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**RETURNING PERSIAN GULF TROOPS:
FIRST YEAR FINDINGS**

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**Department of
Veterans Affairs**

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**Returning Persian Gulf Troops:
First Year Findings**

March 31, 1992

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Executive Summary

A. Legislative Mandate

This report has been prepared pursuant to Public Law 102-25 (section 335) which requires the Secretary of Veterans Affairs to submit a report to Congress by April 5, 1992 assessing: 1) needs for rehabilitative services among Persian Gulf returnees who experience Post-Traumatic Stress Disorder (PTSD); 2) programs and resources available to meet those needs; 3) current plans for providing services, particularly to Reserve and National Guard components; 4) the need for additional resources; and, 5) plans to coordinate efforts with the Department of Defense.

B. Summary of Findings

This report is based on: 1) detailed reports from 10 special clinical/research projects initiated at selected VA Medical Centers and by VA's National Center for PTSD, 2) workload data from VA medical centers across the country, and 3) clinical reports and workload data from the VA Readjustment Counseling Service (RCS) Vet Centers.

1. PTSD and Other Forms of Psychological Distress Among Persian Returnees

Formal assessment data collected on over 4,500 Persian Gulf veterans suggest the following:

- o Approximately 9% of Persian Gulf returnees reported symptoms scoring in the PTSD range on a standardized assessment instrument (the Mississippi Scale for Combat Related PTSD).
- o As many as 34% appear to have experienced other forms of significant psychological distress during the months after their return from the Middle East.
- o Troops who were most exposed to war zone stressors report the highest symptom levels, and troops deployed to the Middle East have higher symptom levels than those not so deployed. These findings suggest the existence of a specific relationship between service in the Persian Gulf War and psychological distress.
- o There is some evidence that stressful pre-deployment experiences and post-deployment family adjustment problems are associated with more severe symptomatology.
- o Approximately 5%-10% of those who received post-deployment clinical debriefings concerning their war zone experience have sought further clinical assistance from VA.

While informative, it must be noted that these data were collected shortly after troops returned from overseas and that the sample from which the data were collected is not a scientific probability sample of all Persian Gulf troops. In particular, it substantially over-represents National Guard and Reserve Units.

2. Programs and Resources Available to Meet Clinical Needs

Mental health services are currently available to veterans suffering from PTSD at 196 Readjustment Counseling Service Vet Centers and at 153 VA Mental Health Clinics, 131 Day Hospitals and Day Treatment Centers, and 158 Substance Abuse treatment programs, located at 159 VA medical centers and free-standing outpatient clinics across the country. Between May and September 1991, VA Medical Centers provided services to 35,217 Persian Gulf veterans while VA Readjustment Counseling Service Vet Centers offered assistance to 9,994 veterans. About 28% of those seen at VA medical centers received specialized mental health services. In addition, fifty-seven VA Regional offices provided benefits counseling and access to VA-funded vocational rehabilitation services for veterans suffering from PTSD.

The adequacy of these VA mental health and readjustment counseling programs to meet the eventual needs of Persian Gulf returnees for PTSD treatment cannot be definitively assessed at present because both the number of Persian Gulf troops who might need assistance, and the number who will seek help from VA is uncertain. The best available data, however, suggest that current resources, augmented by new funds provided last Spring, will be adequate to provide the necessary services.

3. Plans for Providing Further Services

Although formal clinical collaboration between VA Central Office and the Department of Defense has been limited, both VA Medical Centers and Vet Centers have initiated efforts to provide outreach and other clinical services to Persian Gulf veterans, particularly to National Guard and Reserve Units. Both Medical Centers and Vet Centers have been provided additional funds and have expanded the services they provide. During the coming years, VA professionals across the country will be carefully assessing Persian Gulf veterans for indications of PTSD as well as any other manifestations of War Zone stress. In view of the importance of identifying the delayed emergence of adjustment problems, the National Center for PTSD will continue its longitudinal research effort.

C. Conclusion

Currently available data suggest that about 9% of Persian Gulf returnees appear to suffer from significant PTSD symptoms and as many as 34% from other forms of psychological distress. VA has established a national network of specialized services for the treatment of PTSD that will be fully available to Persian Gulf veterans during the years to come.

