIPANT: The role for the entrance and examination station, the advisory role of the recruiter, in selecting and advising people who are coming into the military for things that Dr. Bell mentioned, in terms of things that people might be able to do to make their lives easier was mentioned as an area for study.

A general policy regarding gender specific issues in the life course of a person in the military, all the way from basic training of soldiers to the high level commanders was discussed as something that needs to be developed. What are the developmental approaches to those?

There is a need to look at the risks and specific issues which women have to face which may be different or the same at different points in the life course. For example, the need for people caring for aging parents to have time off. Under that, there is another issue of the sub-cultural differences in the course of gender-specific events. There are a lot of variables when you move from gender events to cultural events and then perhaps the individual differences.

The last issue raised in the first round of discussion was the issue of a genetic propensity to develop PTSD. This is a research topic as well as a policy development topic in terms of developing coping skills and interventions.

Our second round of discussion started with a discussion of opportunities for women to participate where they are superior. There is a need to identify cognitive and psychomotor skills which women have which are higher than those of men. Once identified, these skills should be taken advantage of.

PARTICIPANT: I think you could expand that into having opportunities for individuals to participate where they are individually superior, regardless of gender.

PARTICIPANT: Not just women but everybody should have that opportunity.

DR. LLEWELLYN: Keeping in mind the admonitions that we have had that gender is a single sorting classification.

PARTICIPANT: Perhaps that would be a research topic if you have some kind of a tool to identify individuals' special skills and then see if there are differences.

DR. LLEWELLYN: It may very well be that within medicine we may need to look at some of these, too. There may now be skills that are required that are not gender related. If you are people who are going to do virtual surgeries and those sorts of things, it is very clear that physicians or surgeons over the age of 40 learn laparoscopy much more slowly than younger people who have played with video games for extended periods of time.

PARTICIPANT: When people come into the service they are screened looking at particular things and they then match the Army GTE tests and interests. They put people into MOS's (Military Occupational Specialty). But I think this is a different approach. It really calls for identification of specific skills and then it calls for the development of tests to determine how adept the person is at the skill.

PARTICIPANT: There is one more consideration, and that is that you have to balance the skill requirements across the entire Army. Would you rather have the smartest man leading the troops, being your medic, or repairing the equipment?

PARTICIPANT: Unfortunately, we have a system that is not that smart right now, because there is smartness for different kinds of things. Sometimes even that one smartness can be in very short supply.

PARTICIPANT: I don't disagree.

PARTICIPANT: Perhaps the other side of the same coin is to identify special skills for special tasks and circumstances, and the second is gender-specific coping mechanisms. I presume people would expand this to include coping mechanisms of everybody in terms of what is good and what is useful for which circumstances, and what can be trained.

PARTICIPANT: Women make a great deal more use of social networks than men do.

PARTICIPANT: This fits the way people think the modern battlefield is going to work.

PARTICIPANT: I wrote down differences and exchange; a way of learning from each other and teaching each other. Other examples that have been noted are resilience and emotional versus instrumental sorts of coping. Someone spoke of grief, dominance and control. We could probably continue with a large number of these specific skills if we wanted to develop this further.

Continuing on with the same point, we can further explore gender specific roles for females in units to help the unit to look more like a family. In other words, we could have more differentiation versus changes, to take advantage of skills. Some examples of this similar to what we talked about are ventilation, consultation and trust. These are often considered combat roles that are thought to be difficult for men.

I wrote down a number of specific points to develop this further, for example, legitimize the function; that it is not an additional duty but a function that everybody (or at least the people who can) can contribute to those sorts of skills.

Ventilation, consolation, and trust in others can be utilized by men or women at some appropriate point after the battle to help the unit reconstitute, recover, and go on; these are skill areas to explore and develop further.

The pitfalls and controversies of many of these points is that they may be heard in different ways by different people. We therefore need to know what they are, when they should be used, who should use them and should they be used?

The next point is to identify leadership problems in reference to these issues and beyond. This gets to the issue, again, of gender-specific skills in higher level positions and what the particular implications are for training leaders and for interventions, both for women as commanders as well as women as subordinates.

PARTICIPANT: This is a continuation of the thought that was brought up on moving from enhancing diversity, taking advantage of skills, coping mechanisms and functions of people to being able to utilize those skills in particular instances. I think this is getting at gender issues that are involved in leadership.

PARTICIPANT: We discussed that the issue of sexual harassment is a leadership issue.

PARTICIPANT: I think it is absolutely critical that heavy emphasis be given to NCO leadership. There is no doubt in my mind that if you have a commanding officer, whether it is a platoon leader or the company commander, battalion commander or squadron commander, who is insensitive and unwilling to pursue or vigorously motivate people to make fairness and equity, along with adherence to standards as part of the leadership style, you are going to have real problems within the unit. You can have a commanding officer who is trying to stamp out sexual harassment and still be terribly undermined by NCO's who are simply passive-aggressive.

PARTICIPANT: One of the things about organizational effectiveness groupings in the past in the military was that it was at least an attempt to go through some groping and problem solving in a non-official format. My point is that there is such a separation between NCO leadership training, the NCO academies, and between what goes on for officer leadership training. The only time they come together is when the NCO has much more experience than the officer does. Think of who the NCO's are who are working with lieutenants. They are not O-5's who just happen to role off the line. There has to be some way to bridge the gap, to in fact get better senior NCO input into the leadership styles and models so that the junior leaders can also identify the cultural myths and biases that the NCO's perpetuate throughout units.

PARTICIPANT: There may also be some structural issues here, in terms of how these organizations exist.

PARTICIPANT: Of course, you can't afford to have junior officers being coached by junior NCO's. That is what we did in Vietnam after the first year and a half and it was a disaster. The way lieutenants were grown up was to be handed to a platoon sergeant, or a senior master sergeant, who essentially said, "Don't embarrass me. Let's talk and we will work it and you are going to look good." I think that is a big element.

PARTICIPANT: This is a general issue, fragmentation of units and scheduling female or other minority people; it is generic, it is not a gender issue. It has to do with the consequences of poor leadership.

DR. LLEWELLYN: In Israël, do they still have the idea that you can't become an officer if you weren't an NCO first?

DR. SHALEV: Yes.

PARTICIPANT: The next area we discussed is human factors study; that is to identify the needs of clothing, equipment, jobs, and enhanced performance of females within units (modifying the equipment rather than modifying the female).

The issue of achieving success should be explored further. We need to know more about how women lead. We need to identify leadership problems regarding gender issues. Getting back to the point of how women lead we should study success in both men and women regarding leadership.

PARTICIPANT: There have been plenty of studies about successful men leaders, but there have not been studies about successful women leaders.

PARTICIPANT: Regarding models of studying successful female leaders, is studying ten great military leaders an appropriate thing for anything other than history? I think a number of them had enormous difficulties with leadership. At West Point and the Air Force Academy, they identify some of the models and leadership styles that would be considered worthwhile for a person to emulate. Would this be something that we could recommend for further study?

PARTICIPANT: Related to that point we discussed the development of a long-term system to track interventions; a quasi-surveillance methodology, following the interventions over time and perhaps the development of leadership skills over career pattern in terms of the development of female leaders.

Research utilization is another area for study. The point was made of packaging the research and fitting it into war games prior to packaging. The issue of resource allocation and preparation of research materials so they can be packaged and utilized for a better product was discussed.

PARTICIPANT: Essentially the thought was that it is much easier to decide to spend X amount of time if you had in mind what your end product is going to be and what your end user is going to be, rather than saying, "This is all very interesting, it helps you sort the I-must-do-this versus the nice-to-know" kind of approach. If you say, "Okay, my product is a training package for NCO's on how to be nice to women," the question becomes what do they really need to know? How much of this could they really absorb? Is this a manual or is this a tome?

PARTICIPANT: If they don't see it as important or as a problem, then you can research all you want without having any effect on command or policy.

PARTICIPANT: The point is that you can't research all you want unless they see it is a problem. I think one of the major problems in this area is similar to the problem that existed regarding HIV in the Army, or problems of hepatitis incidence in a variety of ways because it was connected with drug abuse and sexual exposure. There are not enough good data available now to give us anything other than hints. It is highly unlikely, without major command support, that you are going to have the opportunity to sample widely enough. Clearly the only way you are going to get a handle on many of these fundamental issues is with over-sampling in each one of the services.

What comes to mind is the kind of questionnaire work that was done and hidden during World War II. Hundreds of thousands of questionnaires were filled out by troops from fox hole level all the way back through. If you really want to find out how things appear to people who are at the sharp end you don't do it one time. There has to be an interlocking grid of different kinds of questionnaires and data gathering, that provides some basis for believing that some of the interventions you are looking at may, in fact, be addressing real perceptions.

We generally label certain things as problems in terms of what is easy to measure, for example, how many sexual harassment cases were there? I submit to you that in some ways you can deal with that the way they used to deal with sexually transmitted disease in the military, it became a matter of command importance. Once that happened, the rates dropped. What happened was the reporting dropped. It was called other things.

In Vietnam, when I was Chief Surgeon for Special Forces we had a new colonel come on as a commander who told me that he was going to stamp out sexually transmitted disease. Any individual with a disease was supposed to be reported to him by name. If the name showed up the second time, there would be disciplinary action taken. I tried to explain to him how every time that approach had been taken in the past it just drove the problem underground; there was in fact more transmission. He didn't care. Then I told him I wasn't going to report those things. He couldn't find a replacement in a short period of time. The way we dealt with the problem was, I indicated to all the other doctors working for me around the country that it would probably be appropriate to consider that there might be a co-infection with streptococcal organisms. Since the treatment for streptococcal pharyngitis would also take care of most STD's, why didn't we label them starting at the top of the body. The reported rates dropped enormously. We still had people coming in.

There are a variety of ways to deal with issues. You just change the label. You can call sexual harassment something else, or you can make it very clear that the rates are going to drop because nasty things may happen; not immediately but somewhere downstream. If that is the perception in the organization, you are not going to get it from its leaders. You are going to get it from a variety of people. If you don't get it from a wide enough variety, then we are going to get into the issues of, "Does everybody have the same vocabulary? Do they use the same words in the same way? How is this related to their point of origin; ethnically, inner city, rural, and so on?"

What it means is that you have to have a lot of data. Unfortunately, when things like this are done a fundamental precept of operational epidemiology is almost always violated. That is, "Do a big survey and use it as the basis for ongoing surveillance." Don't do a snapshot and stop, because you have no idea what it relates to. The only way that you can make any sound inference about the effect of an intervention is if you continue. Then you have to monitor a subset of a sample; units, and so forth, over an extended period of time. Of course, all managers are resistant to that. They want to say, "Tell me what your problem is, give me a fix, make another measurement, it is fixed, forget it." If it hurts the pocketbook, they won't do that. They will do quality control, which is another form of surveillance. However, quality control is not total quality management.

PARTICIPANT: In doing broad surveys, do people use the same words or understand the same words in the same way? Those are things you can focus on as requiring further study. If, in fact, a lot of the reports of sexual harassment have to do with an enormous sense of frustration related to gender discrimination, it is not just a labeling issue. The interventions are different.

PARTICIPANT: As an example, there was an instance in Brazil where they were sending off all-male teams of people to do construction work. If they stayed out for a year they eventually got to relieving each other's pains and frustrations. They didn't use the word "homosexual" in what they were doing, because they were married men and they were just taking care of frustrations. The government's big campaign was to try to keep people from doing that kind of behavior because it could have been spreading AIDS. This went right over their heads. It was totally missed by this group.

PARTICIPANT: Another point discussed is the difference in the organizational climates of each service; how to take advantage of these and capitalize on the unique and good contributions of each of these cultures involving women and men in the military.

PARTICIPANT: The next point is one that Dr. Singer raised. Could you amplify that a little bit?

DR. SINGER: I was saying that all of these people came in, who were veterans of DESERT STORM were coming in with high arousal, telling us that they couldn't sleep. There were all kinds of anxiety features. Mixed in that were the current, intrusive thoughts, all of the classic things but in a high arousal thing. Many of the people doing the interviews were looking solely for flattening and numbing. We tried to let people know the differences in the cultural contexts and the battlefield contexts that produced certain kinds of responses. The history of medicine has been that one should define an entity and then subsequently study sub-groups. I think we are at that stage in dealing with PTSD.

PARTICIPANT: I think it is fortunate that attention was finally devoted to it in the post-Vietnam era, but it was a skewed attention because it did not begin at the time of the return of the exposure. Attention was only focused when problems couldn't be avoided any more.

PARTICIPANT: It strikes me that an interesting phenomenon of the Gulf War in terms of perceived threat is that the closer you were to the rear, the more there was threat of CBW (Chemical and Biological Warfare) and you were being reminded of it. The farther forward you went, the less that threat existed and the less people were concerned.

PARTICIPANT: These were areas that were predominantly all male, where there was minimal threat. Where there was maximal threat, that is where you had the greatest mixture of men and women and you had predominantly reserve component forces. The least prepared people were experiencing the greatest persistent threat.

PARTICIPANT: It depends on how you define threat because for a number of the combat units, at least the people that I have talked with, initially the big threat was, "We don't know if he is coming this way." This was the predominant feeling until the air war occurred.

PARTICIPANT: I was there with the 82nd Airborne Division with the men who were in the most difficult situation.

PARTICIPANT: They were there the longest. What were they like in the first month compared to the third?

PARTICIPANT: Much more relaxed in the third.

PARTICIPANT: So, you have a staging of troops coming in over a period of time and the combination of, "Is he going to come now?" Plus, we have to get our things together, there is going to be intense scrutiny of our training.

PARTICIPANT: Even with that, as they moved out of base camps and went forward, they had much less threat.

PARTICIPANT: Is this going to be compiled into something else?

PARTICIPANT: It will be presented in plenary session which starts at 10:30 am. At the plenary session, I think Dr. Ursano wants an overview from each of the working groups. I would like to ask Dr. McCarroll to be the spokesman for the group.

PARTICIPANT: Let's go back through this so it is fresh in Dr. McCarroll's mind and fresh in ours also. We should decide if there are specific things we want to make sure we get on this list. How much can we summarize for the session? We can add to our list and then we can look at it and see if we can help Dr. McCarroll with clustering some of these ideas.

PARTICIPANT: There is a generic problem about people in the rear being more exposed or differently exposed than the front line. The threat is perceived very differently with the level of being active.

PARTICIPANT: The capability to retaliate?

PARTICIPANT: Having a passive role. This has been studied time and again. It is true that in these environments with people who are less well trained, you will find them subject to, and that is a generic problem, a different perception, a different kind of threat.

PARTICIPANT: The point that I was going to make is related to military intelligence. In military intelligence one principle is that you often study the enemy and not your own troops. You want to know about the enemy.

PARTICIPANT: That is about the enemy within. I think that perpetuates the attitudes and biases of sexism in the military.

PARTICIPANT: Yesterday I used the word bias. We need to identify the word bias and misconceptions about roles regarding women. My point is to make it an applied program to correct those misperceptions.

PARTICIPANT: I think it will fit in the area of developing an applied program.

DR. SHALEV: These are profoundly based cultural attitudes, some of which have reason to exist. Going back to our own military situation, given the front and the home and so on, we tend to over-emphasize the role of women as agents of continuity of society. We wouldn't want to see many of them killed in combat based on the kinds of roles that they are playing. Some of the roles for women as providing care for kids and not necessarily going into combat are profound needs for people to experience some kind of continuation in the society.

DR. SINGER: I would like to keep the word myth in our list of things to be studied further. When you have anthropologists going in to study myths, they ask questions trying to find out what is the contemporary legend and what is the myth behind the attitudes. I want that one kept in because it is the myths about women, the myths about men that we need to understand better. You can have people expressing the politically correct attitude but then they get over in the corner of the pub and they tell the other men and women the myths.

PARTICIPANT: I have a feeling we ought to keep moving or we are not going to get our task done this morning.

PARTICIPANT: Do we want to go over what we have here before I tear this page off and see if there is anything anybody wants to add? What would you like to do?

PARTICIPANT: There is one thing that I wanted to use in terms of applied research. That is, knowing what we do about vulnerability of women to post-traumatic stress disorder and the emphasis on sexual abuse or molestation or violence in the background, can we do something about setting up a preventive program? I am thinking specifically about the British Army and the medical company down in Rwanda. The psychiatrist was very clever. He said, "You are going to be dealing with lots of dead bodies." They really role-played and prepared the troops. Their rate of PTSD was very low. When I asked the commander why it was so low he told me that they had anticipated stress.

Can we have some kind of preventive program available? It can be a novel program, just to see if people will show up for volunteer groups and enter into them to deal with these conflicts. Then when something occurs in the military setting, they will be less vulnerable.

PARTICIPANT: Part of that would require the kind of training to include medical personnel to be sensitive to that.

PARTICIPANT: There are dangers in stigmatizing women about that, too.

PARTICIPANT: That is why I say it is voluntary. We can do a pilot study on that; not to make it command-wide policy, but to test the hypothesis. You can then set up a control group and see if there is a conflict, particularly in units that are going to be called to handle a lot of disturbances and low intensity conflicts and where there will be a lot of deaths that occur, not necessarily combat, but in other areas, like another Somalia, another Rwanda, a Bosnia.

PARTICIPANT: A recommendation is to establish a model program testing hypotheses that sexual abuse and violence prior to military service renders individuals more vulnerable to PTSD; a control study to see if preventive measures are effective.

PARTICIPANT: To determine what preventive measures are effective.

PARTICIPANT: I particularly like the thought of trying to do some pilot studies in units that have a mission to be rapidly deployable. The 82nd immediately comes to mind as well as the 10th Mountain Division. We should try to get some simulations and role play that would involve not just a single problem area. One area would be the exposure to lots of sick kids or dead bodies. We should try to determine the possible differences between male and female unit member reactions and look at whether coping mechanisms can be shared across those things.

I think you could at least raise the possibility that there could be instruction which would identify the appropriate leadership attitude to be projected to the troops over a wide array of issues, not just ones related to females and not just ones related to handling corpses, or a particular culture. Anything that is applied like that has a lot of impact up front early on.

PARTICIPANT: There has been a lot of discussion and comment about early sexual or physical abuse. What about emotional abuses that result in lowering self esteem? I think self esteem is possibly a reasonable predictor of the ability to deal with the situations they find themselves in.

PARTICIPANT: Whose definition of self esteem?

PARTICIPANT: I feel a frustration here. In terms of polishing ideas when we are really going to have a task of summarizing ideas? If we continue to polish ideas, we are not going to get from here to here.

PARTICIPANT: Are there other points that people have that have not been presented?

PARTICIPANT: I think Breslau's findings that one of the best predictors had to do with peer relationships in adolescence as a predictor of vulnerability to PTSD is crucial; that it might not be abuse.

PARTICIPANT: How about "and other predictors?"

PARTICIPANT: My feeling is that everybody is getting stuck at looking just at sexual abuse and we are not getting at the level of what is the impact on human growth and development.

PARTICIPANT: Exactly.

PARTICIPANT: Do we want to see if we can quickly get the last points and then go on from there?

PARTICIPANT: Yes, that is what I would like to see happen.

PARTICIPANT: If everybody could limit themselves to their specific germane previously-unaddressed point.

PARTICIPANT: It is obvious that females don't stay in the Army as long as males do. They end up in the dual military career marriages and they end up not having kids if they are going to stay. The higher you are in rank, the less likely you are to be married and the less likely you are to have children. I just wonder whether that is by choice or whether that is something the Army is doing that essentially makes those conditions there.

PARTICIPANT: Does this have something to do with the developmental stages of women?

PARTICIPANT: Retention and marital status?

PARTICIPANT: What makes service members stay in the service?

PARTICIPANT: Retention and gender and marital status and children?

PARTICIPANT: There is a problem there.

PARTICIPANT: That issue is the same issue that corporate America faces.

PARTICIPANT: It isn't just the glass ceiling.

PARTICIPANT: If you are going to advance, then there are certain trade-offs that one makes.

PARTICIPANT: What is the question, research or policy?

PARTICIPANT: I think it is research.

PARTICIPANT: It is reviewing policy.

PARTICIPANT: What factors?

PARTICIPANT: If you talk about career development or progression as opposed to retention, retention sounds like, "We will solve this by giving them a bonus."

PARTICIPANT: There is a wonderful article that appeared in The Chronicle of Higher Education a couple of months ago that focused on women in science and the whole issue of, what does it mean if you want to take some time out to have a child and not be in the laboratory? What does it mean not to stay with your peers? What does that do in terms of derailing your entire career? It is the same kind of issue.