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This report has had special meaning for the committee that worked on it. First, it reflects the deep concern on the part of the Congress, VA and nation for the welfare of those who served in the Persian Gulf War. More broadly, however, this document may be taken as one of the important fruits of the many efforts undertaken during the past decade to understand and assist veterans suffering from PTSD, and to expand our concern and understanding of victims of all types of traumatic stress. That VA and the nation want to know more about PTSD among Persian Gulf War veterans is a testament to the progress we have made in caring for war veterans and for stress victims of all types, more generally.

Special thanks must go to the VA clinicians who wrote the chapters that make up the bulk of the report. In almost every case, these clinicians had no research grants to help support their efforts and invested immense amounts of their own time in gathering their data and presenting their findings. We thank them.

Acknowledgement must go, as well, to Paul Errera MD, Laurent Lehmann MD and Gay Koerber MA of the Mental Health and Behavioral Sciences Service, VACO, for their continued encouragement and support. At NEPEC, Carmen Alves was exceptionally helpful in pulling together the various pieces of text that compose the report. Virginia Emond, Karen Arena, Vera Ratliff and Leslie Cavallero of the Northeast Program Evaluation Center ably organized the conference calls, mailings and "FAXings" that allowed this report to be a truly national effort.

Robert Rosenheck MD
West Haven, CT
March 16, 1992

CHAPTER 1
INTRODUCTION/OVERVIEW OF FINDINGS

INTRODUCTION/OVERVIEW OF FINDINGS

A. Introduction

Only four days after the Iraqi invasion of Kuwait, the first United States Forces deployed to Operation Desert Shield set off for airfields in Saudi Arabia. By the time Operation Desert Shield became Operation Desert Storm six months later, more than half a million U.S. troops were deployed to the Persian Gulf region. These troops subsequently achieved a stunning military victory with few casualties, and enjoyed enthusiastic domestic support. By the Fall of 1991, the overwhelming majority of troops had returned home from overseas and most of the 228,000 National Guard and Reserve troops that had been called up had been deactivated.

Psychological Sequelae of War Zone Service

Both during the preparation for the war, and as the troops returned home, military and civilian experts expressed concern about possible psychological consequences of Persian Gulf service, for both the men and women serving there and for their families at home. Over the past decade, highly respected scientific studies have documented previously unrecognized, and sometimes persistent, effects of war zone experience on the psychological well-being and social adjustment of veterans and their families (Kulka et al, 1990). Most of these studies focused on the adjustment difficulties of Vietnam veterans suffering from Post-Traumatic Stress Disorder (PTSD) and, as a result, there has been a natural inclination to compare the experiences of Persian Gulf troops to the experiences of veterans who served in Vietnam. While there appeared to be many dramatic, and for the most part reassuring, differences between the experiences of Persian Gulf troops and Vietnam veterans (differences supported by the data presented in this report), it is still too early to assess the full, long-term impact of this war on those who served. PTSD may not become manifest immediately or even shortly following exposure to war zone stress, but, rather, may emerge years after such exposure.

A preliminary report, submitted by the Department of Veterans Affairs' Persian Gulf Returnees Working Group in June, 1991 (Rosenheck et al., 1991), presented evidence that a modest proportion of returnees were facing significant difficulties with psychological adjustment. Although definitive judgment is impossible at this time, this report presents considerable additional data, gathered by VA clinical teams during the past year on: 1) the psychological adjustment of Persian Gulf veterans, 2) clinical efforts that have been made on their behalf, and 3) plans for offering continued assistance in the future.

Public Law 102-25

This report has been prepared pursuant to Public Law 102-25 (section 335) which requires the Secretary of Veterans Affairs to submit a report to Congress by April 5, 1992, assessing:

- 1) needs for rehabilitative services among Persian Gulf returnees who experience Post-Traumatic Stress Disorder (PTSD);
- 2) programs and resources available to meet those needs;
- 3) current plans for providing services;
- 4) the need for additional resources; and,
- 5) plans to coordinate treatment efforts with the Department of Defense.

Plan of this Report

This Introductory/Overview Chapter addresses each of the topics specified in PL 102-25, providing specific responses to the issues raised. In the eleven chapters that follow, detailed summaries from each of 10 VA medical centers, and from Readjustment Counseling Service Vet Centers, provide the data on which the conclusions presented here are based, as well as a rich body of information on the types of clinical services that have been provided.