PARTICIPANT: I have one training issue I would like to mention, flight nursing with re-engineering medical readiness. In the past, with echelons of care, the patient would be stable when they were put on the aircraft. The new readiness posture is that they would be stabilized. The blood would be barely stopped, they would still need to be resuscitated on the aircraft, which means that you are going to have more deaths in the air. Perhaps training is an issue or preparation of flight nurses, who are 75% female, and flight surgeons and flight medicine techs in preparing them to deal with it, because a death in flight is rare now. In a real war situation, deaths in flight will be commonplace.

PARTICIPANT: You won't prevent that; dealing with increased levels of unstabilized patients.

PARTICIPANT: It is a trauma to the people trying to provide care, being unable to pass the patient out the window to the mortuary. You have to stay with them until the flight is over.

PARTICIPANT: There are all the issues surrounding it. What didn't you do, and the interventions that you could have done.

PARTICIPANT: What about flight deaths on commercial airlines?

PARTICIPANT: They don't do it as their role. These people are specifically there because it is their designated job. People are now saying, "You are going to have to provide care to people that we can't provide you with the resources to provide care to."

PARTICIPANT: I am not sure how to put this in a question, but there are certain job functions that are changing that are going to significantly enhance vulnerability or the amount of stress. The other issue is that the preponderance of women right now are, in fact, in traditional occupations in the military. There are small groups who are in really non-traditional occupations. One of my issues would be, what do we need to learn about those really non-traditional small groups in terms of potential vulnerability? These are also the groups that have the largest number of women who drop out. They are also potentially the groups that are most likely, for a variety of reasons, to encounter what we might describe as trauma.

PARTICIPANT: The same for men, like male nurses or something.

PARTICIPANT: Well, see, you get into trouble when you do that because there are male nurses in civilian settings. You get into trouble also, unless you are clearer in your definitions when you talk about flight nurses; somebody will say, "Well, they are ER nurses, they are people who have done special work in that and critical care." That is true, but the environment in which they are working and the entire support milieu is entirely different. We need to look at the context and the specific skill responsibilities.

PARTICIPANT: The current environment is ripe to do on-the-scene studies. There are retrospective studies after the fact, but some of the issues perhaps could be studied as they occur, for example, the problems dealing with deployment. We could take advantage of the fact that we have men and women deployed together.

PARTICIPANT: You are discussing the idea of prospective studies of deployments?

PARTICIPANT: We have produced some good ideas this morning.

DR. SINGER: I would like to mention the presence in the twenty-first century of the threat of chemical, biological, nuclear waste, and damage from lasers. We will have all these technological dangers to the troops. This will build upon the civilian fears and myths about the unseen dangers. So, we need to heed this new background worry that is in our society about what is happening.

PARTICIPANT: For males and females.

DR. SINGER: Absolutely.

PARTICIPANT: There was an article in The New England Journal of Medicine about decreased fertility in French men and exposure to radiation and pesticides.

DR. SINGER: Yes, all the toxic spills will continue to be worries.

PARTICIPANT: As well as the media that is always right there.

DR. SINGER: Yes. The troops dealing with that specifically are bringing the social worries that are universal.

PARTICIPANT: They are carriers of the social worries.

PARTICIPANT: Are we through with everybody's contributions?

PARTICIPANT: I have one more on the leadership issue; the issue of how leaders are selected and assigned. I was thinking of what Dr. Martin was saying yesterday about the Pentagon, the differences in the offices and the cultures. I think there is a lot there among the services. Gender is one of the issues but also there are a number of factors regarding how they are selected but also how they are assigned to which units.

PARTICIPANT: It is worth it to try to be sure that there is a little precision semantically in differentiating commanders from leaders.

PARTICIPANT: Command and senior NCO's and other officers.

PARTICIPANT: But even from an officer standpoint.

PARTICIPANT: Not just command, but different leadership roles.

PARTICIPANT: There is a squadron commander and a wing commander and so forth. There are leaders within that group, officers and NCO's. Some people are going to be forced into those kinds of assignments, because if you are a pilot who has been in this squadron for X period of time, you are going to wind up in charge of a section. I think that recognizing command is a selection process is important. Being a leader is an inevitability if you progress; because you are going to be a squad leader and platoon sergeant and so forth. I think they are equally important. So, I just wondered, which are you thinking about as far as the leadership selection process, because there is some incompatibility in those terms.

PARTICIPANT: I wasn't so much thinking about the selection process as I was the culture.

PARTICIPANT: If you are going to ask about the culture as it relates to selecting people to command units, you don't select people really to be the leaders unless you look at the whole promotion process.

PARTICIPANT: Right. It can be done to command units.

PARTICIPANT: It is not just leaders. Each had its own culture and it is an ideal situation to study things that work and things that don't.

PARTICIPANT: I can give you a family example of what I mean in terms of these policies. For example, the Navy is focused and committed to housing its families in civilian communities. The Army is focused on building military installations. It is a totally different culture and a different way of treating people. We can look within that context to see what works and what doesn't for men and women.

PARTICIPANT: How does that relate, now, to who is selected to be the leaders? That is a separate issue.

PARTICIPANT: We need to focus on what we will present at the plenary session. There is not going to be more than five to ten minutes per group. They will want somebody to give five minutes and then other members of the group may add a comment if they wish.

PARTICIPANT: I think I can identify five or six things that fit together under the same rubric. I think we can flesh those out.

PARTICIPANT: I think one of the major areas is leadership. There are many things that fall under that: gender-specific issues, training, NCO development, and differences in leadership and followership. We have talked about many things under leadership.

In discussing the risk factors/selection, I don't think risk factor is the appropriate term in all contexts. Some aspect of looking for predictors, selectors, of risk factors with respect to stress and PTSD are important factors.

PARTICIPANT: What I was going to get at was more the issue of how these fit together with diversity, gender-specific tasks and roles and issues, as one aspect of the part of this risk factor/selection. How do we fit those together?

There are a number of things under PTSD: the predictors of PTSD, performance, vulnerabilities, biological differences, PTSD for men and women, including cultural factors and gender factors.

PARTICIPANT: We should include some of Dr. Singer's material about flat and numbing.

PARTICIPANT: The message is we are interested in PTSD. We have logistics, human factors, women fitting into the environment and the clothing and equipment and tasks fitting the women; making those two fit women's physical needs and size.

PARTICIPANT: Such as a better wrench or a strap to help carry a litter?

PARTICIPANT: Right. We need to modify the equipment so that women's skills can be utilized. I think those are the major headings.

PARTICIPANT: When you talk about risk factors, are you going to give us some opportunity to talk about the strength factors?

PARTICIPANT: That is what I meant by risk factors not being exactly the right terms.

PARTICIPANT: We should include research utilization. It is on a different dimension. Women's career progression is a different dimension.

PARTICIPANT: We talked a lot about culture. We talked about battlefield culture, subculture, ethnic culture, gender culture and organizational service culture.

PARTICIPANT: These are some things we might recommend that I put together yesterday. The first one is, questionnaire studies with large sample sizes similar to World War II to explore women's attitudes toward service jobs, males in service, et cetera.

Secondly, recommend studies on women in successful career progression - enlisted, NCO, and officer - as well as studies of unsuccessful career progressions.

The next one is policy to provide equal access to services and support: basic life support, deployment supplies, uniforms, personal hygiene, medical services and job assist techniques, and equipment to carry things.

The third major category of recommendations is leadership training and evaluation. We need studies to look at both the education and the training aspects for NCO's and officers. We need studies of the prevalent attitudes of the people who are entering each level of training. That leads to the need for epidemiologic surveillance over time; to repeatedly sample some of these attitudes to see how they would change.

Finally, a recommendation for some specific performance evaluations in high stress environments: austere deployments, preparing for deployments, looking at combat arms versus support jobs, and in the most realistic training environments.

PARTICIPANT: I will prepare a sheet with the major topic on the sheet for the audience. Then I will flesh those topics out with one or two statements or principles of each of those areas that are important.

PARTICIPANT: Can we put in the physiological material like the menstrual one? As a woman and as a woman who has commanded, I can tell you that is important to women. Biology: the rest of it is nice to know but if you don't feel well nothing will happen.

PARTICIPANT: The first thing is, I would specifically like to thank Dr. McCarroll for being the reporter. Then I would like to thank all of you for your candor and insight. I have learned a lot and I have really liked being with you.

DISCUSSION GROUP IV - SESSION I

Robert J. Ursano, M.D.
Col, USAF, MC, FS (Ret.)

DR. URSANO: By tomorrow at the end of this meeting we should come up with some thoughts and ideas. Initially, I thought it would be helpful to go around the small group to give your names and what you do for a living, and anything else you want to say about that.

DR WRIGHT: I am Kathy Wright, Deputy Chief of the Department of Military Psychiatry at Walter Reed. My primary research has been in the area of traumatic stress and more recently has evolved into the women's study program. I am working on the Women Aboard Ship studies with the Navy out in San Diego on several of the studies. It is a combined focus; traumatic stress as well as the women's issues.

Col McKENNA: I am Barbara McKenna. I am Commander of the 89th Medical Operations Squadron and I am not sure why I am here.

DR. URSANO: We need people with a background in nursing to reflect both what you do and the decisions you make on some of the issues that we are confronted with. You were identified as someone who influences people, as well as being a major resource.

DR. PAGE: My name is Bill Page. I am with an outfit called the Medical Follow-Up Agency. One of the longest studies that we have done is a longitudinal study with former POW's of World War II and the Korean Conflict. We have also worked in the PTSD (Post Traumatic Stress Disorder) area.

DR. NUNNELEY: I am Sara Nunneley. I have done aerospace medicine in my research as well as environment physiology. I work at the Armstrong Laboratory. I have been very much interested in the possibilities for women in the military in all the areas.

DR. URSANO: Dr. Nunneley has been recommended to us as one of the clearest thinkers in an area that many health people don't very often hear about; environmental physiological function and performance. She shows the differences in training and how to apply that paradigm in preventive ways.

DR. SOLOMON: I am Susan Solomon. I am with the National Institutes of Health. In an earlier incarnation, I have been Chief of the Vital Statistics Management Research Branch at the National Institute of Mental Health. That is the place within NIMH that studies all kinds of violence and trauma: child abuse, domestic violence, rape, terrorism, war, and catastrophic events. Most of my research has been in PTSD.

In terms of my present job, I am working at the NIH level, which is the umbrella organization for NIMH. I totally agree with Dr. Ursano that the military is an ideal environment for testing things that couldn't be done in other situations. I think that judging from Dr. Llewellyn's remarks yesterday, that if, in fact, the activities of the Army are actually less and less military in terms of deployment, then maybe it is a better lab than it used to be.

COL BELENKY: I am Greg Belenky. I am the Director of the Division of Neuropsychiatry at WRAIR (Walter Reed Army Institute of Research). My interests are in sleep deprivation in continuous operations, with combat stress and combat psychiatry.

Lt Col CAMPBELL: I am Charles Campbell. I go by "Whit." I am the Consultant to the Air Force Surgeon General on Family Practice. Another role that I have played is on the DoD (Department of Defense) Task Force on Women's Health, which is an organization that was actually formed a little over a year ago to put in a report to Congress on the provision of primary and preventive services for women. The report included both direct health care recommendations as well as recommendations for research topics.

DR. MANNING: I am Rick Manning. I am currently with the Institute of Medicine (IOM), where I am actually involved in a project that the Institute has on setting a research agenda for the Defense Women's Health Research Program. Earlier I was the Director of Psychiatry at WRAIR. I worked there for 20 years in various capacities. I am a research psychologist by training, although I went many years without actually getting my hands on data of my own. I tell people now that my job at the IOM was actually gofer. My main job was putting together jobs (somewhat like this) where we would panel from all walks of life and try to get something coherent out in the end.

DR. URSANO: His knowledge of the science is broad based. Keep in mind that the neuroscience division at WRAIR which spans from Dave Marlowe until recently with Jim Meyerhoff includes many issues from cultural influence to the molecular level to the impact of procedure on performance issues with regard to the military.

Lt Col LEBEGUE:: I am Breck Lebegue and have a background in neuropsychiatry. I am currently Chief of Aeromedical Service at the Air National Guard.

DR. URSANO: Dr. Lebegue is here through his association with some of the issues that happened with the National Guard units. The National Guard units respond to disasters that occur such as exposures to earthquake and the explosions of airplanes. He has the opportunity to look at, understand, and the responsibility to respond medically to the effects of traumatic events on women and men.

DR. NUNNELEY: Could I ask a question? I heard about the explosion in Canada, but what about the recent event with the paratrooper?

DR WRIGHT: We didn't respond to that. We had a unit down there that went in to do de-briefings, but we weren't involved in that.

DR. NUNNELEY: It seems like as you learn from each one, that you would have a different start for the next one.

DR WRIGHT: We did follow some events.

DR. PAGE: This is a hidden agenda but I am going to say it so it won't be a hidden agenda. The other hat I wear is Director of the Twin Study involving 16,000 pairs, 32,000 people. We have done a lot of clinical work in that group. I heard genetics mentioned in passing, only briefly here, because it is acknowledged that there might be some individual differences with respect to susceptibility. We have all heard some about male/female indications in response to stress, for example. That would incorporate some of this information on individual susceptibility. I don't know the data well enough to quote some figures, but there is some indication that PTSD in males is heritable. That comes from Vietnam veterans. That is all male/male twin pairs. I wonder whether that is an issue that should be brought up here, whether there is some genetic influence that is operating. Should we be doing all women's studies without that, or deal with that particular issue?

Yesterday my boss was over at the Pentagon trying to get a new project that we were hoping to start; research that would set up a new longitudinal twin registry. It would be a more demographically diverse set of twins, rather than just male/male white ones. We are hoping it can include 10% female pairs and mixed sex pairs. There are more blacks in the military now and this was data taken from an all-white sample. Certainly the opportunity is there and we are trying to take advantage of it. I wonder whether this might not be a good place to put it in the studies of women's health. Could we make some kind of contribution toward knowing something about the genes?

Opportunities will come about if we set up this new twin registry. As of 1985 or so, the Army and Navy have been running something called the Army/Navy Serum Repository located in Rockville. There are some, I think it is either 12 or 15 million serum samples, set aside that presumably research workers can have access to; not only on biomarker studies but whatever kinds of things you can think of. These are the specimens left over after HIV testing. So far they have been set aside and banked and they are available to go back to. Testing was done on at least a two-year interval and more frequently when people are deployed overseas. This is just a fantastic national resource and many people at NIH are going to hear about it. So much is there. The twin studies themselves have a tie in to a lot of these issues; issues that can give you some thought about getting at the basic sciences and getting at the individual differences and susceptibility, as it were.

We may have to talk about temperament and susceptibility. I think there is evidence that there are temperament differences. People talk about gene/environment interaction to study the particular genotypes that puts certain individuals at a greater risk for certain conditions. It is a fascinating topic and I would like at some point to see it in the armed services.

DR. SOLOMON: Personally, I don't over-estimate genes as a cause of differences. I think the serum data is a great opportunity. There is a lot that we can do.

DR. PAGE: I don't know much about the politics of this other than what I have heard. This is another misunderstood sort of understanding, kind of a fall-out from the HIV testing. Now that HIV needs are not quite so overwhelming an interest, an issue is whether someone will continue to appropriate the money that it takes to run the serum bank year after year. Another issue would be whether they need someone to sponsor it and talk about the scientific interest and keep the thing going for that reason. They are not at the point where there is an attrition on it yet that I know of, but it is probably only a matter of time.

DR. SOLOMON: For research you don't need to have absolutely everyone. 17 million are a lot to keep up with.

DR. URSANO: It is a lot of tubes in a freezer.

COL BELENKY: You would probably end up sampling.

DR. MANNING: If you want to work backwards and from now, you don't know who that is going to be. That is one of the reasons for keeping that, because of choosing wrongly.

DR. NUNNELEY: Did they give the money to do the DNA samples? When you compare identical and fraternal twins and then find something in a given set of fraternal twins or a bunch of them, eventually you might be able to look for the genome.

DR. PAGE: Right now that is a ticklish issue. There is generally 95% accuracy from the tissues. The DNA bank has been set up for human remains identification. I think in theory this is supposed to be available for research use, but I don't know that anybody has made an application there. I don't know how that would be used. We are setting that aside for the time.

DR. URSANO: The legal issue raised is formidable. One piece of that, that was in the newspaper, is that there are several active duty people who refuse to allow themselves to have samples taken and be DNA classified. This is now an issue that is in the courts. The question is that once the samples are taken for this one purpose, can they be used for another purpose? There would be a whole new round of identifiables.

Col McKENNA: I have a question on the study on PTSD. Has anybody looked at twins?

DR. SOLOMON: You mean what makes them different from people who get it?

Col McKENNA: There is obviously a much larger percentage of people who experience the same things that don't get PTSD.

DR. SOLOMON: So far I think we are thinking that the difference between the risk factors and protective factors are the same. I don't think there is very much evolved about what things are protective or resiliency factors. Everybody talks about how important it is, but I don't know that we know very much about it.

PARTICIPANT: Arieh Shalev was talking about data on people who suffered traumatic events and were followed right from the beginning. He basically showed the curve of how things get better. Something like 94% of the sample, I think, had PTSD right from the start. There was a residual 20% that remained chronic. He is at a loss to say what distinguishes those people, except that it appears that what he calls dissociative symptoms such as de-realization and de-personalization, feelings that the world is less real or you are standing outside yourself or looking at yourself are all usually correlated with extreme anxiety. These sorts of early symptoms predict later bad outcomes. He makes the point that despite the fact that the trauma is the same in both groups, what is going out on the scale of one to ten, may not be what other areas of the brain think about it. You may get a more direct measurement from the actual anxiety reactions. The de-realization and the de-personalization symptoms may be a better indicator of the magnitude of the trauma as perceived by that person taken as a whole.

A very nice book on this topic is Wounds of War. The authors talked anecdotally about protective factors for Vietnam. What they said was that protective factors included: staying calm under fire, being willing to admit fear in yourself and other people, not running away or running amok, not participating in atrocities, and having no reason to feel guilt, regret or shame. They actually make a point, in fact, contrary to what Dr. Llewellyn and Dr. Holloway said about PTSD. They were talking about people getting their legs blown off. They make the point that you may be better off getting your legs blown off than getting PTSD. You may end up leading a fuller life if you have taken some risk yourself and not put yourself in a situation of developing post traumatic problems which are, in some ways, forever, if you happen to have a chronic case. A person with a physical disability will adjust in the long run better. There are a lot of issues here.

The issue that personality plays a role appears, at least from Vietnam PTSD victims, that people with personality disorders are over-represented; even people with personality disorders prior to going to Vietnam. That may just mean that people with personality disturbances are less able to make use of the protective things in the group and are more vulnerable. You are more expert on these things than I am. I don't think anybody knows. People talked about hardiness and these are nice ideas. We sort of know what we mean by them and you can measure them in terms of scales and so on, but I don't know what the real basis for these are.

Col McKENNA: I guess idealistically and simplistically, they can tell the people who do and the people who don't.

COL BELENKY: But the environment is not the same.

DR. MANNING: One of the problems is that the distinction of two categories is an arbitrary one. For example, Dr. Wolfe based them on a number of scales. You then draw a line at some place on the scale and people with 89 have PTSD and people with 87 don't. It suggests that you will be trying to look for differences between people who score 87 and people who score 89. Everybody has symptoms after horrible events. The question is how intense and how long and so on. It is like people who don't grieve after the death of a close relative. I don't want to put them down as the extreme that we are looking for as opposed to people who do grieve.

Col McKENNA: I am not sure what we are here for, but if we are going to look at some issues, of course, I am interested in the military. Is there any way to predict?

COL BELENKY: Prior to recruitment and that sort of thing?

Col McKENNA: Before we recruit people in these environments, is there any way that we can tell that they are not going to develop it?

DR. PAGE: We talked about risk factors. Age is a risk factor. The younger the POW, the more unlikely PTSD. Rank and education are risk factors. The less education, the more likely the development of PTSD. I don't know what those mean and it would be a pretty rough kind of screen to say, "you are not young enough to go overseas and fight."

COL BELENKY: You are too young to go overseas to fight?

DR. PAGE: Right, I am sorry.

COL BELENKY: Or you are not high ranking enough and not well educated enough to be an infantryman. See, that is the problem. What you are talking about in terms of screening won't work because you will screen everybody out.

Lt Col LEBEGUE: No, you set the cut points. From an operational medicine point of view, I want a test that will tell me not to put that soldier at risk of whatever disease or illness that needs expensive treatment and incapacitation; a test to tell me that he will be fit.

COL BELENKY: Then there is one very simple screening test, human competence. Look at how well trained and efficient the unit is.

Lt Col LEBEGUE:: That has merit.

COL BELENKY: It is not screening out the individual.