B. Post-Traumatic Stress Among Persian Gulf Veterans

In view of the widely accepted clinical belief that early intervention can have both preventive and ameliorative effects on the course of war zone-related stress disorders, the Department of Veterans Affairs developed plans and initiated programs to address problems of war zone stress, even before the ground fighting began. Contingency plans for dealing with traumatic stress among Persian Gulf troops were developed across the VA system during the Fall and Winter of 1990-91, in preparation for the ground war. As the troops began to come home during the Spring, debriefing and clinical outreach programs were initiated to facilitate the transition home of Persian Gulf returnees, and to offer services to those encountering psychological as well as other readjustment problems. As part of these clinical initiatives, several VA medical centers and the National Center for PTSD gathered formal assessment data on the experiences and reactions of approximately 6,000 of the more than 30,000 Gulf veterans with whom they had contact between May and September, 1991. In addition, Readjustment Counseling Service Vet Centers have provided their clinical impressions on an additional 9,000 Persian Gulf veterans. The data, presented in detail in Chapters II-XII, will be synthesized here to provide an

overview of the status of Persian Gulf veterans during their first six months after coming home.

War Zone Stressors and Attitudes Towards Overseas Service

Due to the brief duration of the war and the limited number of casualties, exposure to war zone stress was considerably less intense in the Persian Gulf than in other modern wars. On a standardized measure of combat exposure (Laufer et al., 1981) only 5.9% of Gulf returnees evaluated in a survey conducted by the National Center for PTSD at Fort Devens, MA. experienced high exposure levels, as compared to 27% in a community sample of Vietnam theater veterans, assessed with the same measure (Laufer et al., 1981). Only 29% of the Fort Devens sample reported significant exposure to any combat stressor (Chapter II). Among veterans assessed in New Orleans, only 13% of responses concerned fears of death or injury (Chapter III) and among a sample of over 200 troops assessed in Cincinnati, less than 10% reported exposure to small arms fire or ground attack, and less than 20% exposure to missile or artillery attack more than twice (Chapter VII). Exposure to domestic stressors due to separation from home were almost as common as exposure to war zone stressors, with 24% reporting such stressors at Fort Devens and 17% in New Orleans. Attitudes towards Persian Gulf service were generally positive, with 73% of those surveyed at Fort Devens feeling that they were well prepared and 85% feeling that they performed their duties well.

Post-Traumatic Stress Disorder

The Mississippi Scale for PTSD (Keane et al., 1988), a well-known and widely respected measure of war zone stress, was used to assess more than 4,500 troops at seven VA medical centers shortly after their return from the Persian Gulf (Table 1 on the following page). While there was considerable variation across sites in the percentage of returnees who met the minimum score for PTSD (4%-40%)¹, aggregated data from all sites suggest that 9% of returning Persian Gulf veterans may have been suffering from clinical PTSD shortly after their return from the Persian Gulf. Using clinical criteria, Vet Center clinicians reported only 2% of those they saw manifested fully diagnosable PTSD, but that an additional 6.4% had sub-diagnostic PTSD (Chapter XII). A small, but substantial, proportion of Persian Gulf veterans appears to suffer from significant symptoms of PTSD.

¹ This wide variation is due to the use of somewhat different versions of the scale and different cutoff scores at different sites.

Table 1
Post-Traumatic Stress Disorder Measured By
The Mississippi Scale for PTSD and by Clinical Assessment

<u>Site</u>	<u>N</u>	<u>Percent Reported With PTSD</u>
Mississippi Scale for PTSD		
Boston, MA		
Male	2,136	4
Female	208	9
New Orleans, LA	213	19
West Haven, CT	165	8
Little Rock, AR	886	14
Pittsburgh, PA	537	13
Cincinnati, PA	271	6
<u>Providence, RI</u>	<u>120</u>	<u>40</u>
Aggregated Total	4,536	9

Clinical Diagnoses Using DSM-III-R Criteria

Portland, OR	80	17
Readjustment Counseling Svc, Vet Centers	9,090	2

While informative, it must be noted that these data were collected shortly after troops returned from overseas and that the sample from which these data were collected is not a scientific probability sample of Persian Gulf troops. In particular, it substantially over-represents National Guard and Reserve Units.