Lt Col LEBEGUE:: If there is a resilient individual, I want that person as a troop. I don't want the weak ones.

DR. NUNNELEY: It sounds to me like it is the leadership and the kind of support system.

DR. PAGE: The 20% keep-in; that is the 20% you would like to screen out.

COL BELENKY: As Will Rogers said, "the way to make money in a stock market is to find a good stock, buy it, then wait until it goes up and then sell it. If it doesn't go up, don't buy it." That is what you are saying.

DR. PAGE: I was just asking Dr. Ursano, do we have any pre-deployment information. No, it doesn't exist.

COL BELENKY: No, it doesn't exist.

DR. PAGE: It cannot be done.

PARTICIPANT: Yesterday you showed us something that said women are four times more likely to suffer chronic PTSD.

DR. URSANO: The only place that screening has worked has been in the choice of astronauts. The reason for that is because of its cost. The cost to find people who will not get ill can be very, very expensive. For an astronaut you may want to do that.

DR. NUNNELEY: They haven't been entirely successful either.

DR. URSANO: On one hand there is the opportunity of going through a million people if you want to select one, because of the cost of the program; if you contrast that in the context of World War II, there are a million people and you want to select 900,000.

DR. SOLOMON: I think you can't over-estimate pre-disposition, too. I think one of the most robust findings is the sense of control during the situation. If you look at the factors that predict poor outcome, the young had less control. If you look at that, it is a situational factor, even though it talks about pre-disposition.

DR. URSANO: It more likely could be applied to the variables in the actual military settings where you are training. If you had a genetic probability and you knew that person's genetic makeup you could account for that in their training. The training can be applied generally on a broader basis at a lower cost. The military is always trying to deal with the all-out war. In World War I and World War II, we had what percentage of men who were in uniform?

COL BELENKY: We had 12 million people in uniform.

DR. URSANO: How did we screen?

DR. MANNING: We rejected close to 900,000 at induction. Despite that we ended up discharging 500,000 who didn't fit.

Col McKENNA: If you can't screen them out, then what are the risk factors and the training and all that sort of thing?

COL BELENKY: Well, anything that improves either effectiveness or risk of PTSD would be that they would be less likely to be exposed to horrible things. The more effective the unit is, the fewer casualties in their case. That is where the money is in terms of prevention. If your unit is not exposed to any trauma, you are not going to have any PTSD by definition, because you have to be exposed to trauma in order to develop it.

Col McKENNA: If you are in a medical unit, you are going to see a certain amount of trauma.

DR. URSANO: After the airplane disaster in Gander, Newfoundland in 1985 there was a series of command decisions that had to be made. A major event for people from age 18 to 22 was getting close to the bodies. The wing commander at that point was going to undergo an operational readiness inspection. At least in the Air Force that means the colonel trying to become a general officer. If he does it right, he is in the right direction and if he does it wrong, he is dead. His decision was to postpone the operational readiness inspection eight weeks after all these events because his troops had not recovered sufficiently.

We know that the recovery of a community takes more than eight weeks. That was 1985 data. So, where does that lead us? It leads us to a command decision that if you have four units to choose between, do we have some piece of data that helps a commander decide which unit should be sent in? Maybe in some wars that isn't an option. In other wars it will be.

Do you choose the unit that has just been exposed? How much time do you need in between before you select a particular unit? That unit might be a medical unit that has just been out dealing with death and the dead, a particular set of nurses that had been involved. It might be a series of tanks that have been deployed on the Army side. What is the recovery time before we can maximize the probability that as much recovery as possible has occurred before a second insult happens? War is a continuous series of insults, not just one. What is the rest and respite that maximizes that?

We don't have a chart that says, if you have the choice, use this chart and choose this unit that is above this 80% mark. You may not have a choice, in which case you do what you have got to do. If you do have a choice, use this chart to choose based on the following data. I think that is one of the ways in which you can see these issues that need research. How much is the recovery time? What is the curve of recovery? Is the curve for recovery different for women than men? Is the curve for recovery, as Dr. Solomon was referring to, by symptom rather than by disorder? Is it whether or not intrusion goes at a certain rate, numbing at another rate, arousal at another rate?

Do we know those recovery rates? Is any particular one of them more important than another? Can we estimate when in fact we can re-expose somebody with the least degree of risk, given that the commander somewhere has to make a decision about what is the risk he is willing to take? He may have to make a decision knowing that he is willing to lose all of his troops. He will say, "I will take that risk, I will take these people and they are at an 80% probability of having trouble." Another time he will say, "I don't want to lose all my troops, let's take these people who have a 90% chance of not having trouble." That can range from military active duty to combat to National Guard, regarding what unit should be deployed.

DR. SOLOMON: I am participating in a steering committee that deals with violence against women. They have decided that the wise thing for us to do is to develop a training course for health professionals that will teach them to screen for domestic violence and family violence in general. Why did we implement this training program? I asked how do we know that this training first of all works? Secondly, I asked how do you know what to train them to do because we don't know whether it is a good thing or not to identify these people? What are the long-term outcomes of having done that? Are we worse off or better off? I would say as a research question that the training issue would be a nice thing that the military could do. Does training people to make the unit more effective lead to long-term consequences that are better for the individuals who are in it?

DR. URSANO: The issue of family violence is a very hot topic. There is a lot of activity on those issues regarding both intervention and identification and how it affects groups.

DR. SOLOMON: There are a lot of other things. I think I mentioned to you on the phone there is a study that I had never read and that I can't find of military families. It is about military women who were studied for AIDS; they were screened for AIDS. They found that the ones that were positive for HIV also had a disproportionately high rate of domestic violence.

That gets us into a very easy prevention question also. How do they get this and what do you do about it? If you are going to recommend certain kinds of things for people that don't apply in a situation of domestic violence, you have to know things like that. So, we have to start thinking about bringing both measures into it and what implications that may have.

DR. URSANO: This was in families who were HIV positive?

DR. SOLOMON: The women. They were screening the military for AIDS. The HIV positive ones had a very high rate of domestic violence also.

DR. NUNNELEY: Is that true for men?

DR. SOLOMON: I don't know.

COL BELENKY: I think the issue of military women and health questions are really more issues of performance. Dr. Ursano asked me to mention some things about DESERT STORM.

We were in the 2nd Armored Cavalry Regiment's medical crew and we had lots of women. One woman was so short that she could barely see over the steering wheel of a cracker box ambulance. She would be driving along and she never got stuck. A lot of other people got stuck a lot of times. So, frankly, women did very well.

Looking at the jobs that you see in the 2nd ACR from being a scout and driving a vehicle to being a member of a tank crew, it was a little bit difficult for me to see why women wouldn't do just as well as men in that setting. I feel we would have to show why women shouldn't be there. If you look at the tasks in a tank, you have the tank commander who was sticking out of the turret looking around. You have the gunner looking through the sites, you have the loader and you have the driver. None of these things required upper body strength to speak of, any more than most people have. There is a case where a single responsibility is clearly distributed. The commander would be looking around and would designate to the gunner, who would then place, but either one could take over for the other. They very much rely on each other. If you want to make some kind of mystical male bonding thing, that is where you would find it, I suspect. I can't see that a woman couldn't be part of that team.

Frankly, the incidence of PTSD was relatively low in DESERT STORM because most of the casualties were on the other side. If you look at the modern operational environment in terms of the actual jobs people are doing as members of crews, in current military jobs women will be accepted and things will work out well.

Where you get into issues, I think, are the strictly medical things about providing appropriate care and cultural issues as to whether you really want women soldiers killed and wounded in large numbers if things don't go well. The worst time we had in the 2nd ACR was on the second night of the ground war when we had 180 American casualties coming. We knew that even given the superiority that all anybody had to do was to look the wrong direction and you could get really hammered. Because of the lethality of modern weapons, even what the Iraqis had, you could get a lot of people killed very fast by a simple mistake. Then there is the issue, of course, whether you really want women POW's. That also is a cultural and emotional issue.

That, it seems to me, is where the issues are, not the upper body strength. I think it is important and I think all these things are interesting to look at, finding ways to do the jobs. The main thing that you have to do in the Army is think. Everybody seems to think that if you ask people where the command and control is, they basically say, "my echelon and above." Everything below their group, they stop largely because they don't have to do anything. "My echelon and above and, if I am a decent person, maybe one echelon below." Other people actually don't have significant cognitive tasks to perform. That is totally untrue. You have significant cognitive tasks down to the individual infantryman, who has qualitatively a similar job as the corps commander. He has to read the terrain, know what his resources are, know what his support is, know what is on his flanks and make appropriate tactical decisions. So, everybody has to think.

I found one job, I think, in the Army where you don't have to think. That is the men who actually physically carry the rounds from the trailer to the 155 Howitzer. They just do this all day long, and they don't have to think. They soon are going to be history because that is going to be automated. So, that is going to wipe out the one job in the Army where cognitive skills aren't required.

DR. SOLOMON: Philosophically I agree with you, but there is the opposite point of view, that there is a difference between men and women and that should dictate what they do. I would like to start with the assumption that it doesn't make any difference. Then if there is a difference, I would like to go beyond, "Gee, let's not use women for that," to "Why is everything okay for women?" Maybe if we went back to your example of training a unit, if there is a problem with cohesion where women don't seem to form in a group as well as men, maybe there is a training problem. If there were a difference, we need to explore it and figure out whether women need to be trained somewhat differently with different kinds of incentives or learn whatever it is that makes for a cohesive unit.

COL BELENKY: Maybe so, although that may not be.

DR. SOLOMON: It may not be. I am just saying that the first step is to find out whether there is a difference, and if there isn't, don't worry about it.

COL BELENKY: Yes, I think the burden of proof is for people who say there is a difference to show that there is a difference. In wintering-over studies in Antarctica they looked at a lot of selected personality variables. They said it doesn't matter. What matters is that you have some particular skill that was relevant to the scientific mission; you monitored the weather, took ice corings, or whatever it was you did. Then if you had something else that you could do for the group such as cook or play an instrument, you did that. It didn't matter if you were lame, lazy, or just plain crazy. Whatever your personality was like, you found a niche and you fit in. That is basically pretty much true in human affairs in general. Unless you really have severe character pathology, you will find a niche for yourself in any organization you happen to be dropped into. That is the issue of selection.

Col McKENNA: My question is, "what is male about bonding, other than the fact that it was observed in the male military groups?" It seems to me that the question is human groups under duress will form these family-like bonds.

COL BELENKY: Maybe this male bonding thing is a degraded subset. What I am suggesting is, as a practical matter, if we want women in combat roles, combat roles should be thrown open to women: they should be gender indifferent. We should simply see how things go, not force anybody to do something, and realize that they are likely to have some bad outcomes early on because of the phenomena of the minority female going into combat.

I am struck by American Professional Sleep Society meetings that I attend in Nashville. When I first went to that convention in 1968 it was all white male and the atmosphere was hostile, paranoid, confrontational, and real nasty. I just assumed that was the way it was. Over the years the organization has changed. There were children there. There were families and there were people from all sorts of different ethnic and cultural backgrounds. The atmosphere was much more pleasant. The discussions are much more interesting because people had different ideas and perspectives on the theories of sleep function which is still a major biological mystery. So, I would suspect that actually the combat environment would be improved by having women there.

DR. URSANO: There is a basic principle which has to do with the heterogeneity of multiple groups that leads to an increased probability of resiliency and survivability. Because of the unexpected environment, it is difficult to know which organism will survive. So, whether it is genetic heterogeneity or the personality heterogeneity, the more we make things homogeneous, the more you are in danger of having something unexpected happen for which the capacity to respond is not there.

DR. NUNNELEY: Does this have to do with the evolving nature of modern warfare? It seems to me that in the past, I am thinking about World War I or the Civil War, there was an element of fanaticism that was necessary to the way the units conducted the war. Maybe the male bonding thing had to be a very homogeneous group. I am wondering how that relates to the evolving battlefield?

DR. MANNING: Actually, I would argue it the other way around. In those days you didn't have to worry about psychological solidarity because everybody fought shoulder to shoulder and there was a man right behind and they didn't break ranks. Weaponry forced everybody to spread out into little groups instead of having 100 people where one man calls out "left flank" and 100 people turn left. Now he calls out on the radio and everybody moves left. There are still 100 more decisions to be made before anybody moves anywhere. You could argue that kind of psychological solidarity is more important now.

Lt Col CAMPBELL: From my perspective, in some of the newer missions that we have in the military, it seems like we are doing them in anything but units that people traditionally belonged to. In other words, they are not deploying as a unit. They are piecemeal. At least that is the way we are doing them in the Air Force. The question is what effect that may have?

COL BELENKY: How piece meal?

Lt Col CAMPBELL: Ones and twos.

DR. NUNNELEY: So, if you haven't got that bonding thing anyway, what does it matter whether the deployees are male or female?

Col McKENNA: There is the same point that was made upstairs earlier, leadership or lack thereof has been the single greatest factor for males or females and the success of the deployment.

DR. MANNING: Can I raise an issue about your story about the sleep society? The idea about the society getting nicer and a much more pleasant place to go now because it is so diverse reminds me of a time more than a few years back when I was young. We had a meeting of research psychologists in the Army down at Fort Rucker at the helicopter safety center. At the opening banquet, the general came to talk to everybody. He said, "I am so happy that you are here, you are just the folks that I need because what is a really serious problem for us is the accident rate. You know, we had X many crashes over the last year and we really need to find a way of screening out these accident-prone men. Surely we can find a way of getting a safer set of pilots."

Well, everybody looked at each other and finally a senior man said, "Well, the fact is we probably could cut down your peace time crash rate considerably." On the other hand, I am not sure that any of those men would be willing to go get Scott O'Grady. After all, he is in a place where nobody in their right mind would fly, he just got shot down in hostile territory flying an F-16. You don't want to fly this big bulky helicopter in there and hover for 10 minutes while he runs out of the woods and then get out of there. The question is, "Yes, it would be a nicer place, perhaps, but in the long run, is that a good thing?" So, maybe the burden of proof is not on those who want to show that change will do harm, but on those to show that change won't do any harm.

COL BELENKY: Then I think it is fair game to sort of look at it historically and evolutionarily. I put the question on the table, why is it that throughout human history, warfare appears to be a male dominated activity? Why? Why do people think that? It is clearly the historical fact.

DR. MANNING: You used to answer that question by quoting, but I guess you don't any more.

COL BELENKY: I am willing to grant even more flexibility to the baboons now than some authors are willing to grant human beings.

DR. URSANO: I do want to hear some more from Dr. Campbell and Colonel McKenna about the different way that units were being used.

Lt Col CAMPBELL: As I said, they are anything but units.

Col McKENNA: I was at SAC (the former Strategic Air Command) and we were deploying all of SAC overseas, even the active duty bases. The guidance we had was to maintain a minimal level of health care stateside. We were taking parts of it piecemeal from different bases and then they would all meet at Dover Air Force Base. Even active duty were deploying. There were larger chunks of those, and then gradually the guard and reserves came in. Their units were broken up and piece mealed out: one of those and one of those and one of those. The biggest complaint we got, especially from the guard and reserve units, was that we broke them all up. We were breaking everybody up. Since that time, between Panama, Guantanamo and whatever else has been coming up, we have been doing the same thing.

Lt Col LEBEGUE:: We have had good response from enlisted but not from the physicians, and that is for many reasons. If the deployed force and the stay-at-home force works, if they are roughly divided into those two categories, if that works I think it would be okay.

Lt Col CAMPBELL: Part of it is that when you have deployments like that, you can't prepare for them because you never know when you are going to be asked to go, or where you are going to go. That is the other issue. Certainly you don't have any insight into who is up next. They basically go from one base to another asking the question. The way we do it in the Air Force, it is up to a committee to decide. Actually, they don't decide, they ask the bases and the bases go down another level. So, you never know where you are going to be.

Lt Col LEBEGUE:: In fact, that was enough of a problem that the Aeromedical General has proposed a phased readiness system so that the unit knows when they are ready to go. Then they are more ready to go, not only in terms of medical readiness and psychological factors as well. I think it has a great deal of merit.

DR. NUNNELEY: If the crisis went on would they stand down and the next unit come to a level of preparedness?

Lt Col LEBEGUE:: Yes, they are rotating units anyway.

Col McKENNA: Oddly enough, though, Travis Air Force Base right now is deployed. They got the task and they are deploying. Everybody was sitting around at orientation wondering how they were going to do it, what part of the task they were going to take, and which piece they were going to piece meal out.

They decided, interestingly enough, and I think smartly, that they would take the whole task unit. Everybody that went, went from Travis and then people back filled Travis. Someone in there had the insight to understand that they needed to go as a unit and come back as a unit and they took the whole task force. All the rest of us thought that we were going to get parceled out.

DR. PAGE: Is that some kind of risk factor for PTSD?

Lt Col CAMPBELL: When we deploy a small team, there is a substantial difference when I can tell somebody maybe in the next two days or the next ten days they will have to go, versus in fact, "get your bag and go out of town."

There is scientific data on things such as anticipatory stress. How does anticipatory stress help? When does it hurt? How, in fact, if they increase the physiological risk factors, will psychological risk factors increase, and to what extent anticipatory stress may aid in performance and potentially a subsequent outcome?

You are really talking about a two-step phase beforehand with people on alert that know they might go. That is better than having somebody knock on your door and say you are going in 30 minutes.

DR. SOLOMON: I don't know how it plays out in future performance. I do know that the literature suggests that the best thing you can give people is a sense of their choice. So, if you can give them a choice about going or not, that would be great. The next best thing is predictability. That is what you are talking about. It is a wonderful thing. That is as close as they can get to that sense of control.

Lt Col LEBEGUE:: In addition to the readiness, it also proposed an activation in time that would allow at least two to three days of transition, not just for training but for the mental preparation process; maybe even some inoculation training, exposure (video exposure or descriptive exposure) to some of the anticipated horrors. Especially with the guard and reserve, what do you pay for all that extra time?

PARTICIPANT: It is required with the way we are training. We went through the portion of the general boarding processing and we have started training that way. We have certain people and they have all their tags and their bags and they process through on the exercise. Then we deploy in ones-ies and twos-ies. It does not matter if they are on mobility or not, however they get picked to draw, or if we happen to draw straws in their section or whatever. It has nothing to do with anything. It has to do with the way we continue to train.

PARTICIPANT: The other thing we are doing for preparation is, as a pilot project (and really the larger purpose was to train in trauma actual trauma skills, mental and physical) to place our guardsmen in major city trauma units for that preparation. We also could see the purpose of inoculation training and functioning in the short term. This is in a pilot project now. It has just started.

PARTICIPANT:: Is that in emergency rooms?

PARTICIPANT: Yes, local emergency rooms. In many cases they would already have privileges there. A lot of the technicians would be on an ambulance system. They are actually working on people who have been shot up.

PARTICIPANT: Is there any possible way of making that a real solid research project? That is a wonderful thing, to find out if that works.

PARTICIPANT: It is in the process.

PARTICIPANT: If there was a way to randomly assign them to that or a standard way of debriefing them, and then finding out what their performance and emotional processes were, that would be a wonderful thing to be adopted.

PARTICIPANT: Yes, it is in process. The measurement actually was going to be those people who trained on the laser disc basically, to determine the trauma response. That was the control group.

PARTICIPANT: It makes sense as an inoculation. So, it would be good to find out if it was a good idea.

PARTICIPANT: Or measure it the first time you go through it and measure it the second time you go through it.

PARTICIPANT: We haven't attempted to measure the psychological aspects of it at all. The issue of inoculation is a very important question.

PARTICIPANT: When we speak of screening out do we mean evacuating them to the rear and relieving them of further responsibilities? That would guarantee that they would become chronically ill.

PARTICIPANT: Yes.

PARTICIPANT: But those who are going to become chronic, who are vulnerable, are going to become chronic anyway.

PARTICIPANT: We don't know that; when the Buddha became enlightened, the tempter came to him and said, "Why bother, why not just ascend to Nirvana now? People are like lotus flowers, some bloom; some will not." The Buddha said, "Well, some will bloom but some will not, but the vast middle group will bloom with tending."

PARTICIPANT: The result of that will be a policy that says, once you get experience, we will remove you. As soon as you are exposed, you are experienced. You take away the experienced people. There is a trade off.

PARTICIPANT: I was suggesting only those who are exceptionally vulnerable.

PARTICIPANT: Exposure increases vulnerability. You have multiple measures going on simultaneously as to what your outcome is.

PARTICIPANT:: Another issue, not a male/female issue, is the deployment response. We are often sending people out of country who have never been out of the United States. We compound it by sending them out to a third world country with a different culture, different language and conditions they have never even seen in their lives.