Other Types of Psychological Distress

In addition to measures of PTSD, several sites also assessed symptoms of Depression (using the Hamilton Depression Scale) or of global psychological distress (using either the Symptom Check List (SCL-90) or its derivative, the Brief Symptom Inventory (BSI) (Derogatis and Spencer, 1982)). Among Persian Gulf returnees in New Orleans, 24% met or exceeded the minimum score for significant depressive symptomatology (Chapter III), as did 25% of the Pittsburgh sample (Chapter VI). In general, somewhat higher percentages of veterans exceeded the threshold for clinically significant psychological distress: 32% of males and 28% of females in Boston; 34% of all Gulf veterans in Pittsburgh; 21% in Cincinnati and 18% in Gainesville, Florida. Vet Centers reported that only 3.1% of those contacted had clinically discernable non-PTSD psychological problems, and that only 1.7% manifested alcohol or drug problems. These differences in reported clinical problems may reflect either differences in assessment methods or true differences in the populations assessed.

Correlates of PTSD Symptoms and Psychological Distress

In addition to evaluating levels of distress among Gulf returnees, several sites also attempted to determine whether the severity of such distress was specifically associated with exposure to stressful military experiences. At three sites, standard measures of combat exposure were found to be significantly and positively correlated with the level of PTSD symptoms on the Mississippi Scale (Boston, New Orleans and West Haven). At three other sites, stress levels among veterans who were deployed to the Gulf were compared with stress levels among those from the same units who were not deployed (Pittsburgh, Providence and Gainesville). Troops deployed to the Persian Gulf were found, in each case, to be more symptomatic than troops from the same units that were not deployed. It thus appears that both exposure to war zone stressors and the fact of deployment to the Persian Gulf are specifically associated with increased psychological distress.

Many studies of war zone stress conducted during the past decade have reported that stressful pre-military or childhood experiences, along with traumatic war zone experiences, contribute to the severity of post-war stress reactions (Kulka et al, 1990). Only one of the reports included here addressed this issue (see Chapter VII, from the Cincinnati VAMC) but, findings from that study do suggest a relationship between current stress symptoms and pre-military stressors.

Family Stress

Although most VA medical centers that have provided services to Gulf returnees have made contact with family members (see statistics presented below), most of the formal assessment projects placed their principal emphasis on the clinical status of the veteran rather than on family adjustment. At the Little Rock VAMC, however, a correlational analysis was conducted between the Minnesota Multiphasic Personality Inventory - PTSD subscale (MMPI-PTSD) and reports of family/personal adjustment. This analysis, which involved data from 449 veterans, showed that distress on the MMPI-PTSD was most strongly associated with the following statements:

1. I have a hard time controlling my children since coming home ($r=0.20$, $p<.05$);
2. My alcohol/drug intake has increased since coming home ($r=0.41$, $p<.05$);
3. I have noticed changes in my children since coming home ($r=.29$, $p<.01$);
4. I feel like a stranger in my family since coming home ($r=.20$, $p<.0001$).

Although these data were collected at only one site, they do suggest a significant relationship between family distress and personal symptoms.

The Need for Rehabilitative Services Among Persian Gulf Returnees who Experience PTSD

The data presented above suggest that about 9% of Persian Gulf returnees were experiencing symptoms suggestive of PTSD shortly after their return home, and that perhaps as many as 34% were experiencing other forms of psychological distress related to their deployment. This distress appears to be specifically related to war zone stressor exposure and deployment, and also appears to be associated with family readjustment problems.

Two considerations, however, must be born in mind in weighing the significance of these findings and their clinical implications. First, the assessment instruments used were standardized on Vietnam veterans, a population whose wartime experience was concluded many years before testing. The instruments have not been standardized for Persian Gulf veterans specifically, nor for recently returned veterans more generally. Thus, while some degree of difficulty is clearly discernable among 10%-25% of Persian Gulf returnees, we cannot at present estimate how long this distress will persist, or the degree to which it will affect subsequent community adjustment.

It is notable, in this respect, that a relatively modest number of Gulf veterans expressed a need for treatment or have actually sought VA mental health services. In the Boston survey (Chapter II) only 3% expressed interest in receiving assistance. In New Orleans, 8% of 346 veterans who were debriefed subsequently came to the VA for further counseling, as compared to 15% of 165 veterans at West Haven, and 8% of 122 in Cincinnati.

It is justifiable to conclude at this time that while Persian Gulf service was less traumatic than service in other major wars, a significant minority of returnees are experiencing symptoms of psychological distress and a smaller, but notable, number have sought VA's assistance. Further, longitudinal studies of Persian Gulf veterans are needed to determine the eventual personal and family consequences of participation in the Gulf War.

C. Programs And Resources Available to Meet Clinical Needs

Existing Clinical Services

Mental health services are provided to veterans suffering from PTSD at 196 Readjustment Counseling Centers, 153 VA Mental Health Clinics, 131 Day Hospitals and Day Treatment Centers, and 158 Substance Abuse treatment programs, located at 159 VA medical centers and free-standing outpatient clinics across the country. Fifty-seven VA Regional Offices, furthermore, provide benefits counseling, and access to VA-funded vocational rehabilitation services, for veterans suffering from PTSD.

In the years since the end of the Vietnam war, VA mental health clinicians have become increasingly knowledgeable and sophisticated in the assessment and treatment of Post-Traumatic Stress Disorder. During these years, VA has established a broad network of specialized programs that offer a variety of levels of treatment for PTSD, and this network has continued to expand in recent years. Specialized treatment is currently provided to veterans suffering from PTSD through 196 Readjustment Counseling Centers, 56 PTSD Clinical Teams, Substance Abuse PTSD Teams, 26 Specialized Inpatient PTSD Units, and 4 PTSD Substance Abuse Units.

Through these and other VA programs, a broad range of treatment services are provided including: outreach services, readjustment counseling, psychotherapy, group therapy, family therapy, psychopharmacologic therapy, vocational rehabilitation and other services. A survey conducted in 1986 under the auspices of the Chief Medical Director's Special Committee on PTSD found that over 12,332 veterans suffering from PTSD were provided outpatient VA mental health or counseling services in a typical month, about 10% of all those who received mental health services from VA.

Specialized Efforts to Reach Out, Debrief and Offer Clinical Services to Persian Gulf Returnees

In the year since the conclusion of the Persian Gulf War, both the nation as a whole and VA professionals, more particularly, have shown an unprecedented commitment to doing what is right and best for the troops who served there. In its strategic plan for the 1990s (Department of Veterans Affairs, 1990), the Department of Veterans Affairs highlighted its interest in expanding its preventive health care effort. Efforts made to serve Persian Gulf veterans during the past year have clearly reflected this interest.

Shortly after the war was won, preventive initiatives were designed by VA medical centers, RCS and the National Center for PTSD to:

- 1) reach out to military personnel to inform them of possible stress reactions they may encounter and of services available to them;
- 2) offer debriefing experiences to facilitate discussion and abreaction of their war zone and deployment experiences;
- 3) facilitate access to both peer support and professional counseling or treatment.

Detailed descriptions of several of these initiatives are presented in Chapters III - XII, below.

On September 16, 1991, Social Work Service, in cooperation with Mental Health and Behavioral Sciences Service, Readjustment Counseling Service, and the Department of Defense, sponsored a video teleconference titled "VA/DoD Continuing Response to our Returning Veterans." The goal of the teleconference was to facilitate VA, DoD, and other providers to conceptualize, organize implement and/or update needs assessments and clinical services for Gulf War veterans and their families.

Readjustment Counseling Center Initiatives

Public Law 102-25 expanded eligibility for RCS services to veterans who served in:

- * Lebanon (August 25, 1982 to February 26, 1984);
- * Grenada (October 23, 1983 to November 1983);
- * Panama (December 20, 1989 to January 31, 1990); and
- * the Persian Gulf (August 2, 1990, until a date to be determined by Presidential proclamation).

Since its inception twelve years ago, RCS has emphasized outreach and preventive services for Vietnam veterans, and these have been extended to Persian Gulf veterans. In FY91, \$1.4 million was allocated through Public Law 102-27 to support a total of 84 temporary staff for the Vet Center system. VA is providing supplemental funding over the next four years on a gradually decreasing schedule for continuation of this staff augmentation initiative for Persian Gulf veterans. These staffing funds are still being used to support outreach efforts to Persian Gulf veterans, particularly those in National Guard and Reserve units, across the country. By the end of September, 1991 RCS had seen 9,994 veterans of the Persian Gulf War, and this figure had grown to approximately 17,738 by the end of January, 1992 (see additional information on RCS initiatives in Chapter XII).

Medical Center Initiatives

By the end of September, 1991 VA medical center programs had made contact with 35,217 individual veterans of the Persian Gulf War and these veterans had received a total of 73,534 clinical contacts (see Table 2 for workload data reported for individual VA medical centers). Of these contacts, 61,192 (80%) were for medical surgical, dental, rehabilitation and other non-mental health services; 14,342 (19.5%) were for specialized mental health care and an additional 2,489 (3.4%) were contacts with family members or other collateral persons.