PARTICIPANT: They are also being sent in very small units of ones and twos because there is no need for larger units or because there weren't enough ready people in the units that they were in.

PARTICIPANT: It is not like at Guantanamo.

PARTICIPANT: We don't dare even call it deployment. We can't use that term.

PARTICIPANT: Well, one of the stressors increasing throughout DoD across all services is the increasing number of missions without recognition. The discussion of Guantanamo was a hot topic at the Navy hospital where we are short three people. We have to send people down there on very short notice. The problem that they are facing is trying to run a hospital while, in fact, maintaining multiple events, without recognition of the multiple events.

PARTICIPANT: I think that recognition factor is important. I just got back from seeing a couple of units, one in France with the tankers where there was a medical element with them. We didn't even know they were there. We couldn't even get the supplies to go in there.

DR. URSANO: I wanted to ask particularly Colonel McKenna and Dr. Campbell to put on a different hat and ask for either a family practice perspective or a hospital perspective. What if we asked by gender what are the biggest problems you see walking into the hospital? Do you get different problems and what are the issues that family practice sees these days that rise to the commander level as, "Oh, this is the third man I have seen with this problem, this is the third woman I have seen with this problem?" What do you wish the Surgeon General was doing to deal with the day to day issues that might, in fact, increase during a DESERT STORM, or during a continuous need of medical supplies of ones and twos in a six month period of time; that is not only over there, but back here?

Lt Col CAMPBELL: Certainly we are handicapped by not knowing exactly what we see. We are just beginning to employ some health risk appraisals and some other kinds of screening tools that tell us what the needs of the populations are. Our system is basically acute intervention. Actually, who we see probably doesn't represent the needs of the population. I think we are pretty much aware of that.

On the other hand, I think there is a difference in the people who utilize the system and those people who don't. So, that is another factor that we need to take into consideration as well. Another thing that was brought up had to do with having OB/GYN care. That leads me to think that we do need to know what we are seeing so that we can train our people for that.

Lt Col CAMPBELL: I certainly don't think the answer is to have an obstetrician/gynecologist available all the time. It is to have that level of care available. It is a matter of who is going to provide it and making sure that they have the training.

In the Air Force, we do things a little bit differently than the Army and the Navy. They rotate people after they have finished one year of training and put them into operational assignments. It is just a matter of making sure that they recognize exactly what kind of problems they will encounter. I think that was highlighted by the talk about PTSD and how these people are having this range of symptoms. I certainly don't think that our people who are coming out of one year of training have the skills to recognize those things.

DR. URSANO: One of the topics that was hot this past year, and of course has been hot at the mental health circles for a while, is depression and primary care, both the recognition of depressive disorder as well as their treatment. We just had a presentation that was extremely well done, all directed toward saving money, which was developing a model on what would be the most cost effective intervention, if just one anti-depressant was stopped. If we use this anti-depressant first, would it save this amount of money? There was an article in the American Journal of Psychiatry, in particular, which was a nice one in terms of relating life events to an increased risk for depression. One would expect that depression coming into a primary care setting would increase during times of increased operation and tempo. We haven't even begun to think about how to deal with it.

Lt Col LEBEGUE:: I want to come back to the question you raised about why women have not fought wars and make an assertion that at present not only could we barely stand the video images of our men soldier POW's coming back, but if that were to be the case for women prisoners of war, I think we would tolerate it even less.

COL BELENKY: That is probably true but that doesn't explain the historical fact.

Col McKENNA: That is not a problem with women.

COL BELENKY: It may be a problem for public opinion.

DR. NUNNELEY: It seems to me that the reaction is kind of max for a guy and they couldn't get any max-er for a female.

COL BELENKY: I don't think it could get any worse.

DR. NUNNELEY: I think it is very unfair to say that men could deal with it any better than women, or that the problem is that men don't want women to go to war, or to say that is not a woman's problem, that is a men's problem. I think it is more unfair to say that for some reason men can tolerate that better than women. I don't know why you would say that.

COL BELENKY: I didn't say men can tolerate it better.

DR. NUNNELEY: The public believes that. Why does the public believe that?

Col McKENNA: Do they?

COL BELENKY: It is an experiment that we haven't done before and we are about to find out.

COL BELENKY: There is no resistance in having women in a combat role. That is not where it is at, and of course everybody understands that there is a lot of resistance and so on. Why historically has most fighting been done by men? Is it a function of the sexual dimorphism in size? Are men, to a degree, bigger and stronger?

DR. SOLOMON: The women have the kids hanging off their legs.

Lt Col LEBEGUE:: You said there are physical differences. What physical differences are you talking about?

DR. NUNNELEY: In terms of dimorphism we are minimal, if you look at other species.

COL BELENKY: We are also more pacific than other species. In terms of the homicide rate, even in D.C., we don't even approach other mammals. That is true.

Lt Col LEBEGUE:: We can certainly afford to lose lots of males much more easily than females, in terms of maintaining the species.

COL BELENKY: That may be it. We can afford the loss of a good number of experts.

DR. SOLOMON: I still think that is the wrong question because it seems to me that we have heard that there is a stronger reaction to women. So what? To educate people so that there is no difference, that is the argument for keeping minorities down.

Lt Col LEBEGUE:: I am not sure it is an assumption that is responsive. So, the question is, has it been done?

DR. URSANO: Is that a useful thing to do, is my next question?

DR. SOLOMON: I think it is useful to educate people.

DR. NUNNELEY: What about the question of dead children. Is that cultural? There were times when dead children were practically the norm because they kept getting diseases. This extremely strong reaction on one end is built into both sexes.

DR. URSANO: It is true in both sexes in the United States. Dr. Wright was saying that Dr. Marlowe the anthropologist said it was a cultural phenomenon.

DR WRIGHT: Because of the high death rates in children in other countries they are not even really considered people or named until a certain age.

COL BELENKY: That may be the convenient attitude of the western anthropologist. I mean, I worked in Western Africa with bush people and I have taken care of their sick kids. I didn't see anything that was any different. They did lose a lot of kids because of infectious disease.

DR. URSANO: That is infectious disease, not killing.

DR WRIGHT: We are talking about the death of children, not killing.

DR. URSANO: There is a difference, I think, in terms of killing children and children dying of disease.

COL BELENKY: I think there is. There are nice studies showing that in monkeys, seeing mutilated monkeys is intrinsically frightening, and it is not paired with subversive stimulation or anything else. It just scares them. A monkey's head stuck on a spike or anything like that is intrinsically frightening to monkeys and it is probably intrinsically frightening to us as well. So, I would suspect we are talking about basic biological things when we talk about the grotesque and the mutilated. That probably is pretty basic that everybody has those reactions.

DR WRIGHT: It might also relate to this thing about babies having characteristics that --

COL BELENKY: Look at the head size.

DR WRIGHT: They smile at everybody and "goo goo."

COL BELENKY: The head is larger in proportion to the body. There have been psychological studies that show that it is the proportionality of the head to the body that makes people go "aww, that is sweet." That is true for the alligator or the human infant.

I have to tell you a story about DESERT STORM. I am a psychiatrist. All the doctors in 2nd ACR were in family practice and very nice. We relieved the 82nd. The Iraqis were celebrating Ramadan. They would wait until sunset and then drop shells in the market. Men, women and children were trapped and hit. It was a mess.

We arrived just as we were getting this influx of casualties. We turned on our headlights and started setting up. One of the family practice men went over to help the 82nd and they put me in charge of the holding tent. I was going around and looking at all these folks, and there was this one lady clearly with a stress reaction. She wasn't touched but she was hysterical and I thought, "Oh, I can handle this case." Then I saw there was an American major, who turned out to be a public affairs officer. He was sitting by the cot of an Iraqi child about nine years old with a big bandage around his abdomen. He had no ID, just a big bandage around the abdomen. He had that pinched look of being in pain. So, I said, "well, what is going on here?".

The major said, "Well, they tell me that this boy is going to die. I think they triaged him and they said there is nothing we can do for him, he is going to die." Then the major went on to say, in a very matter of fact voice, "I don't think he should die alone. He is just a kid." This man was so simple and direct about that. By that time I had gotten down to work and was less hysterical. I said, "That little boy there?" A doctor said it was not fair taking taking people to surgery when they may not survive. I said, "There is a public affairs man sitting there holding the boy's hand who has no ID." He said we should take another look at him. He went in and put in an IV and evacuated him to a hospital. He got through surgery successfully. The impact of that, that is the thing that I remember most vividly from the war. That involved a child. I think it is pretty basic. The reaction of the other person who was there resonated with me. I couldn't have done that. There he was holding the child's hand.

DR. NUNNELEY: We need to send more public affairs men.

DR. URSANO: We are getting close to 5:00 o'clock. We are going to resume tomorrow morning and that meeting will result in recommendations. Let me remind you of the work that we all have been doing again. First, we raised the issue of PTSD and their genetic contributions and particularly potentially the different types of symptoms. One of the questions raised was what role should DoD play in investigating that?

Another area has been a discussion around the issue of screening and its strengths and weaknesses; an important discussion of unit effectiveness and the potential preventive mechanisms for the development of traumatic stress casualties that will clearly link to the issues of how to increase human protectiveness. We discussed the question of different recovery curves by symptoms and whether or not there are gender effects, the contributions and understanding of family violence, and the potential for family violence syndrome. The issues of heterogeneity potentially being protective for groups were noted and which for that reason alone might want to be fostered.

A major discussion occurred around the impact of deploying units piecemeal and the way that that may increase risk. The experience of "Where is my buddy?" and the potential interventions of that around the development of alert status for medical units and operational units was discussed. Among issues noted were the need for better understanding of anticipatory stress and in particular mechanisms to first increase control and secondly, increase predictability.

Potential studies of inoculation training, particularly with medical personnel, that is presently being undertaken in a guard unit, from the Vietnam experience as well as CD ROM and virtual experience were raised. Depression as it may or may not present in relationship to days lost was discussed as well as the question of exposure of death of children and its effect on people.

Each of these could be amplified with recommendations. They are all items that need to be thought about in terms of policies and recommendations. We will meet tomorrow and discuss recommendations for these areas. We will reconvene tomorrow morning.

DISCUSSION GROUP IV - SESSION I

Robert J. Ursano, M.D.
Col, USAF, MC, FS (Ret.)

DR. URSANO: Perhaps we can go ahead and get started. Yesterday we went around the table and introduced ourselves. Maybe we can do that again quickly so that CDR Dinneen can know who you are and introduce himself as well. I know you wanted to be here but had to be away last evening,
CDR Dinneen.

Col McKENNA: Barbara McKenna, I am from Andrews Air Force Base.

DR. URSANO: Some people would say she runs the hospital out there.

DR. PAGE: Bill Page, Medical Follow-Up. I am here primarily because of my research in POW's in World War II and Korea.

DR. NUNNELEY: Sarah Nunneley. I am in aerospace medicine and environmental physiology research for the Air Force.

COL BELENKY: Greg Belenky. I run the equivalent of the COMFORT psychiatric team for the 2nd ACR (Armored Cavalry Regiment).

Lt Col CAMPBELL: I am Whit Campbell. I am a consultant for family practice at Bolling Air Force Base.

DR. MANNING: I am Rick Manning. I am from the Institute of Medicine.

Lt Col LEBEGUE: Breck Lebegue, Aerospace Medicine and Psychiatry at the Air National Guard.

CDR DINNEEN: I am Dr. Dinneen, a psychiatrist at Bethesda Naval Hospital, and I am working at Walter Reed on health care planning issues. I am here because I was deployed on COMFORT for eight months as the head of the mental health team on COMFORT. I was involved in several studies of trauma in the Navy, including exposure on the U.S.S. Iowa, with the experience of the folks on the COMFORT. I apologize for having left yesterday. I have also been involved in residency training for the last five years at Bethesda, and our residents graduated last night.

DR. URSANO: Mike also had a recent experience with the Coast Guard bound east from Tahiti.

CDR DINNEEN: I just had my third trip to Oklahoma City doing some follow up for the school system there as well.

DR. URSANO: Through NOVA.

CDR DINNEEN: Right.

DR. URSANO: By 10:00 o'clock, we have something that I can present of what our group is saying and doing. I thought a little bit about where we were at last evening which I think will hold us in reasonable stead. I will review what we discussed yesterday and then we can proceed from there. I think our group has been proceeding uniquely, which is nice. To remind you, we plan to have recommendations which are going back to the Air Force Surgeon General and to Army Research and Development. Recommendations will involve research, training, command and policies. Our focus is that of health and illness. It seemed to me that the strategy that the group had taken yesterday, which I thought was kind of interesting, was in fact a focus on topics.

One of the things that was decided by the group implicitly was that one of the issues should be people issues. What the group had done, in fact, was to focus on the topic areas that had been raised as important and then talk about those topic areas in terms of either educational needs or training and research needs. That focused around the topical areas that needed further work.

We had a discussion of selection and the general gist of the discussion was that selection may not yield a great deal of information. One needs instead to think about the question of units and how to maintain and foster morale as well as the question of unit effectiveness and issues that foster unit effectiveness. This actually seemed to derive in some ways from the discussions that came up around PTSD (Post Traumatic Stress Disorder) and also sexual harassment. The most important issues were those that had to do with unit function.

We talked about some of the unique issues around studies involving twins and to consider how those may offer opportunities for understanding gender contributions to the biology of trauma disorders and PTSD in particular; but potentially others, including depression.

We also talked about the question of considering symptoms separate from the disorders. Remember the discussion yesterday about intrusion, avoidance and arousal. The recovery curves can be different. The rate at which recovery occurred might be different by gender; intrusion might recover sooner or later, or avoidance or arousal and there was the issue around numbing that Dr. Solomon made.

There was a comment about the issues of domestic violence, family violence quite often presenting unique opportunities for the military to contribute to the understanding of the effects of trauma on women. It is an area that has gotten a lot of press. You may recall Dr. Solomon made a comment about the uniquely stressful events that families who are HIV positive experience in which family violence is present.

We talked in the line of command or policy relating to the issue that heterogeneity in many forms (i.e., number of men and women in a group as well as heterogeneity of genes and heterogeneity of coping styles) may provide increased effectiveness and survivability in unexpected environments. As a principle, people who are in command should be reminded of that. They may maximize their ability to perform in unexpected environments by remembering to include heterogeneity and diversity in how they put units and personnel together. Each of these seems to me to fall into one of these areas. It is a question of which at which time. There is some degree of overlap.

We had a discussion about deployable units, which falls in the command policy issue. Frequently these days, deployable units may more often occur in ones and twos. This raises unique issues for the maintenance of unit morale, in terms of the question of protective functions against developing PTSD and other disorders such as dissociative disorders. Understanding the contributions of leadership as a potential protective function against disorder or distress in women, in particular in deployments in ones and twos, focuses us on the whole area of leadership. Once again, we are talking from the people side and leaving in the backdrop all these issues that we said are particularly important for understanding the issues of women. I thought this was interesting because of the comment that if you are deploying in ones and twos, which I think Dr. Campbell and Dr. Belenky mentioned, you have less in common horizontally than you do vertically. In some ways it further emphasizes the contributions of leadership because it is the only thing that is in common among the people who are going out together.

The question of deploying in individual pieces also raised particular stressors related to breaking up and re-forming units. The advantages and disadvantages that may bring to performance, function and disease among different individuals were discussed, if you have to reform the question of how bonds are reformed, at the individual as well as unit level. If you send a squadron to Saudi Arabia, how does that squadron relate to the other squadrons that are present? If you send two people, how do they begin to integrate into the group that is present? Gender differences may also be reflected there as well.

I thought a very good discussion occurred around this question of the role of alert status. It may be that in the medical area we may be under-utilizing the question of putting people on alert. We know from the side of decreasing the degree of distress, one wants to focus on the questions of controllability for individuals. As Dr. Solomon eloquently put it, if you can't focus on controllability, at least focus on predictability. This might have an effect on a policy of calling up people two hours before they are to deploy. Although alert status doesn't provide an increased control over what is going to happen, it does provide an increased predictability of what is going to happen. It may, in fact, decrease some areas of anticipatory stress. A sub-codicil of this is perhaps wanting to understand anticipatory stress.

Important issues to understand include the questions of single parenthood, previous training, and differences in the role of controllability and predictability in the present world because of missions coming up rapidly and in short periods of time and it being unclear what those missions are and how those may affect genders differently. Issues such as the role of locus of control by gender or by training by gender may be the more important issues.

We had another discussion which I thought was also super around the role of inoculation training. The National Guard is presently using this strategy in the training that it is providing for its medical people. There is lots of interest in knowing if that works. It may be an opportunity to leverage research and applied studies. Areas such as this offer unique opportunities for the nation, not just the military, to understand if this works or not. The alternative to inoculation is sensitization; you have made the person more resilient or more sensitive.

There is data that both could happen and one could ask about whether or not gender enters into that question. There is some data that came up from the discussion around Dr. McCarroll's work on mutilation fear and differences in mutilation fear by gender. This might in fact address some of the training needs around that as well.

We were talking this morning about the question of NCO's (non-commissioned officers) particularly in the Air Force where enlisted members can be potentially involved in going out and walking through a field to pick up the parts and pieces of bodies after a crash. We know from Dover Air Force Base that they are particularly vulnerable because they haven't had previous experiences. So, the question is how should we be training the people who are going to have to be involved in those particular types of exposures. There is some data to say that men and women differ in that area. It is a nice opportunity from lots of perspectives.

Going back to this issue of deploying ones or twos relates to "the red-headed stepchild" concept. This is a very nice image of someone who stands out and feels different and feels like they don't belong. There is this issue of how one integrates individual elements when, in fact, they have been deployed. Of course, if you are one woman among ten men, just by the demographics of it, you have a strike against you in terms of your red head being brighter. The issue of that kind of integration within units may be very important to look at. There is data about that kind of issue and certainly there should be command policy about that. General sensitive leadership may be the best application to that principle, including don't deploy individual people.

We talked about the question of readiness training to include things such as the treatment for family practitioners, primary care providers, and treatment of depression and somatization disorder in outpatients. We get a dovetail effect around some of the issues. I know CDR Dinneen is very interested in including the question of hospital utilization. We know that not only is PTSD an issue of trauma, but depression and somatization disorders are also. They may go up or not (and we need to know if they do in our population), but we would expect it in a rapidly rising tempo or perhaps after the tempo has gone down. We discussed which ones might be more important where those types of disorders might occur, not only of those people who are deployed to a desert, but also those people who are back here trying to support them. They have found themselves working 23 hours a day because they only have half as many people around as they used to have. Have we trained people in the treatment of these areas which may, in fact, be the core issues of their readiness functions when they are back here in a hospital? We should not only think about those people that are out in the desert as well.

We talked about the question of exposure to the death of children as being a particular stressor that has not been thought about much in the military at all. That is one that is coming up in CDR Dinneen's and Dr. Belenky's experience. It happens in the present missions that people are sent on. Very little thought has been given to how to deal with that unique stressor that people are exposed to.

We had a discussion at the very end, I think after most people had left, where Dr. Belenky, Dr. Campbell and I were sitting here talking about whether or not there should be some type of certification process for military readiness. Should there be issues of a militariness and fellowship that would be particularly for health care providers, but across all health care providers; the issue of physicians and nurses? I want to underline the question of NCO's, mental health technicians, and how one might think about that; whether that is a month-long course or a year-long course.

We can think in grand terms. We have done parts and pieces like that at the university that included an MPH degree and a political piece with research. It can include making use of the school of aerospace medicine. It can include making use of the flight line at Andrews Air Force Base. There are lots of ways of thinking of putting that together, from a day to a week to a month to several years. If we want to have readiness embedded for political reasons as well as for care reasons we ought to go forward and do that.

The other sub-codicil of that is this issue of readiness training that is appropriate to the health care focus and specialty areas. In other words, I don't favor the idea of training family practitioners or psychiatrists in an ATLS or an ACLS. I would love to do it. But to tell you the truth, it isn't going to be the kind of thing I would do during the readiness time. The questions of how to manage acute psychiatric disorders, depression and somatization disorders are areas that need attention during readiness. That may vary by service as well. One wants to think about that.

How not to put people all into the same box is the bottom line. How to carve it out so that it matches the various needs is the issue. What might be the particular needs in readiness training for nurses in command positions in contrast to what might be the needs in readiness training for nurses that are going to work in ICU units? We need to think a lot more deeply about these issues rather than just cookie cutters.

Colonel McCarthy, who is probably in her early 60's, had trained and done work at Walter Reed when it was an advanced nursing school. She met with us in consultation recently. She talked about a course, Nursing Arts III, which is another codicil to the issue of readiness. The course had to do with "making do." Nursing Arts III was learning "how to make do," which is, in fact, frequently the principle of the application of medicine in combat; an art which is being lost.