Specially Funded Initiatives for Persian Gulf Returnees. In the Spring of 1991, special non-recurring funds were made available to support time-limited, medical center-based service programs for Persian Gulf veterans. Because the funds were time-limited, the initiatives were in operation only until the end of Fiscal Year 1991 (September 30, 1991). Twenty-one of 29 proposals were funded (Table 3) and \$1,059,030 was spent on their operation. Activities that were supported include formal needs assessment programs, outreach and debriefing efforts, psychotherapy, family counseling initiatives and the conference mentioned previously. These efforts are described in detail in Chapters III-XI. The remaining funds from the \$4 Million Dire Emergency Supplemental Act of 1991, were provided to VA medical centers with existing specialized PTSD programs to support pharmacy and laboratory costs and to purchase equipment and supplies directly associated with PTSD treatment.

General PTSD Program Expansion Funds. Approximately seven million dollars of recurring funds were identified for the expansion of specialized PTSD treatment programs for veterans of the Persian Gulf (and others wars) at VA medical centers in FY 1992. Proposals for 91 programs were received and carefully reviewed. Fifteen medical centers were selected to establish new outpatient programs and six to establish inpatient programs. Priority was given to medical centers in areas of the country that did not have ready access to specialized PTSD treatment programs.

TABLE 2. PERSIAN GULF VETERANS PROVIDED SERVICES AT VA MEDICAL CENTERS, THROUGH SEPTEMBER 30, 1991.

SITE	TOTAL # SEEN	TOTAL # CONTACTS	# RECEIVING MENTAL HEALTH SERVICES	# MENTAL HEALTH CONTACTS	# FAMILY & COLLATERAL CONTACTS
ALBANY, NY	104	292	2	29	0
ALBUQUERQUE, NM	236	407	21	52	18
ALEXANDRIA, LA	87	318	2	2	0
ALLEN PARK, MI	84	197	20	21	0
ALTOONA, PA	221	3893	12	66	13
AMARILLO, TX	6	8	1	1	0
AMERICAN LAKE, WA	278	310	196	239	12
ANN ARBOR, MI	52	91	2	2	35
ASHEVILLE, NC	88	314	4	12	0
ATLANTA, GA	603	1538	10	31	6
AUGUSTA, GA	123	298	26	84	10
BALTIMORE, MD	89	89	4	4	0
BATAVIA, NY	55	272	5	17	0
BATH, NY	51	237	4	33	1
BATTLE CREEK, MI	54	161	22	60	404
BAY PINES, FL	110	237	2	8	0
BECKLEY, WVA	6	9	1	1	0
BEDFORD, MA	28	133	9	64	2
BIG SPRING, TX	18	18	1	1	0
BILOXI, MS	872	2576	28	327	0
BIRMINGHAM, AL	774	3268	18	233	9
BOISE, ID	40	93	35	88	510
BONHAM, TX	8	30	1	2	0
BOSTON	3266	3282	2886	2902	7
BROCKTON, MA	127	172	24	51	9
BRONX, NY	17	22	0	0	0
BROOKLYN, N.Y.	15	117	10	90	4
BUFFALO, NY	37	53	0	0	0
BUTLER, PA	59	90	4	15	2
CANANDAIGUA, NY	96	115	6	26	20
CASTLE PT., NY	6	9	0	0	0
CHARLESTON, SC	253	388	2	8	1
CHEYENNE, WY	20	36	2	18	2
CHICAGO LAKESIDE, IL	22	5	0	0	0
CHICAGO (WS), IL	2	2	0	2	0
CHILLICOTHE, OH	36	226	2	10	0
CINCINNATI, OH	853	1635	502	667	0
CLARKSBURG, WV	66	66	0	0	0
CLEVELAND(BRECKSVILLE)OH	304	304	304	304	0
COATESVILLE, PA	20	162	1	18	0
COLUMBIA, MO	90	188	3	9	0
COLUMBIA, SC	623	1872	27	82	0
COLUMBUS, OH	217	530	6	19	0
DALLAS, TX	4	16	3	10	38

TABLE 2 (CONTINUED). PERSIAN GULF VETERANS PROVIDED SERVICES AT VA MEDICAL CENTERS, THROUGH SEPTEMBER 30, 1991.