That gets me through the notes as to where we were at. There was one other comment that I want to make sure that you captured. Dr. Nunneley was saying that we have to pilot things; pilot in the sense of "try out" things with women, so that they had the opportunity to come up with solutions which may be somewhat different than the solutions that men come up with. We certainly need to address the questions of appropriate equipment for appropriate individuals, which is in part the issue of recognizing the diversity of our forces.

I think without too much effort I could probably put these into four different categories: research, training, command and policy. Several of them would have implications in each one of those categories.

COL BELENKY: That is a wonderful summary. It really makes the group look terrific.

DR. MANNING: I would actually like to hear more discussion about the medical readiness certification idea.

DR. URSANO: Is there a certificate involved? Is there a place to go?

Lt Col CAMPBELL: Currently, just your hospital privileges are at stake.

DR. MANNING: You can't practice unless you have a piece of paper from whom, saying what?

Lt Col CAMPBELL: I would imagine it would be a service unique training in medical readiness. I don't know exactly what it means for the other services, but we have continuous medical readiness training.

Privileging is a unique kind of boundary issue that is a lot less defined than issues of licensing and yet tremendously influences what can be done by health care providers. You can have all kinds of credentials, but if you are not privileged in your hospital to do it, you can't do it.

So, to answer your question, I would imagine that there would be some type of certification. Right now we have the medical readiness office that basically keeps this form that says that you have this class or the other.

Col McKENNA: So, you couldn't deploy if you didn't have this.

Lt Col CAMPBELL: You couldn't get privileged, period.

Col McKENNA: Not even in peace time.

Lt Col CAMPBELL: Exactly. I mean, that is the extreme that they want to take it to. I think they will probably back off.

Col McKENNA: If you had a system that you couldn't deploy unless you had these privileges, there is another side to that. I mean, we don't have people standing in line to deploy.

DR. NUNNELEY: There are other ways to enforce readiness. For example, I can't go on leave and I can't go on TAD unless I have it. There are other ways to deal with enforcing readiness. I think that is a big issue, looking at our readiness training and looking at what we are doing, because we are training the same way we have always been training since I came in the Air Force. We are deploying completely differently.

When we deployed to Panama with tents, the physicians were simply not prepared to work in that environment. They thought they should have everything they had at home. They had never been able to think through or work in a different environment where they didn't have all the technology that they had at home. Then we go back and train the same way we did last year and the year before.

Lt Col CAMPBELL: It seems to me that at least in the Air Force the training that you get at a stateside base is just that. You do basically a day-to-day job. However, when you are overseas, it is completely different.

Lt Col LEBEGUE: I have another part of the discussion. The guard angle is two-fold. One is that we are only privileged to do basic physical exams. We have no other privileges on this weekend business. In order to be privileged to switch over from part time to full time military, to go through that process at the time of evacuation, which is difficult, would require relying on whatever records may be available from a civilian practice and whatever our training and experience might be. I will tack a name on it. CAREFORCE is the pilot project for five states for training in the civilian hospitals which currently attempts to bridge or remedy that deficiency. It is a project to get people doing things that they would do if activated, but in civilian hospitals.

Lt Col CAMPBELL: I think it is one of those sort of catch phrases. You can't simulate poverty. You can't simulate not having the things to do the work, if you are really there. That has been everybody's experience when they deploy. You want to do it like you did back home but you get used to the idea that you are not going to have exactly every kind of suture that you want.

DR. URSANO: There are some ways to simulate that environment which Dr. Belenky has done in working with the state of Maryland on the training of emergency people. They set up to do their training the way they normally have. Then literally part of the training is that a bomb goes off in their box of sutures. The cardiothoracic surgeon gets killed; you continually decrement what is available. The stress on the team to meet the demands, of course, goes up, as well as the demands on their creativity to come up with how to solve the problem. We don't make use sufficiently of what engineers would call failure mode analysis. This is when you take the wrench and you throw it in the air conditioner and say, "Gee, what happened? Well, figure it out." This is not scenario 703. This is one where you have got to figure out what went wrong and figure out how to fix it.

CDR DINNEEN:: We take our deployable teams down to Camp LeJeune and they send us out in the woods for three days. I know the Air Force does a similar thing. That helps.

COL BELENKY: The Army calls that fighting in the degraded mode when nothing works; when all your high tech good things go away and you are back to World War II. The Army also has deployments from Walter Reed. I must say the friends that I have on the medical and surgical staffs there do not take it very seriously and find it to be an extraordinary pain.

DR. MANNING: Because they are treating no patients?

COL BELENKY: It is a waste of time. The perspective in this room is so different in terms of seeing that as something you really need to know.

DR. URSANO: There is a culture gap.

COL BELENKY: A culture gap, yes. These are USUHS trained people. These are well-motivated physicians. They are good people. But they don't see it at all.

Lt Col LEBEGUE: Is this a gap between peacetime clinical medicine and operational medicine?

COL BELENKY: Yes.

DR. NUNNELEY: We ought to assign some of those people out to a mission hospital.

Lt Col LEBEGUE: Does the active duty do that? The guard does that. We do humanitarian missions in small groups all over the hospitals.

DR. NUNNELEY: I say that because I did it as a medical student. I went to Uganda back before the days of AIDS.

Col McKENNA: It goes back to many women that have never even left the States before. They have never had to deal with not having the ability to practice medicine the way they do in the United States.

DR. NUNNELEY: I went to a place where they were boiling glass syringes, they didn't have any disposables. We learned in a hurry.

I have a question related to our opening lecture about the changing nature of the battlefield. We had a discussion at dinner last night about laser blinding. I just wonder to what extent our discussion here relates to fighting the last war. Maybe we need to be looking at the next one, where the injuries may be different and the conditions may be very different. Relative to women, I am thinking if you are talking about high tech weapons systems, including high tech things that can bite you, it may not matter at all what gender or color you are. If you are a human being you can operate the thing and you can also get injured. We may be going beyond issues of strength.

COL BELENKY: That is my opinion.

DR. NUNNELEY: We are currently moving more into issues of long working hours, high tech decision making, and deterioration in your ability to do that kind of thing. There is a book that looks at systems operations. I would hate for our group not to have a chance at discussing what might happen in five years.

Lt Col LEBEGUE: If we extrapolate from what we have done with what the Guardsmen had to do in the last couple of years, the question is not just that it is going to be the high tech stuff, it is also going to be getting hacked by machetes.

DR. NUNNELEY: Right, it seems like we are going to have both ends of the spectrum. We are going to have these contingency operations with no name and no status with machete hacking and dying children. You are also going to have these really high tech screens - Star Wars things.

COL BELENKY: We may very easily be going from one to the other just by turning your head.

DR. URSANO: Does that need to be a service-dependent mission? You can't train people to do all things across that kind of world.

CDR DINNEEN: Again, it has to do with where in the training cycle you are. The thing that was most intriguing to me yesterday was the issue of women in boot camp and the failure rates and the association with prior histories of abuse. Maybe there are some issues there that would be amenable to a research methodology where you had some very specific interventions with a set of women who go through boot camp, to see if it made a difference with regard to failure. We could follow up on that research and design something.

COL BELENKY: That is like one of those things where a little bit of effort and a little intervention would go a long way.

DR. NUNNELEY: It wouldn't just be the women; we would be identifying some of the young men who had similar problems of susceptibility.

COL BELENKY: In Dr. Marlowe's cohort studies, he found that having people train together and deploy as a unit provided people with a more positive sort of valence toward military service that lasted for years. The initial impression gained was that people here are interested in me and see me as a person. They are interested in my doing well as well as the service.

Lt Col LEBEGUE: Is that a Basic Training intervention?

COL BELENKY: Well, it basically went beyond Basic Training.

DR. NUNNELEY: From Basic Training to the first assignment as a group?

COL BELENKY: Yes, right, through AIT (Advanced Individual Training). It really cemented a military identity. A positive early experience really had a positive effect.

Lt Col LEBEGUE: Why don't they do that with the reserve components?

CDR DINNEEN: I was thinking more of Parris Island. You could take a group that comes in together, help them in together, and you could design something specifically for that unit. Then you could have a control unit right beside it, that comes in at the same time, gets the same training but it doesn't have that one bit of support that you are trying to put in. As a research methodology, that is a possibility there; and you have the place. You probably also have some interest and there is some background where you know that there is a problem.

We spend a lot of time on screening; trying to screen people out. I don't think there is that secondary prevention program where you identify a group that is at risk for something and then apply some type of psychoeducational program to that whole group to see if it has an impact. On the clinical side it would be very exciting to be involved in that.

DR. URSANO: I think Dr. Nunneley's comment would be to address the generic issue of what is there. It may include more women under it but the issue isn't gender. The issue may be weight below 120 pounds.

CDR DINNEEN: I don't really think there would be a gender issue.

COL BELENKY: More educational issues?

CDR DINNEEN: I think you might be getting into this "men-are-from-mars-women-are-from-venus" thing, in the way that training has always been derived from that.

COL BELENKY: Even the elementary school is focused on that. Focusing on learning verbal skills forces you to do that, because men won't do that spontaneously.

CDR DINNEEN: It really should be called Basic Training for Men right now.

COL BELENKY: I agree. It is not tailored. I think Dr. Ursano, from your point, if you want equivalent outcomes, you may have to have very different training. I think that applies in the cognitive realm as well as in the physical realm.

DR. URSANO: Do we have any examples, Dr. Nunneley, of cognitive training research strategies for identifying enemy planes that are different?

DR. NUNNELEY: No. As part of the Defense Women's Health Program some of the people in our group have a study of all male, all female, and mixed groups using AWACS (Airborne Warning and Control System). They have displays or computer simulations of a battle scenario and they are actually studying interactions. They haven't told the subjects that their goal is a gender study. They have just told them it is teamwork.

COL BELENKY: Who is doing that?

DR. NUNNELEY: Her name is Linda Elliott and she just joined us relatively recently. There are two kinds of volunteers. Some of them are actually AWACS's people and some of them are college students.

COL BELENKY: Cognitive function in a group is a distributive thing, but it is still cognitive function.

DR. NUNNELEY: They wanted to get away from picking the cognitive function into bits and into a more realistic setting.

COL BELENKY: Absolutely. It is a real way to study cognition.

DR. URSANO: It is an efficacy study in contrast to an effectiveness study.

DR. NUNNELEY: They were worried about communication. Communication has to be on the same wave length about what is going on and they all have to catch the important bits of information as they go by. The question is when you have a team that has six men and two women, whether it might tend to function differently than vice versa.

DR. URSANO: Have they correlated that with any census issues?

COL BELENKY: That is the same issue.

CDR DINNEEN: That is the same as Dr. Ursano's comment that what we are looking for is demonstrating efficacy and effectiveness, when one thinks about pharmacologic issues. You can have tremendous effectiveness, but if it will affect its efficacy when applied in a particular setting, it may not be very good at all. The population that it gets used with in the hospital may be quite different than the one that NIH (National Institutes of Health) used.

I think it was related to your comment, Dr. Belenky, which was the phrase, "distributive cognitive function." The "distributive cognitive function" is a system itself, separate from the question of the individual cognitive functioning occurring at the brain cell level. So that, studying "distributive cognitive functioning" is, in fact, an area of the question that needs further work.

DR. URSANO: Is that a term that is out there in the literature, "distributive cognitive function?"

COL BELENKY: Absolutely. Basically, one could reason that these very small mean differences in cognitive balance or verbal/spatial ability between men and women would wash out in a "distributive cognitive system."

DR. URSANO: That has applicability at the AWACS level, at the command center level, and it has applicability in terms of how you set up the command element of a hospital.

COL BELENKY: Tank crews.

CDR DINNEEN: Board rooms of ships, navigation.

DR. MANNING: On flight decks, as long as you are still under the captain, or in my studies of the FAA (Federal Aviation Administration) on crashes and what went wrong. It is not that some of the people didn't know what was going on or see the thing that was going on, it was that the captain didn't want to hear it.

DR. NUNNELEY: Competent resources.

DR. URSANO: There is a wonderful old video that was used in the training of the Air Force. I think the actual event was some time in the 1950's, in which the pilot and co-pilot are getting ready to take off and the co-pilot in fact is somewhat depressed because of a recent death of a family member.

As they are doing all their check offs and they start taxiing down the runway, the pilot turns to the co-pilot and says, "cheer up," and the co-pilot hears "gear up." The gears go up and the plane goes down.

Lt Col LEBEGUE: I thought that was just a popular story.

DR. URSANO: No, it is actual. It is an example of this issue of the way cognitive functioning in a group has many other variables.

DR. NUNNELEY: The Defense Women's Health Study will be finished September 30th. We have to finish the data collection by September 30th.

DR. MANNING: It is going to be tremendously expensive, though, when the individual subject is actually a team of people. Will they run several dozen teams through?

DR. NUNNELEY: I don't know if they are going to take the same people and configure them different ways, or bring different teams in.

COL BELENKY: They are probably going to have to use the same people in different ways, because they are using college students and some that are not college students.

DR. NUNNELEY: It is two different studies. They are using college students in a more basic setting rather than actual AWACS and then they are using existing AWACS people. It is a two-part study.

COL BELENKY: We are doing a sleep dose response study. We have a group cognitive task starting in September.

DR. NUNNELEY: You might talk to them because they have some game or simulation that they are using for the college students that comes on pretty quickly in terms of training and then exhibits the group characteristics.

DR. URSANO: It sounds to me like we have not begun to apply this conceptual area (that you two are very familiar with) broadly into the many areas into which it at least metaphorically has applicability. It should at least be used as a paradigm to think about some of the issues that come up. I am sure that it doesn't come up in the command element of the hospital at Andrews, or at Bolling, where you all sit around and talk about "distributive cognitive functioning;" meaning the seven offices that are supposed to be talking to each other. This is a very helpful kind of paradigm as to how it might inform other areas.

COL BELENKY: The other thing that is very important is we need outcome measures. The outcome measures need to be rooted in the performance of the team. We need some way to measure the team's output, because if you just look at communication patterns, you are not going to know. You may find differences, but you are not going to know if they are interesting differences that make a difference, or if the overall function of the team is better or worse.

You have the possibility in simulation to do that. However, as Dr. Manning says, if you are talking about running large numbers of teams through in order to get enough of a population to reduce the variance to be able to see effects, performance measures are critical. If you just end up with circular reasoning, biting your own tail, and you are looking at communications patterns for the sake of looking at communications patterns, nobody is going to pay any attention. If you show that it has an impact on performance and output widgets, through-put, or correct answers produced per unit time that we use in the lab, and we can apply it to the field with some productivity measures, people will pay attention.

DR. NUNNELEY: If you are talking about command groups or anything where you may suddenly have an element of diversity, whether it is females, Asians, or blacks, is that if people have had in their military careers at least one experience with that kind of thing, where it worked well, then you knock down the barrier. There might be some way to use that phenomenon in training.

Col McKENNA: Well, what we are doing is at such an elementary level from where you folks are, but what we have used in our organization is the Meyers-Briggs. It is useful in just beginning to open the door and say that there are differences in the way people think and do business and have preferences; not just between men and women, but maybe between internists and surgeons. Moreover, if there are differences and we can be accepting of those differences, we may also capitalize on them. That is what we have done in terms of team things in trying to build our organization.

DR. URSANO: I think that is very helpful because you have a system where you can reify the temperamental differences and the differences in style. That makes them real for people.

Col McKENNA: The biggest part is that differences are okay. It opens the door and gives permission for differences to be okay. You can't be critical because someone doesn't exactly do or like to do what you do.

DR. URSANO: Two groups might have the same work out but be internally organized and interact in a quite different way. Their output might be quite indistinguishable, and both good.

DR. MANNING: There is a marvelous article in the psychiatric literature specifically focused on the question of psychotherapy, but its title is what was most valuable. It is called The Fox Versus the Hedgehog. It dealt with different cognitive strategies being used by clinicians in their treatment with exactly the same outcome.

DR. NUNNELEY: May I go back to something? Leadership is very important and something that I think we miss the boat on. We were talking earlier about the incidences of sexual harassment and people who felt like they were sexually harassed and the ones who were harassed attributed it to bad leadership. Who was talking about that earlier? It is something that I think we have not done a good job at. I think we have not done a good job at identifying leaders. I don't think we have done a good job of bringing up people to be leaders in the Air Force. I don't know about the rest of the services.

To me the sexual harassment piece is just a symptom of bad leadership. It would be nice if we could look at it. It is such an ambiguous term. What is good leadership? Maybe we should go back to the ones who thought they weren't sexually harassed because the leadership was good; maybe we should go back and see what kind of leadership they had. We shouldn't just be looking at the bad leaders, we should be looking at who is doing it right, too, and figure out how do we identify the training needed and how do we train good leaders?

COL BELENKY: Just to amplify on that, you might find that the actual initiation of sexual harassment might be the same at both units with the good and bad leader. However, in the units with the good leader, the people who are being harassed or are starting to be harassed, were empowered to basically put a stop to it, knowing that if they needed to take recourse to command structure, that they would be listened to. So, it snowballs.

Col McKENNA: My guess is if you are looking at other things where the leadership was not good, there would be more than sexual harassment.

COL BELENKY: I agree. I think that is absolutely true. I think it is the willing behavior on the part of superiors and subordinates and that goes out of the sexual harassment arena into a lot of things. Leadership climate discourages or permits things to occur. The paradigm of the bully describes a lot of this.

Lt Col LEBEGUE: What training, what mentorship is there for woman leaders?

Col McKENNA: The same as there is for men.

DR. URSANO: It seems to me there are more examples for seeing or watching for men than there are for women.

Lt Col LEBEGUE: You mean in terms of models?

DR. NUNNELEY: You look at male models because that is what is around.

Lt Col LEBEGUE: I just saw a Guard unit, that has a black woman nurse commander. She is the first in the Guard and she has no role model to watch and follow.

DR. NUNNELEY: You are saying she has no female role model and maybe no black role model, but that doesn't mean she can't get some good things from the people who are above her.

Lt Col LEBEGUE: Yes, I don't dispute that.

DR. NUNNELEY: You may be unlucky and not see anything good or useful in those people, but if you are fortunate, you take your role models.

Col McKENNA: You learn something from everybody, good or bad.

DR. NUNNELEY: You are right. It is better if there are role models that are more like you.

COL BELENKY: There were two events, and one in my own department of Behavioral Biology, which is a small department of twenty people that I think of that I would like to mention. We had a situation where an NCO was sexually harassing a female officer. As department chief I was blissfully unaware of it. The immediate supervisor, a relatively senior man, a physician, a nice person, and a good scientist was basically counseling the NCO on his attitude. Since the NCO was Hispanic, the officer thought that his behavior was representative. He made an intervention, but all it did was condone the behavior. The NCO was a bully and was bullying everybody. He would come in my office and try to sit on my desk. I saw the officer in question sort of sitting around the conference room looking more and more depressed over a period of weeks.

I finally asked her what was wrong. She told me and we had that man out of there the next day. These were basically well motivated, well meaning people, with the exception of the perpetrator. Education there would have been very helpful. There were actually two officers involved. If they had had even the most short and to-the-point kind of training on these issues, I am sure they wouldn't have done it. That is my opinion.

CDR DINNEEN: How long does the training last? How long until it goes away and is forgotten?

COL BELENKY: The other thing is from DESERT STORM before the ground war. There was a medical company that had a commander who basically told his people, his PA's (Physician's Assistants) and doctors, that since he had a family it was important that he get back. He said they didn't have children, (and he had a lot of women in his group); it wasn't so important that they get back. He was out at night with his night vision looking for alleged perpetrator terrorists. This was a man who had done very well in a garrison hospital setting and was viewed as a good leader, a competent person. He was somebody who had both medical and administrative skills and saw the big picture who, in the actual operational context, went totally belly up, totally unpredictably. I talked to one of his physicians, a woman doctor who had worked with him in clinic who basically said she had no expectation that anything like this would happen once they got into the operational setting. I mention these two anecdotes because they impressed me with the fact that these are people who had made it through all the selective filters.

DR. URSANO: I certainly agree this issue of leadership training is important. I just don't know how to tackle it in a way that is actually effective and helpful.

CDR DINNEEN: I think it goes back to Dr. Belenky's comment about outcomes.

DR. URSANO: Yes. One of the issues that I think we lose track of is that leadership is a 20 year investment rather than a one-week course. It may have to do with whether or not we are doing sufficient career planning over time. Are there other pieces to leadership development other than saying that, of course, we want to have good leaders? How do you want to tell them to do that? What do you want to tell them to do? I don't think anybody wants to say, "yes, everybody should go take another X course."

Lt Col LEBEGUE: You can always throw them out in the trenches someplace. Readiness training involves deployment and being put in the leadership role. Is that part of this discussion?

Lt Col CAMPBELL: Not any readiness training that we are a part of.

Col McKENNA: The other part that is interesting, though, is leadership in peacetime and leadership in wartime. Look at the men, the generals in World War II in the Army. How would they survive in the Washington, D.C. area today? Peacetime leaders and wartime leaders. We are talking about two different animals.

COL BELENKY: There is the folk myth that what happens in the military is that people get promoted by looking up and pleasing their superior. The superior never really looks to see what the subordinate is doing with his or her subordinates.

DR. NUNNELEY: I have seen that.

COL BELENKY: That is one of the things where there is a real blind spot. The Israelis solved this by using peer evaluations as a significant input into the overall evaluative profile early on when they are deciding whether they take people in as privates, make them NCO's and then make them officers. It is in the transition from NCO to officer that they rely heavily on peer ratings as well as course scores, as well as initial test scores and aptitudes and so on. They sort of balance the three things. Peer ratings is what is missing in our evaluation system. They may have a better view, you can fool a superior but you probably can't fool your peers and you certainly can't fool your subordinates.

DR. URSANO: The studies on schizophrenia are a wonderful example of that. In fact, the best way to identify a schizophrenic child is not to ask the teacher, but to ask the students in the classroom. They have better predictability on the presence of a schizophrenic child than do teachers. It also becomes, how do you train people in using peer evaluations? We do that also with students. We get student assessments of teachers, but people have to listen to those with multiple ears simultaneously as well.

COL BELENKY: Yes, you can't make it a popularity contest.

DR. URSANO: Exactly.

COL BELENKY: That is why I said peer rather than subordinates, because peer kind of takes it out of the popularity contest.

DR. URSANO: Peer versus subordinate?

COL BELENKY: Yes, peer versus subordinate. It seems to me that would be the level to do evaluations.

CDR DINNEEN:: Then you get into competitiveness issues.

DR. NUNNELEY: They structure it differently.

DR. URSANO: You would have to think through how to train people to make use of the ratings.

DR. NUNNELEY: There is a study going on at Armstrong Lab where they are trying to learn about the really good pilots in combat situations. What they are doing is going to squadrons that volunteer and getting each member to say which other person he wants to have in the lead, and which other person he wants to be on his wing. They are making it anonymous but they are putting it together to make a structure that comes out with a rating of who is really well rated by their peers for their piloting abilities.

Lt Col LEBEGUE: A top performer study?

COL BELENKY: Of the group of your peers, who would you like to lead you is probably a question that gets good answers.

DR. NUNNELEY: And who do you want on your wing?

COL BELENKY: Those probably get good answers.

DR. URSANO: When you say "on your wing," the metaphor is to mean who beside you and who in front of you?

DR. NUNNELEY: Yes, who leads and who works really close and has your life in their hands.

Col McKENNA: That is how the Air Force gets leaders. That hot shot pilot that does really good as a pilot will then become the future leader in the line Air Force, which doesn't necessarily mean that because he was the best pilot he is going to be the best officer. It may be a different characteristic.

DR. URSANO: It has detriments as well, but I must say I like the idea to throw another piece into the pot, at least. It clearly can stereotype people. It can choose someone who is doing a superb job; jobs also make people, as well as people make jobs. Someone who is doing a superb job in the job they are in, in fact, gets seen as, "boy, that is the person I want on my wing," where in fact that may also be the person who would lead but they haven't been in the position to exercise those abilities or demonstrate them. So, someone has to factor that into the pie as well.

DR. NUNNELEY: If they are getting the information from everybody in the group and putting it together, you get rid of the individual best-friend kind of situation.

DR. URSANO: I wanted to also return, Dr. Nunneley, to your comment you made earlier because I am not sure I followed it; that if someone has had an experience, a good experience, in a distributive cognitive function setting -- is that what you are saying?

DR. NUNNELEY: Any setting, I think. It is a breakdown of stereotypes, if you will. If you have been in that situation, even if it wasn't your permanent team, but you have been sent out to Camp Bullis to do your survival training in a mixed group and it works out well, then you will never again have the same attitudes of stereotyping and so on. It probably has to be under at least some level of stress.

DR. PAGE: Kind of a military Outward Bound?

DR. NUNNELEY: Yes.

CDR DINNEEN: That, I think, is a really good point.

DR. NUNNELEY: For instance, having women on the team where you do physical work and you actually go through the chores and figure out how everybody can work together to do these things and you don't have a weak link. Well, that takes care of that idea.

CDR DINNEEN: I would underscore that 1,000%. They forced us to do this at Walter Reed. I was one of these reluctant ones. I did some of this four or five months ago. We were at LeJeune and camping out; men and women. Some of the women did significantly better than some of the men in carrying litters through an obstacle course, and solving problems where, again, they decremented us. They came in and they blew things up at 4:00am and you had to get out in 30 minutes. It was strenuous and people had injuries. When I see those people around now, I still have a warm sort of feeling.

DR. NUNNELEY: Even if you are put into a team with other women your attitude wouldn't be the same.

CDR DINNEEN: I have a lot of team experience with women but I think some of the younger men on the team might not.

Lt Col LEBEGUE: My own experience with women in survival camp did generalize. That was a new experience for me. It stuck with me.

DR. MANNING: Things could go poorly. Many of these things are elite kinds of training things. The people putting them on feel like they won't be quite right unless they fail a certain number of people and a certain number of the teams going through.

COL BELENKY: You could focus this training. The Army does airborne training now. The Army totally eliminated all the harassment. They now have the same NCO cadre taking them through the whole thing rather than changing every two weeks so they are fresh and angry. In fact, the goal that they focus on now is jumping. The idea is to get everybody to jump, and if you jump you are qualified. That is the thing that is being taught.

DR. URSANO: By jump you mean out of airplanes?

COL BELENKY: Yes, and I am not talking about startle response. It sort of turned the training inside out and their percentage of people graduating has gone way up. The idea is that if you get somebody through that, you are going to increase their self esteem and you are going to increase their feeling of self worth. They are going to feel better about themselves and they are going to do better.

CDR DINNEEN: That is sort of the Outward Bound versus boot camp.

COL BELENKY: You change the attitude. You can design the thing to be challenging with shared hardships, shared dangers, and shared privations. That really cements bonds between people.

Lt Col LEBEGUE: Have they tested the outcome?

COL BELENKY: Well, they are getting a lot more people through jump school.

Lt Col LEBEGUE: That is one outcome. Another outcome is how well will they do in war?

COL BELENKY: We don't know.

DR. URSANO: Is there a way of saying that, something like train for success rather than creating breakdown? Dr. Marlowe was using a phrase, "breakdown training versus success training." Is there some phrase that is used to distinguish those?

Lt Col LEBEGUE: I think Outward Bound versus the initiation rites.

DR. URSANO: I don't mean to sidetrack the group at all, but let me just throw this in because it has been on my mind. I would like to say it so that other people hear it and so that I feel a little bit more comfortable about it. It occurred to me yesterday in talking about male bonding that maybe it is really a special case of bonding between humans when you don't have the normal distribution of men and women as a group. It may be a subset and may have some peculiarities as a result of being a subset. It may be that in the long haul or even in the operational environment that a mixed group will do better.

CDR DINNEEN: I would have to underscore that. I do a women's group, a men's group and a mixed group. I underscore that. Also, Dr. Singer who is here, has currently been going around to women's groups in San Francisco and her husband has been going around to men's groups, and men and women's groups. I think that research ought to be very interesting from what she says anecdotally on that, whether there is data on that, and whether the heterogeneity can be put forward as a strength.

DR. NUNNELEY: Will they be without feelings that go into the mode where the men are going to protect the women? You hear about trench warfare in mixed groups.

COL BELENKY: That again is focused; a very specific example. If you want to do the Ronald Reagan example, you can always find an example to support your point. The point is the general outcome. I think we have a strong argument there that maybe we should stand this whole issue on its head and say that actually the expectation should be that it would be more adaptive; a synergy, not less, and that you will have a more effective group if it is mixed. People ought to go into it with that attitude.

DR. MANNING: I think you are going to encounter people who will argue that "if it ain't broke" they shouldn't be fixing it.

COL BELENKY: Right. You have to realize that it is adaptive for some people to defend the status quo.

DR. URSANO: Let me go back one step because I want to make sure we address this. I think we will put that with the heterogeneity piece.

COL BELENKY: Absolutely. I wanted to say it.

DR. URSANO: When you were talking about this leadership training, one of the critiques that might come up might be that is what the staff college is for, or what the war colleges are for. It is to bring together a group of heterogeneous people, have them work together, and solve difficult problems in terms of waging war, command and control, leadership and confront the issues; have them do that together as a group. We already have that.

The thought I was thinking about was that in fact we don't actually have that for medical people in particular. We lack for medical people that setting that both creates that diversified network across services, genders, races, and ages where they are engaged in the particular types of problems that they are most likely to meet and to have to deal with.

Frequently, attendance at war college and staff college is to introduce a broader view of the service's operation but may not, in fact, provide more depth for the medical person in the area in which they actually spend much of their time.

Number one is the critique about someone saying, "we already have that." Number two is the suggestion, does that apply to the medical part and should there be something in that mode?

CDR DINNEEN: I think you have a natural environment to test that hypothesis because the Army, unless I misunderstand, sends a lot of its medical people to staff college and the Navy doesn't send anybody to staff college.

Col McKENNA: The Air Force sends very few to the intermediate air senior service school.

DR. URSANO: I asked Dr. Llewellyn this last night. It was somewhere around 10. We are not talking huge numbers of the commanding staff. I forget the number he gave me but it was not large.

Col McKENNA: I went to our war college and there were eight women out of three hundred fifty men. It is not a real mix to speak of. I was the only medical person.

Lt Col LEBEGUE: There is no medical military PME (Professional Military Education).

DR. MANNING: I guess when you are talking about staff college, you are talking about within combat arms and infantry. That is not a heterogeneous group. They are selected in some fashion for homogeneity. Another place to study that, is back at the survival training camp at Fairchild for the Air Force. I don't know what there would be for the other services. There are both men and women going through that and performing the problem solving and understanding of the POW experience.

DR. URSANO: This is where again?

Lt Col LEBEGUE: Fairchild Air Force Base. It is a two-week survival training course for all air crews.

DR. URSANO: In some ways these kinds of meetings are some of the few times in which cross service, cross discipline, cross health specialty areas actually occur to deal with readiness issues. Something is wrong with this picture. This is an exception. This is not the rule.

Lt Col LEBEGUE: And the medics on the flying staff.

DR. URSANO: That is right. Actually, the School of Aerospace Medicine is one of the spots where a group of some health care providers, but not across all health care providers, could meet. Does the Army or Navy have any spot where all health care providers get a particular type of training over an extended period of time, like over a week?

CDR DINNEEN: At points in your career you are supposed to do different things.

DR. URSANO: It tends to be about a week long.

CDR DINNEEN: There isn't a long-term thing.

Lt Col CAMPBELL: Their flight surgeon course is six months.

DR. URSANO: There is something with this picture that doesn't match. It is this issue that we keep needing professional military education and readiness and the reluctance of people to engage in this because it doesn't seem relevant. I like the issue of mission hospitals where it deals with the question of making it relevant.

DR. MANNING: There are two number one priorities. One is running the hospital and the other one is being ready for war. The problem with that is you can't have two things as your number one. The thing that is immediate or present takes over number one by default.

DR. URSANO: Let me run a few other things by you to make sure that we have covered everything or to see if it jogs anything in your memory banks that you want to say.

On the conference side, remember that we had the initial talk from Dr. Llewellyn, which was really the future battlefield issue, the ecology issue and some of the issues he brought up there in the changes in the amount of information coming in and the changes in weaponry that would be occurring.

We had Dr. Sutton's presentation on the changes in the availability of resources and expanding opportunities for women over time.

We had Dr. Holloway's discussion, which really spanned from the question of economics to the national interest to the issues of stigma that can be attached to the gender issues. Certainly that reminds me that one of the things that I think we ought to put prominently is the issue of being alert to how communication about issues around gender can be misused.

We had the presentation from Dr. Wolfe that spanned from PTSD to Operation DESERT STORM looking at issues of sexual harassment; particularly looking at Time One versus Time Two, and the question of decreased symptoms at Time One increasing to Time Two and the problem of self report.

I am iterating thoughts to stimulate your memory banks. Let yourself think about what you remember about those talks.

We had the panel, which Dr. Marlowe presented, around cohesion. The panel discussed the importance of culture, which we have really not said too much about, and the questions of the contributions of the way in which we categorize things; to the ways in which we decide to solve them.

Dr. Nice and Dr. Thomas' discussion focused on the multiple Navy studies going on; the on-board ship environment. We really haven't addressed too much about the Navy. Are there any unique Navy pieces that we have missed dramatically that cut across things? The pregnancy issue as being a complicated story was discussed.

We had Dr. Rundell's comments about being alert to how research can be used, recognizing that the world can be filled with evil, which I think is important to recognize.

Clearly, the question of depression has come up. We haven't said too much about substance abuse in terms of cigarettes and alcohol. We talked a little bit about somatization. We haven't talked much about panic disorders or eating disorders. Do things in the military make that better or worse in terms of eating and food?

We talked about suicide and sleep. We have a sleep expert in here, is there anything on sleep that we are missing? We haven't talked much about pain, the experience of pain, potential gender effects on pain and how that might affect how we should train people to recognize pain issues. Fatigue as potentially a symptom or syndrome may be of importance for lots of reasons across genders.

We have talked some about family violence. We have talked a little bit, although not too much, about single parenthood. Is there more to discuss about the pregnancy issue?

With respect to sexual harassment and different types of exposures is there something particularly from the nursing side that we need to make sure that we say?

We did talk some about communication styles, particularly cognitive distributive processing in here, which I love. It is a great idea. What does it jog for you, if anything? What have I forgotten? Do you have a burning issue that you feel hasn't been said that you want to make sure shows up somewhere?

Lt Col LEBEGUE: The issue where I am still stuck is the issue of women in combat and the effect on the American public and likely political effects.

CDR DINNEEN: That is interesting. My discussion last night was with civilians that are outside of this place altogether and that is the first thing they said.

Lt Col LEBEGUE: All these other things aside, the question is, will the American public tolerate that politically? There is a research question in there somewhere. It is testable. We can put it in pictures or opinions or something.

CDR DINNEEN: You can test, for example, the willingness of volunteers to inflict pain on other people and test whether that is gender specific.

Lt Col LEBEGUE: You can test this notion of people coming back or not coming back differently from men coming back. I think it is different. It may be a bias of mine and I am willing to acknowledge that, but I think it is testable.

Col McKENNA: I am sorry; what is the question?

Lt Col LEBEGUE: The question is whether or not the American public will tolerate women being killed in combat.

Col McKENNA: They have been killed in combat. They have been POW's. All of this has already happened.

DR. NUNNELEY: It seems to me that it happened in the context of a great thing or the public was already enlisted. If it happens in one of these sudden contingency things and you have three dead women --

DR. MANNING: I think the question is in how you ask the question. One way of phrasing it is clearly a political decision. It doesn't matter what the U.S. population says. If the political decision is made, we will do it and DoD will do it.

Another way to phrase it may be from the side that DoD should consider the information management and public relations issues and strategies to be used when, in fact, there are a high number of female casualties. Someone needs a contingency plan that assesses how that information will be managed and distributed to the press. Who will be the point person? In that way you are dealing with it actually in the same way in which some questions came up about chemical and biological warfare. When chemical and biological warfare hits X Air Force base in Germany, how will that information be conveyed to Y Air Force base in Spain, so that it doesn't create panic? There is a whole science on this information issue, on how this command communicates, and how those particular issues will be communicated; which leaders should know something about it? If it is an issue that has a political consequence to it, it can be thought through so that those people who have to do that can think of the best way to command people.

Col McKENNA: I guess every time that comes up I can't understand the question because we have been there and done it. Why are we asking the question? Right down to what you are talking about in Vietnam; when a hospital was hit with a mortar, it got to the other hospitals. They have done it. Women have been killed in wars far back. Remember the women in the Bataan death march?

DR. URSANO: It has but it hasn't. I follow what you are saying and I think it is true, all those things have happened. However, I actually had to testify before Congress about whether or not women should be deployed because they have children. I assure you, that the question will come up. There were congressmen who were saying, in the middle of DESERT STORM, "bring them all back, we will not have this."

Col McKENNA: Even the liberal ones?

DR. URSANO: Absolutely. "I will vote against this. I will stop your budget, because we will not have women over there who have children back here." Although I think it is absolutely right that the data are out there, this is still a problem. In terms of the political arena, it is still a tremendous issue.

Col McKENNA: This is mind boggling to me that they think that way. You asked me about nurses. There are so many people in our organization that I deal with who are female physicians, nurses, BSC's (Biomedical Science Corps), MSC's (Medical Service Corps), and technicians. Even though we are still about 75% female in the Nurse Corps, look at the medical side of the house and the number of female physicians that you have now. If you start excluding females, you don't have a medical service.

DR. URSANO: Some members of Congress wanted specifically to bring home all women who had children under the age of one. The Navy was the most vulnerable to this. This was in the middle of the war. The argument being made in the meantime was, "please don't do that right this minute."

CDR DINNEEN:: What was crazy about that was the lack of understanding of the developmental issues. Who is to say that under the age of one there are no problems?

DR. URSANO: There were science issues to argue from. There were operational issues to argue, but frequently politics isn't related to the process of reasonableness and is tied more to the issues of public opinion.

Col McKENNA: I know that. It comes up all the time. I am just in awe that it does. This is not new information.

DR. URSANO: We are coming close to the end here. Are there other parts and pieces?

COL BELENKY: What is military mental health readiness? I have seen big books written on it but I would like to see someone prioritize it. Again, with regard to those issues of what you do when you deploy and what you do when you don't deploy, what is mental health readiness? I don't think that is necessarily a gender-specific issue.

DR. URSANO: It is one that must address those issues in order to provide appropriate care.

COL BELENKY: Right. That there does need to be a multi-disciplinary group that would come up with that sort of information.

DR. URSANO: In fact, the issues that you are raising that Dr. Campbell was talking about earlier, about the idea that casualties will be flown back here in critical care airplanes emphasizes the issue that readiness is over there as well as over here. If we say that there isn't a front line, that it applies in both directions, it also means there is not a back line. Therefore, readiness spans a much broader paradigm both in terms of the type of training that is needed and in terms of the conceptualization about command, control, or management issues.

COL BELENKY: The second thing I wanted to mention is that I just got back from an Air Force conference where there were reservists. They were saying that they had more readiness training than the active duty people do because they do it two weeks a year, and we don't do two weeks a year. It is important to get that message through, that right now the active forces may be getting less readiness training than the reserve forces.

Col McKENNA: I would have to ask how they define the readiness training. I know they do the two weeks annual tour. I am not sure they are always doing readiness training.

COL BELENKY: That goes to my first issue.

DR. URSANO: This has been a good heterogeneous group. Thank you.

PLENARY DISCUSSION II

Robert J. Ursano, M.D.

DR. URSANO: Can we please reconvene at this time. It is good to see people chatting and extending the break time. From my view, that is a great sign that the conference has been a success in bringing people together; having people meet and talk to each other in ways that perhaps will be helpful even beyond this conference. This is one of the things that we hope we have invested in; not only have you come together for a weekend, but you have come together in ways that may be helpful to you over a length of time. We may move this topic and others forward by having people meet each other in ways that they aren't able to in our usual settings.

A number of people have mentioned bringing literature. I can assure you that we would love to have it and see it. As another component of our work on this project, Dr. Norwood is working on a computerized database which will be delivered to our receptor sites along with the project. It will be operating on Procite, which is a commercially available product. Please send any literature that you have to us at USUHS (Uniformed Services University of the Health Sciences), and we will make certain that it is entered into the database. I think that is to our advantage, hopefully this topic's advantage, as well as DoD's (Department of Defense) advantage in the long run to have this literature in the data base.

We look forward to ongoing contact with you all. We regard all the contacts that we have made here as very valuable and important and hopefully we will have future opportunities to interact in ways that are mutually beneficial to all of our missions, needs and requirements.

Before we get near the end, I want to deal with something that usually comes up at the very end that I think gets forgotten. There is a wonderful phrase that Dr. Nunneley used which is an Air Force phrase appropriate to this conference (since our conference is really under the rubric of the Air Force Surgeon General), and that is "to recognize who one's wing man is" as well as the issue of considering who takes the lead in any particular squadron. There have been a number of wing persons operating in this conference, all of whom could, at any moment, assume the leadership and make this conference run in a heartbeat.

One of the things that I hope you all have noticed is the picture of a good conference. The amount of time that it takes to bring one of these off is always longer than people anticipate. I assure you that it has been over seven months of effort. I want to name the people so that you all know: Cathy Levinson, Loree Sutton, Steve Jackson, Ann Norwood, and Carol Fullerton.

Now we can proceed to our final business, which is to ask each of our groups to briefly present the outcome from their groups. After we hear the presentations from the groups, I will provide time for discussion of other topics that people may want to include in the report.

Perhaps we can proceed alphabetically. Dr. Blair, your group can begin. Dr. Gifford will present the findings from Dr. Blair's group.

COL GIFFORD: We began with introductions and in the introductions, Dr. Blair afforded us a very provocative look at some of his research, which involves sexual behavior in crews in Antarctica. This led to a productive discussion of the whole issue of role relationships in military units, unit cohesion, and of the ways in which men and women treat each other. We talked some about the problems that we have each experienced, trying to focus on research issues in these areas.

Our product to present to the group is not a list of suggestions for areas of research. It is more a list of our feelings about the process, if one is to study command climate, of developing unit cohesion and how the presence of larger numbers of women in different roles than was the case years ago affects that process. The question emerges of how we create unit cohesion.

Our first recommendation is that we should not do studies of women. We should not conceive and label our studies as women's studies. Representatives from the three services have all had the experience of being told by the higher ups that what they want are studies of military units and performance. What we should study is military units, which include men and women. The study of women should be an aspect of the larger study of military units, as in the women and ships study now that is going on in San Diego. That is truly being done as a study of ships that happened to have women on them, examining male and female populations. Studying women leads to all sorts of pitfalls, including political ones. It was also pointed out that women subjects are tired of being over-surveyed because they are always the ones that are sampled. So, it is not just pleasing the higher-ups that is important to studies of military units and military performance. It is also important to consider the subjects as customers as well.

We should not be studying pathology all the time. We need to be looking at what does work, where women do integrate successfully into a unit and when they enhance the performance of the unit. We need to study what is going right. For example, of those women who are not being sexually harassed, what is different about their command climates or their units so that sexual harassment is not occurring there? Our job is to tell the military services what they need to know to do a better job. They don't need another litany of what is going on; they have the newspapers for that. What they need is for medical science to tell them what works. This might include studying individual resilience as well.

Our job is to identify the pay-offs to military leadership. We should study things other than what we have on our agendas. What we want to know about is research to lead to those social reforms that we may individually feel are warranted social reforms. We should be doing research that will provide answers to the questions that the services will be asking. We should be giving them information that they want to use.

It is possible to package the research so that you can answer your own questions and find the things that you as a scientist may wish to know within the context. The important thing is packaging it. Don't come with an agenda to tell a service, "this is how we are going to reform your service." We need to ask what their agenda is and demonstrate how our research can support it. With a little dexterity along the way, that research can also show what you were interested in knowing scientifically. The data will also be there to provide the answer to the decision makers.

DR. HOLLOWAY: Dr. Sutton, would you please report for our group?

MAJ SUTTON: We had a few findings and some recommendations, as well as a series of questions. Our findings included the notion that we retain women because of the way that we are currently organizing our work force. This has morale, political and economic dimensions.

In terms of research, we would certainly echo some of the caveats that Colonel Gifford described in terms of where our core audience is; to make sure that our findings are placed in the proper context. When a significant difference is found between populations, we recommend making certain that we ask the question, "why?" It is really important to explore the possible and actual reasons for those differences.

Moreover, we noted that unless you look at and study successful outcomes, it is impossible to build a preventive health program. The corollary of that was the frustration that some had experienced in terms of not being able to get funding to study successful outcomes. Another finding had to do with recognizing that when we study issues other than sexual harassment, the two populations of men and women tend to resemble each other much more closely.

As far as recommendations, first of all, we talked about recommendations for the total force supply. These have to do with such basic things as making sure that birth control pills and methods of contraception are available; to ensure equity in health care access, for instance, adequate OB/GYN care as well as the availability of pregnancy tests, tampons, and underwear. For some of us who wore boxers throughout the Persian Gulf, we can assure you, that would be much appreciated.

With respect to how you frame research requests, we think it is important to both frame requests so that they will generate as well as evaluate policy outcomes. We request that a database be built that is appropriate for use throughout the military educational system, from the junior through the senior staff college level.

We also talked about doing research on the effects of stress that gives equal weight to factors that lead to both disabling and non-disabling outcomes; for example, studying and identifying the risk factors that contribute to both resistance as well as resilience. We discussed the importance of studying factors such as resistance and resilience as well as vulnerability in a population that is exposed to trauma.

We also talked about using end points which are militarily relevant; for example, research regarding days lost as well as medical symptoms. We discussed including appropriate risks in comparative populations so that any findings can be put in proper context, rather than be attributed to a single gender or other demographic characteristic.

We recommend focusing some studies in areas which would specifically study the attribution process. This process results in stigmatizing a certain population, such as higher ranks or ethnic groups, such as Far Eastern or African American service members; also NCO's or women; these would all be possible examples.

We talked about the need for research that defines specifically "support requirements" for elements of the total force. We discussed proposals to carry out action research, which increases the interpersonal skills and sensitivities of officers, NCO's and enlisted ranks.

We talked about the need for research that defines factors which contribute to, as well as decrement, performance in terms of interpersonal communication. We feel research studying the effects of mother absence is needed. It was noted that there is a body of literature that studies the effect of father absence. We feel the effects of mother absence is an area requiring further study.

We recommend research which facilitates the development of desirable end points and metrics for the women's health program; outcome research that is related to measuring outcomes but which can also monitor and serve as a metric for a women's health program. One of the groups that is perhaps the most stressed and understudied is single soldiers without children, both male and female.

We recommend research to develop innovative educational tools such as using the Internet and interactive video. We discussed establishing a home page on the Worldwide Web to provide access to these different databases.

We also talked about how important it is to recognize the needs of the consumers of research. We feel it is important to help our people in policy and administrative positions interpret the data to understand the methods; to know what works, what doesn't; to know what the specific measures are. It is important for them to understand what contributes to performance: the metrics that can be used and taken into an organizational setting and then framed in language that has meaning for senior military leaders. We talked about designing and testing practical interventions to help guide policy.

We also talked about a researcher's worst fear, in terms of the difficulty in knowing what to do with negative findings and the difficulty of getting them published; recognizing that they can be just as important, certainly, as positive findings. We also discussed the difficulties that policy makers may have in accepting the fact that the program that they have been attached to does not perhaps demonstrate any remarkable effect.

In terms of personnel issues we talked about the issue of pregnancy as an enduring issue which limits the full use of women in military populations. We discussed how there is an irrational process that goes on in terms of military leaders who identify pregnancy as a factor which makes women less desirable as service members. For example, as Dr. Holloway mentioned, would they then look at a population for whom pregnancy is not occurring at the same rate (and that is in the lesbian community) and out of the same breath say, "we can't have them either?" There is an element of irrationality there.

We talked about the importance of studying the issue of contraception in terms of service members' attitudes toward contraception, its use, and how we explain a higher failure rate than what the manufacturers actually list. It is also important to study the implications of sexually transmitted disease and how pregnancy affects stigma toward women. We recommend research on long-acting contraceptives as well as educational approaches.

As a final aspect we talked about the importance of making this data available, as I mentioned before, on the Internet, for example; making it available electronically, as well as including literature from non-English sources such as the Russian, Israeli, Egyptian, Nigerian, and Chinese, to name a few. We also recommend including the bibliographies of the people who are here at the conference.

DR. HOLLOWAY: Perhaps other members of the groups have some comments that they would like to add to this overall list. Any comments?

DR. FULLERTON: I have a question. Are you talking about a literature database?

DR. HOLLOWAY: A literature database. I will make a comment about the issue of contraception as I think it points out a pitfall in research. This comes out of the experience that I had with Dr. Rundell as we began to examine the evil issues in HIV. When you begin to examine failure rates and they seem to be far higher than the ideal rates published by manufacturers of various devices, one of the things you discover is the caveat that has been used by the FDA (Food and Drug Administration) and the manufacturers which says, "when properly used." "When properly used" means when properly used by the individual or by the pair; and frequently it means by the pair involved in the sexual activity. Furthermore, you discover that the way those data sets were generated is by requiring that they be used absolutely appropriately or the data was thrown away. So, in a sense you never know the actual failure rate that occurred in the original set because the data analysis fundamentally used a drug analogy; if it wasn't taken, it wasn't effective.

This can sometimes be very, very confusing in terms of trying to interpret the outcome results in a field study where people act like human beings. It is just an illustration of the way in which a data set, in a sense, doesn't help because it isn't translated into the world that applies. I think that is a more general theme than that specific example.

COL McCARROLL: I am the presenter for Dr. Llewellyn's group. The methodology used in our group was normal group process. I think that is important because it will help you understand that some sifting was required to go through this. This process required that each person write down five issues, program, research, policy, training; whatever he or she wished to discuss. Then we went around the group proceeding to discuss the issues. As a result of this process, we had a variety of recommendations and comments, some of which were quite abstract and some of which were quite concrete; there is a good bit of overlap. I will proceed to present the results of our discussion, not necessarily in the order of importance. We are not attempting to say that any of these issues is more important than the others.

The first issues we discussed are what we call gender-specific issues. I think contrary to one of the other groups, we have a lot of recommendations about things to study in women. We discussed gender-specific issues and skills in terms of what the group thought were specific skills and diversities that occur when you put together large groups of men and women in units. The consensus is that you have gender skills, sub-cultural skills, and all sorts of other skills that can be taken advantage of to utilize and make the unit more effective. For example, some men are not good confidants in a post-battle debriefing. One of the examples given was that there should be agencies within units to be able to handle issues such as this, such as the doctor who is an agency for certain sorts of contacts and confidant for other sorts.

Another issue is the specific coping mechanisms that men and women use, that perhaps could be learned, taught and appreciated one to the other, making use of various instrumental and mental coping mechanisms.

We had a lot of discussion about the issue of what might be called diversity and what that means. What that meant in one case was women as carriers of culture; an appreciation of their role in carrying some aspects of culture that men don't do. There was some concern that this might be confused with anti-feminism, which it is not. It has to do with the clarification of the myths about men and women. What are their attitudes, biases, skills, and strengths? This is in addition to misperceptions which, in fact, can be translated into studies of attitudes and biases that promote sexism in the military, which we are not condoning. As a result of our discussion, we have proposals for research on gender, marital status, children, life course development, and factors in personal and career development for men and women.

Leadership is an area that was discussed that overlapped with the previous issue of gender specific skills. It is an area where we feel that there are probably differences in men's and women's perceptions of leadership skills that have implications for the training of leaders for interventions and for the way people command, all the way from NCO leadership to senior command leadership.

Research regarding the development of leadership skills over the life cycle; issues of selection, training and evaluation of whether women lead differently than men lead, and what can be learned from that is needed.

We discussed cultural differences having to do with an appreciation of the subgroups of men and women which come into the military. We discussed the larger issue of the cultural differences that exist between the services and within the services and particular skills that, say, a Navy officer might have that would be different from an Air Force officer. We discussed how these issues can be brought to bear on some of the other issues that we have discussed. This fits into the overall rubric, again, of taking advantage of the diversities that occur within the environment that we are dealing with.

We had some discussion regarding the issues of biological differences, for example, of the regulation of menstrual cycles. We had quite a lot of discussion in that area with regard to the risks, policies and ethics of doing that. We discussed responses to stressors as a function of menstrual cycles, cognitive performance and the implications of the high tech environment for that particular issue, as well as the coping mechanisms that are used for that particular subject.

Another of the biological issues has to do with PTSD (Post Traumatic Stress Disorder) and biologic vulnerabilities as well as technological issues that will be faced in the twenty-first century such as CBW (Chemical and Biological Warfare), mines, radiation and all the sorts of toxins that are out there in the environment that will have implications for toxic exposures and men's and women's fertility.

We discussed and reviewed what happened 20 or so years ago on the attempts to determine the skill requirements of various MOS's (Military Occupational Specialty) in the Army. We talked about the need for the logistics communities to take a look at the needs of women in terms of their clothing and the equipment. We also discussed the human factor side of being able to do jobs. In other words, if a woman can't turn a particular wrench to fix a particular piece of equipment, maybe consideration should be given to making a new wrench; a different sized bolt, or whatever. We talked about screening, particularly screening for job performance and whether or not that might be realistic in some cases. The issue raised is whether or not service money should be put into trying to train somebody who will never, or only with difficulty, be able to do a certain job. We discussed issues of weight control and roles in the NEP screening stations, as well as what can be done early on to be able to counter particular barriers that seem to occur in job demands that we know are there.

The issue of sexual abuse and violence and the question as to whether or not we have a cultural violence in the military was discussed. Some questions that emerged from the discussion are: what does it consist of? Are the people entering the military now contributing to change in the military or is the military contributing to change in them? We spent a great deal of time discussing the difference between sexual harassment versus gender discrimination issues, and the need for policy research, education and clarification of these issues. This touches somewhat the leadership issue as well, in terms of people knowing what they mean by certain terms.

We discussed research utilization and the issue of packaging skills; being able to promote the uses of research early on, perhaps in the planning and design with an idea toward implementing research in a way that is maximally useful. In other words, packaging research for a particular target audience so that it can make a real difference.

PTSD as an issue was discussed in terms of biological vulnerabilities we have already talked about. We discussed setting up a model program to be able to test hypotheses, perhaps having to do with childhood victimization and abuse, whether or not that has an effect on particular individuals or environments or performance; various treatment strategies, predictors of PTSD and various circumstances among both men and women. Are there any comments?

DR. HOLLOWAY: I have comments. I find your first recommendation controversial. Here I think there is a confoundation of that recommendation of the question of person and role. That confoundation I think exists in the following way:

Simply substitute with the proposed research, as I heard it, the following phrase: let's do a research program for people of the Far East, Caucasians, and African Americans, to examine the unique characteristics of each of those population groups that allow us to assign them to various roles within our society. A proposal of that sort, I think, would find immediate problems, if you then go back to the various ways in which those various ethnic groups have been characterized in terms of their stereotypes and fulfilling roles. One notices the fact today, as it has gone on, it has not been a particularly salubrious one. I think it is not salubrious precisely because the problem of separating the requirements for performance in a role is then confounded by the overall presumptions about the person entering the role, and that those persons will approach the norm of whatever group they come from.

One area that we did indeed discuss is the question of using (as a point of departure, which I brought up), the presentation of Buns Nakamura, the fictional first woman ace of the U.S. Air Force from Clancey's book, The Third World War. Her overall status as filtered through the imagination of the male author, is very much a fighter pilot. Her overall vision of herself is in terms of her flight skills, and the fact that she thinks the man who is her chief repair crewman, a male, is kind of cute. The characteristics that led her into this particular career, Clancey infers (perhaps in his imagination telling us something), are the same things that drew many young men of some educational talent to operate these terrible craft, in terms of both the challenges and other aspects. That separates, then, the stereotype in this case that one might attach to her because she comes from a Far Eastern culture; because she is a woman, or because of her other characteristics. I might add that the other thing you discover in this characterization is that she is the apple of her father's eye and very much a positive outcome of an acculturating Japanese family.

All of these issues then make me very nervous when we talk about, "let's discover those specific hidden traits that will make women especially valuable," and bring new insights. When Caesar said, "the legions wept," he didn't say, "the ladies in the legions wept." So, I think there is a real danger in that recommendation of continuing and reinforcing the stereotypes which allow us to learn and evolve our concepts by separating our analytic brain so that we can focus on the specific issues associated with culture, with identity, with individuality, and with performance.

DR. URSANO: Perhaps we can come back to that in the broader discussion. Let me proceed to comment about our group. Our group has been very productive and it has been a delight for me to have been a part of the group. The group was very thoughtful and hard working.

The task of the group was clearly undertaken by working around issue areas. The initial caveats that the group raised were actually quite similar, as stated in the other groups, centering around concerns about the way in which research can be used and mis-used, mis-heard, or mis-stated; and also being alert to the question of women being people.

We had an initial discussion around the question of selection, with selection seen as not very helpful in nearly all settings. The only opportunity where selection is very beneficial is perhaps in Dr. Holloway's other role; when you are trying to select astronauts and you can afford to go through eight million people to select one that is separate from that. Selection has generally not been shown to be a very helpful way of trying to fill job requirements. It can be extremely costly, both in terms of people and in terms of dollars.

We addressed some of the biological issues, noting that there are opportunities to look at twin pairs in the study of PTSD and, in particular, female/female twin pairs which had not been previously examined. It offers some opportunities to study areas that perhaps the military may have a unique interest in.

Secondly, discussion focused on the issues of the way in which symptoms show up in people and the importance of studying perhaps not diagnostic groups but symptom categories and how recovery curves may vary over time in various types of people. Dr. Solomon was very articulate in commenting about the differences in intrusion and arousal, and how one might recover from one and not the other, and how that might be reflected differently in different sub-populations.

Another area in which the military may have a unique opportunity to contribute in the research front is that of family violence, and the understanding of the impact of family violence, both on the individuals within the family as well as on the operation of various work units. There was a comment made that there is apparently a study that is out that in particular indicates the difficulties of families that are HIV positive and also have family violence in them; that the rates of family violence in those populations may be particularly high.

There was an overall theme in the group that I think should be underlined greatly, which is that of the value, in general, of heterogeneity. From whether or not one is thinking about the risk of infection from an unknown virus, to whether or not one is thinking about the possibility of unknown stressors for which coping skills will be needed, to whether or not one is thinking about performance in various environments, by providing heterogeneity through the genome or coping skills, one maximizes the survivability and frequently the functioning of groups by allowing for the broadest range of creativity within the group.

There was an important comment raised around the issue of deployable units and how frequently (in the Air Force, perhaps, but other areas as well) deployable units have become smaller. They may constitute ones and twos, particularly in the medical field, in contrast to large units. There is the issue of dealing with the particular stressors involved in deploying ones and twos, in contrast to full units. That may put particular attention on the role of leadership, which becomes the only common denominator in deploying ones and twos, in contrast with horizontal relationships in which they are less present. The particular stressors of being an augmentee or a deployed unit which influence the ability to develop unit cohesion and unit effectiveness were discussed; one of the protective elements that we anticipate in exposure to many traumatic environments.

There was a discussion in medical arenas, in particular the Air Force, around the unexpected way in which deployments often happen. Anticipatory stress is not an area that has been examined much in those settings; particularly as deployment for unexpected missions occur. Perhaps we don't make sufficient use of alert status in the medical community. There are two principles that are helpful to operate on to decrease the amount of stress. One is to maximize control for individuals and, if you can't have control, to at least maximize predictability. Alert status may increase the predictability if one has groups on alert status from which maybe one member deploys, in contrast to waiting until the event happens, even if that alert status is rotated monthly.

We had a discussion particularly focused around the National Guard and the question of inoculation training. The Guard is now making use of readiness training by having its medical personnel function in emergency rooms throughout the nation. They are to provide more real-time experience in areas that will offer training related to readiness.

There are serious science issues that can be tagged onto those types of policy arenas, around the issue of inoculation versus sensitization. We have lots of data that might support either one of those views; the one being helpful to help prevent breakdown, the other potentially increasing breakdown. Some of Dr. McCarroll's work on body handlers in particular is in that arena. This data can be used to develop strategies that might be used with NCO's in the Air Force community who may well be tasked to go out and walk the field and pick up body parts and pieces without ever having done that before.

We talked about the question of what constitutes readiness training. There are issues around privileging in military readiness. What constitutes certification or privileging in military readiness? Would it not be most appropriate, as an example, for family practitioners to receive additional training in the management of depression and somatization disorders in outpatient clinics, as a part of readiness training, since we know those disorders go up in times of high distress?

It also emphasizes the issue of the absence of a front line in the future battlefield, at least in terms of how we are planning things. It has to be remembered that not only means that there is an absence of a front line in the desert but it also means there is an absence of a front line here. Readiness training includes what goes on back here when the tempo of operations has increased to such a pace that the stress casualties are occurring at Andrews Air Force Base, at Bethesda, at San Diego, as well as in the desert. What constitutes readiness training in that broader view of what the combat field represents?

We also mentioned the possibility of military medicine fellowships. These could take on many forms and certainly range across health care specialties, from NCO's to physicians, to nurses, to a range of opportunities for additional training, including masters in public health. There could be very targeted and focused opportunities, such as this kind of conference, in which people get together.

We spoke of the absence of failure mode analysis in much of our training; failure mode analysis in the context of having set scenarios in which people receive readiness training. It is drawn from NASA and the engineers, where you literally throw a wrench into the air conditioner and you ask people to figure out what went wrong and solve it; without their knowing that was going to happen. The issue is how to foster creative responses in readiness environments. Dr. Belenky contributed the comment about fighting in the degraded mode, as the Army's way of speaking about it. There was also a nurse who came and spoke to us, Colonel McCarthy, who made a wonderful comment about her original training at Walter Reed which included a course "Nursing Arts III," which dealt with "how to make do." That is the core element in most readiness training, which we tend to forget. The issue is how to include that in our operations.

We spoke about the cultural gap that is present in applying training. People had difficulties in recognizing training and its applicability to present situations, so that they see it as play time. That is too strong a statement but represents some of the lack of the sense of reality contained in that. Dr. Nunneley very nicely commented about how we are making use of emergency rooms for training. However, it was also stated that we should be making use of mission hospitals, in terms of providing exposures to poverty and lack of resources for the delivery of health care as part of our readiness training; if we take seriously the broader missions that are presently being tasked.

We had a discussion around the issues of boot camp. A study of the drop outs occurring over the first six months following boot camp may offer opportunities to understand many influences that affect "failure rates" across a large range of roles. They tend to be settings in which it is possible to observe, study, and perhaps have a great opportunity to impact with a reasonable payback, literally dollar-wise as well as people-wise. It might be an area of opportunity.

Another conceptual perspective which I found very helpful, which came from discussion primarily with Dr. Nunneley and Dr. Belenky, is that there are studies going on at the School of Aerospace Medicine, Armstrong Laboratory on the functioning of AWACS (Airborne Warning and Control Systems) teams. I want to throw out a phrase which they used as old news but which is new news to me; it sounded worthwhile holding onto: the phrase of "distributive cognitive functioning." It has to do with how the groups work together. The question of how a group works together and what outcome measures one uses may be quite different than looking at eye tracking and neuronal functioning. Yet they would be much more important in the operational environment as you try to distinguish what, in pharmacotherapy, would make the distinction between effectiveness and efficacy; which is the issue that Dr. Holloway was raising earlier about the difference of what happens in the real time environment.

We need to think of studies of "distributive cognitive functioning" as those influence an AWACS team, groups inside tanks and also in groups that sit in particular corridors in our hospitals who have to operate and make decisions across multiple people. They represent a cognitive unit. The study of how those cognitive units operate will offer us many opportunities to study influences on outcomes of importance to us. Another example which I think emphasizes "distributive cognitive functioning" is trying to better understand the way in which temperaments, styles, and modes of functioning can in fact influence the way in which cognitive decision processes occur.

We had a broad discussion of the role of leadership. We discussed the importance of leadership and the dilemmas of training to develop new leaders as well as the importance of recognizing bullying behavior which is a non-gender-phrase term related to sexual harassment and its impact on both group functioning and leadership itself. In that discussion, we addressed some of the issues of the way in which leaders are frequently able, at least by stereotype, to become leaders by looking upward rather than by looking sideways; by pleasing the hierarchy up above.

Two very nice suggestions, which I think were important and were operative in the Israeli Defense Forces, were the question of peer ratings, and the broader use of peer ratings in the assessment of individuals for potential leadership functions. You ask the peers (as is being done in a particular study at Brooks Air Force Base), who they would like to have as their wing man, and as their leader. To include this type of information in a database as part of the issue of leadership development and the identification of future leaders is important.

Given the broad picture of the battlefield to now include not just the desert, but Washington, D.C., the issues of readiness and the stresses on operations and operations tempos were discussed. This was discussed from the perspective of including both being shot in the desert and 14 new missions coming to the hospital that has just lost half of its staff. Where is it that medical personnel in particular receive readiness training and professional military education? The staff colleges and the war colleges provide one avenue for that, for mixing with the line. However, there are no spots where, consistently over time rather than a brief exposure, training experiences occur for medical people to meet across services or across disciplines to struggle with the issues of readiness in the medical arena itself. We need a broader thinking about what constitutes medical readiness training in the present world.

We had a discussion about the importance of recognizing the political impact of women casualties. It might be worthwhile for leaders to think through how to manage that information, since those will certainly occur. It is similar to the issues we discussed when we had our conference on chemical and biological warfare. At that time there was a discussion about a hypothetical situation where Air Base A in Germany gets hit with CBW (Chemical and Biological Warfare), of how should it communicate to Air Base B in Spain that it may be hit with chemical and biological warfare, to minimize the issues of panic that can develop across commands when such events occur? Large discussions occurred in the Army about mass casualties. I know Doctors Rundell, McCarroll and Marlowe participated in these discussions. The issue is when you have a mass casualty, how will you communicate that information? Political leaders might wish to think through those issues in advance.

Lastly, and as a broad statement which I think Dr. Dinneen formulated very well, is to think through military mental health readiness in the present climate and to include the desert and the hospitals. There is a need to look at areas where people need further training, to determine how to increase the communication that is necessary, and to determine "how to make do" in this new environment in which we will be operating. Are there questions or comments?

DR. HOLLOWAY: Just one point. You asked a question about training across areas and you noted its absence. That happens, as far as I know, to be true at the present time. The Armed Forces Staff College used to specifically address this issue, but it has been discontinued. That one device no longer exists for more senior leaders. That was fundamentally at the Army Staff college level; that was a school for majors and junior lieutenant colonels and similar ranks in the Air Force and Navy. So, just to comment, there was something there with some experience but that got lost in the reorganization of the staff college system.

DR. WONG: I just want to make a comment on that last issue regarding military readiness. I think that for the Army we are doing it piecemeal. We think we are handling it effectively, but I seriously doubt it. I have been horrified at the way Walter Reed does mass casualty compared to, say, at Letterman. It is treated more as a paper drill and it is limited to a very small group of specialties. As far as I can see, it does not involve the entire hospital. At Letterman, we had a different command environment and attitude. The entire hospital was included, which included psychiatry, all the specialties, and had people functioning in different areas, with the expectation that you would lose some people and you would have to cross train. The hospital treated it very seriously. My point, though, is that it becomes a local matter, and it should be command wide, perhaps, and more generic.

The other approach that I see the Army using at this time would be the PROFIS hospitals; setting up training every six months, having people from the hospital PROFIS out in all specialties, in all disciplines to prepare that hospital for that particular area for military readiness. I don't think it is comprehensive or systematic enough. It only touches a few people. It needs to be embellished and the thinking needs to be far more comprehensive.

DR. HOLLOWAY: I would reinforce that, because in debriefing from the desert, one of the major failings across the board was that the exercises were incomplete and were not intense enough; it was thought that they would prepare and inform and they did not.

I want to comment on one thing that you talked about, and that is total cognitive environment, design, et cetera. That, by the way, is a very active area of research within the overall system outside of medicine. The only item they would include from my discussions with Wayne McClure (who by the way is the person who designed the systems engineering for the F-22), is the addition in that overall peak interactions of multiple individuals and multiple data processing systems. That is, there are other information cognitive sources in the current environment which are non-human and are also very important, by the way, in total cognitive environment designs for nuclear plants and nuclear plant control facilities.

Maj McGLOHN: I wanted to make a comment about the medical readiness issue. It was something that Dr. Rundell and I talked about last night. I think one of the ways that we can include medical readiness is in our GME (General Military Education) training. I have recently read about a program where medical readiness is completely ignored. Having been out in the field I was kind of shocked by the attitude that I found in my residency training, (it may be similar at Walter Reed). It is a paper exercise; nobody really cares. We are here to learn how to be psychiatrists or we are here to learn how to be ophthalmologists or whatever that is, but we are not here to learn how to be military psychiatrists. I think if that is looked at and stressed more in training programs, we would do much better jobs out in the field.

Lt Col RUNDELL: I think there is an even larger issue beyond that. How do we address and define the issue of readiness all around? What we are finding in the National Capital Area, as we talk about clinical integration and addressing the issue of how readiness interacts, is that there is a dilemma proposed every time you bring it up. Every time you start to say, "well, this aspect of what we do is readiness," everything else that you do gets held up as, "well, do we really need everything else?" They are always going back to the lowest common denominator of readiness is everything that we do.

We are really struggling with the issue of how we define readiness and whether we should have readiness call rosters. That brings up the question, "well, what is everybody else doing?" There are a lot of dilemmas, as we look at readiness along the lines of Congress looking at us and trying to decide how much of us they really want and need.

DR. URSANO: Other comments?

DR. BELL: I am still struck with the amount of information that we have to process to get from concept to something which is operational in doing a research project. It strikes me that we have described the world but we have not described what is specific for this particular project that requires funding for women's health issues. It strikes me that there is an awful lot of work yet to be done.

DR. URSANO: I agree. Part of the purpose of this conference is to synthesize and digest information and ideas. How you move from this process to an actual project, is a very different question, and is one that requires a different kind of construct and direction. I must say I am very impressed with the conference output and everyone's ability to identify programmatic areas. It is a very impressive synthesis of a mass of data and it has been put together in such a way that I think can be read by people who think from command and policy sides. The task is not finished.

DR. FULLERTON: I just wanted to respond to that. I think the conference has enabled us to come a step further in our thinking about these issues from research perspectives.

COL GIFFORD: I would agree with Dr. Fullerton. Within all of this there are a number of items that we easily collapsed into directions for research missions.

Maj McGLOHN: I have a question that is along that line. I am in the midst of a research project. A lot of the things that I have heard the past couple of days will help me when I am writing. I am wondering, how I can find out what was written from the conference.

DR. URSANO: We automatically plan to send copies of the conference to people.

DR. HOLLOWAY: Could I ask your group to consider sending the information electronically, because some of us would like to save some trees?

DR. URSANO: In the past, we have had the products of such meetings show up also in DTIC (Defense Technical Information Center) where it also becomes broadly available to the entire community.

Let me literally go around the room and see if anyone has any other comments that they want to make.

DR. BELL: I am still concerned that there is an awful lot of work getting from butcher paper to a project.

LTC NORWOOD: For me this conference really illustrated diversity coming together for a task; both men and women. It made me reflect on the fact that men have played a very large role in the successes I have had. I was remembering that today is Father's Day, so I wanted to wish all the men here, "Happy Father's Day." I would also like to again acknowledge that we would not have gotten here without the help of some very special men along the way. We thank you for your help and continued support.

COL BOATRIGHT: I have many ideas to take back that will help me working with our reserve units and our combat stress unit. I have met many people here who are working on things that will benefit us. I have learned about many things that are going to impact what we do with our civilian disaster teams. They are dealing with many of the same issues. They, too, are in that process of sorting out a lot of ideas and trying to figure out where the focus and where funding is. I certainly appreciate what has happened for me this weekend.

DR. NICE: I want to thank Dr. Ursano for arranging this conference and giving me, for one, an opportunity to meet a number of people in person that I have had correspondence with or read literature from, and to meet some new people who I am sure will be very important in our future.

DR. MARTIN: I would like to pick up on a theme that was introduced yesterday; the notion of politics and research. I would like to suggest that what has been done this past year in the Defense Women's Health research arena, and what I trust will be done this next year, is really an excellent initiative to make the best use of monies in creative research opportunities that partner the Department of Defense with various civilian institutions and organizations.

The politicians have been very good about keeping their hands off of providing direction as to how to use monies in this respect. I think likewise in this case, the Army, and a tribute here to Doctors Gifford and Friedl; they have done an excellent job in executing this.

In the same vein, there is going to be another opportunity that will begin in September with a Broad Agency Announcement going out, to solicit proposals and ideas. I hope that all of you will take one step beyond this conference, in terms of your own worlds, and think about opportunities to submit, or to encourage others to submit, proposals for that process.

COL GIFFORD: I want to echo what Dr. Martin said. We are complaining that there is not enough money but there has been money out there last year and there will be money next year. The burden is on us to find ways to show the world what we can do and what we can contribute.

I would also like to pick up on a theme that I have heard many people speak about throughout the conference. I think it is very important as we undertake studies of Defense Women's Health, to separate biological gender, and even social gender from roles. We need to look at an occupation and performance model. That is ultimately what the military is interested in, and that is why this program came to the military rather than as a supplement to the NIH (National Institutes of Health) budget. There are many people who can study women's health. What the people in this room can do is study military performance and how women fit into that picture.

DR. THOMAS: As a non-medical researcher, I really appreciate being invited to this conference because I have been exposed to new ideas and I hope I have brought something to the conference as well.

DR. URSANO: Absolutely.

DR. SINGER: Thank you for having me and once again giving me the opportunity to both share and learn so much.

DR. WONG: I want to thank Dr. Ursano for inviting me to this conference. Dr. Ursano, I am inviting you to the next one at our place as well.

DR. FULLERTON: I just want to say a few things. Regarding the planning and the staff work that goes on behind one of these conferences; the good news is if the work wasn't noticed, we were successful.

Additionally, everything at the conference certainly wasn't a new idea or new news, but the way we are placing the ideas or putting them together, or beginning to think about putting them together is what is important about what was accomplished at the conference. There are ideas that are out there that come up in a different way when you talk to someone else who is in a slightly different field. I think it is important to keep that in mind.

Also I wanted to say something about the group classification variable, which had come up. Dr. Ursano had talked about it when we were going over our USHS Comfort dataset back at USUHS. I think the importance of having talked about gender as another way of classifying people is something to take from the conference, because people relate to it, and can understand it.

Maj McGLOHN: I appreciated this conference very much. I think this has really helped me crystallize a lot of my ideas.

Lt Col LEBEGUE: Thanks for the opportunity to participate. I would ask that each of us keep in mind, as we plan both policy and training, the increasing role of the reserve forces, particularly the women in the reserve forces; to prepare for that transition, when called from citizen soldier to active duty.

DR. SCHLENGER: I also appreciate the opportunity to participate in the conference. I have a comment which follows on Dr. Bell's concern about moving from the blue sky to the operational aspect. Our group at RTI (Research Triangle Institute) has thought a lot about that because we are applied research types basically, and we have a simple model that involves three phases.

The first phase we refer to as the wallowing phase, in which we essentially immerse ourselves in the mud of the phenomenon that we are studying and roll around in it as best we can; to try to get ourselves covered with it and so forth. I think we have done a lot of that. There has been a lot of wallowing and I see that as a very positive sign.

The second phase for us typically is called the hand wringing phase, in which after we have wallowed around and have some notion of the phenomenon we wring our hands about, "well, what are we going to do about it?" We usually spend a lot of time wringing our hands.

That leads us to the third phase which typically is accurately described as panic; the productivity phase. The proposal is due, and now we have got to do something. I think we have done some wallowing and hand wringing and we will leave the panic phase to Dr. Ursano and his troops.

DR. SHALEV: I do want to thank the organizers for inviting me. I was here for the CBW conference and I am here for this one as well. You really had a nice conference.

For me, there was some trans-cultural experience. I can perceive to some extent how some issues raised here are common across cultures. There are differences, even in the way that these are perceived, such that proposals result in special skills and coping with women can be perceived as discriminatory or leading to discriminatory usage, even though that may not be intended and may not be perceived as such elsewhere.

In particular, I think that much of it is to what extent the entire population is involved in warfare. It is a whole different set when you have an army of 700,000 out of a population of 4 million going to war, than when you have an Army that is going to war and basically there has been war on the territory here. The whole country may be different about warfare.

I am still impressed by the depth of some of the thoughts. I am bringing home more than I brought with me here. It will probably open some of the discussion in Israel and hopefully with different colleagues and different universities around women/gender-specific problems within the Army and eventually within the larger part of society. I do thank you for having had the opportunity to learn so much.

DR. URSANO: Thank you.

Col TERRIBERRY: Again, I would just like to thank those of you who have put the conference on. I appreciate the effort that has gone into this.

I think one of the comments that I would like to make is, as medics, we exist to support our line commanders. As part of that support, I think we have an obligation to go and speak to them in terms of what they need and what they see as problems out there that need to be researched. I regret that we haven't had that input except vicariously as we have tried to speak to some of the people who we have supported in our careers. I think it would be very important to go directly to them. If nothing else, it begins the educative process from the very initiation of a project like this, and I think that is important.

DR. MANNING: I just want to say thanks again for inviting me and to echo my congratulations to the USUHS staff for putting on an excellently conceived and well executed conference.

DR. URSANO: We will also look for the IOM (Institute of Medicine) report and hope that they dovetail.

DR. GARLAND: I am perhaps in a little bit different phase than a number of individuals here. We are in more of an execution phase of the study and pressing forward with it. So, to tell you the truth, I found the first day very interesting and useful, particularly with the discussion of the responsibilities of collection of a large data set, and where agendas lie, and how to perhaps not get trapped into any agendas.

I do think that from my perspective it is important to look at the interpretation of data and the context in which it is presented. I think this group did a good job of bringing that forward, particularly for a group like mine that has been involved in the daily aspects of doing a study.

I was also intrigued by the convergence of the concepts and ideas that were presented here; and ones that are even considered controversial, with what is actually practical in the field and with what goes on. For instance, with our shipboard study, if you walked in with a questionnaire that you are going to give aboard ship, and it says that it is a Women's Health Study aboard ship, you will get a negative reaction from females and from males and from everyone else aboard ship. They feel that this is a fact of life; "let's get down to it." If it says it is a Woman's Study, it can almost be a divisive issue. Either it is making them special or "why aren't you doing equal things for men?" If you walk in and say it is a shipboard health study, you can get wonderful participation and everybody is very happy. I think that goes to some of these things that were discussed early on about whether or not you want to be gender specific versus an overall situation or look at issues in terms of overlap or differences. There are reasons for both, but certainly in an environment like shipboard where women have been around for a good deal of time, and even on some of the newer vessels like combatants, the attitude is, "let's get down to it."

I think that research has a responsibility of not being divisive. Sometimes how you box something can help with that. In the shipboard study, this group focused a lot on psychological aspects. The shipboard study has a lot of practical aspects. We are studying women because we need to know what training is necessary for an independent duty corpsman or a physician aboard ship, and what supplies are necessary. We want to know if women feel that they have access to care.

I guess what I am saying goes back to that central issue of whether you want to be gender specific or study what works, instead of studying what the differences are. Instead of studying leadership from the perspective of whether or not women lead differently than men, maybe the real question is what is to determine the most effective leadership style; whether it is male or female doesn't matter. Certainly, in doing these studies they seem to work best if gender is not the central issue or not the central hypothesis; that it is an important issue and one that you are entertaining while you are trying to look at health and readiness in a general way.

MAJ FRIEDL: I have another example of that. Just recently our labs have become excited about the whole concept of defense women's health. One of the labs has taken it a little too far by coming up with a booklet with advice for women when they deploy to the field. We have shown this around to some of the other women and asked for comments. They say, "well, first of all, I would be really insulted if you handed this to me." Secondly, they ask to see the men's booklet.

Just one other comment, I want to encourage you to put this out in some other forum than DTIC, because DTIC, of course, isn't that widely available to people whom you might want to reach with the results of this symposium. If you get some kind of summary into the Archives of General Psychiatry, for example, then we know we have reached the world.

COL BELENKY: I am very happy to have been invited. I enjoyed this very much, from the broad overall presentation to the group discussions, to individual discussion. It is a pleasure always to talk to old friends, and I feel like I have made some new ones, and that is very nice. Also, I have clarified a lot of my thinking on many issues. It has really been a great help to me seeing the perspectives of others. I was particularly impressed with the work group; the convergence of looking at performance and looking at effectiveness at the group level. Each of the groups mentioned that in one form or another, and I think that really makes for very strong research and a very strong program, and something that will be very appealing to the line.

DR. BLAIR: I wanted to make a comment about language and attitudes. The reason for this is that I think we are all agreed that attitudes and the hidden agendas really get in the way of research. The language I want to comment about is the use of the word "sex" and the use of the word "gender."

At the beginning of the conference, I think I heard talk about both sex and gender. Fowler points out in his book on the English language that people have sex and nouns have gender. There is some difference in connotation and denotation in those two words. When we talk about sex abuse and sexual harassment, we are talking about human beings as sexual animals. When we talk about gender, we are taking away their sex. I just want to remind you that sex is a very powerful drive and the people that we study are still sexual animals. If we forget about that aspect of their life, we are likely to miss something which is very important.

DR. HOLLOWAY: I want to again thank the conference organizers, you Dr. Ursano, and I particularly want to thank the other folks at the conference for the wonderful opportunity for me to learn and experience different points of view. As a final comment, I want to join with Colonel Terriberry in her point; the criticality of having either, in a formal sense, focus group meetings, or informal meetings with senior leadership at this stage in the development of the topic. I think it is not much later than this stage that you need to do this, to find out their directions and perspectives. It may not change the work you do, but it may change the language that you use to communicate it and what you see as the emphasis you will give.

DR. URSANO: Thank you all for your participation.