SITE	TOTAL	TOTAL #	# RECEIVING	# MENTAL	# FAMILY &
	# SEEN	CONTACTS	MENTAL HEALTH SERVICES	HEALTH CONTACTS	COLLATERAL CONTACTS
DANVILLE, IL	122	319	10	24	0
DAYTON, OH	138	297	9	25	0
DENVER, CO	232	412	7	13	0
DES MOINES, IA	15	28	0	0	0
DUBLIN, GA	71	202	5	10	0
DURHAM, NC	73	145	3	3	2
EAST ORANGE, NJ	23	23	0	0	0
EL PASO, TX	0	0	0	0	0
ERIE, PA	75	218	1	8	0
FARGO, ND	170	269	10	16	4
FAYETTEVILLE, AR	174	308	9	19	0
FAYETTEVILLE, NC	195	493	4	16	0
FORT HARRISON, MT	253	149	18	6	0
FORT HOWARD, MD	1	1	0	0	0
FORT LYON, CO	32	145	3	5	0
FORT MEADE, SD	15	44	4	7	0
FORT WAYNE, IN	21	32	2	2	0
FRESNO, CA	87	303	2	5	0
GAINESVILLE, FL	536	627	512	528	13
GRAND ISLAND, NE	60	149	0	0	0
GRAND JUNCTION, CO	4	11	0	0	0
HAMPTON, VA	647	4171	35	285	0
HINES, IL	61	61	2	5	0
HOT SPRINGS, SD	2	2	0	0	0
HOUSTON, TX	268	1508	2	2	0
INDIANAPOLIS, IN	160	160	5	18	1
IOWA CITY, IA	123	347	6	11	0
IRON MOUNTAIN, MI	12	12	0	0	0
JACKSON, MS	270	280	9	39	7
KANSAS CITY, MO	16	30	0	0	0
KERRVILLE, TX	6	7	0	0	0
KNOXVILLE, IA	12	74	3	37	1
LAKE CITY, FL	92	153	0	0	0
LEAVENWORTH, KS	37	231	3	0	0
LEBANON, PA	47	263	8	26	7
LEXINGTON, KY	5	18	5	18	7
LINCOLN, NE	59	68	3	4	1
LITTLE ROCK, AR	2108	2542	1934	2009	468
LIVERMORE, CA	0	0	0	0	0
LOMA LINDA, CA	6	14	4	12	5
LONG BEACH, CA	134	134	9	9	0
LOS ANGELES OPC	8	31	0	0	0
LOUISVILLE, KY	453	755	2	8	0
LYONS, NJ	14	15	0	0	0

TABLE 2 (CONTINUED). PERSIAN GULF VETERANS PROVIDED SERVICES AT VA MEDICAL CENTERS, THROUGH SEPTEMBER 30, 1991.

SITE	TOTAL	TOTAL #	# RECEIVING	# MENTAL	# FAMILY &
	# SEEN	CONTACTS	MENTAL HEALTH SERVICES	HEALTH CONTACTS	COLLATERAL CONTACTS
MADISON, WI	33	129	6	11	3
MANCHESTER, NH	80	254	3	8	0
MARION, IL	58	272	5	16	0
MARION, IN	50	215	3	12	0
MARLIN, TX	6	20	0	0	0
MARTINEZ, CA	221	379	5	9	11
MARTINSBURG, WV	349	495	265	270	12
MEMPHIS, TN	129	610	2	236	0
MIAMI, FL	280	1317	14	78	10
MILES CITY, MT	8	12	0	0	0
MILWAUKEE, WI	1120	1664	20	95	0
MINNEAPOLIS, MN	415	2313	30	400	0
MONTGOMERY, AL	475	583	0	0	0
MONTROSE, NY	4	8	0	0	0
MOUNTAIN HOME, TN	357	786	190	599	8
MURFREESBORO, TN	139	177	1	1	1
MUSKOGEE, OK	136	171	2	7	0
NASHVILLE, TN	44	186	6	16	8
NEW ORLEANS, LA	453	877	157	308	16
NEW YORK, NY	108	291	5	23	8
NEWINGTON, CT	172	306	3	10	0
NO. CHICAGO, IL	0	0	0	0	0
NORTHAMPTON, MA	67	291	4	32	
NORHTPORT, NY	64	187	0	0	0
OKLAHOMA CITY, OK	220	527	20	31	
OMAHA, NE	168	209	2	3	0
PALO ALTO, CA	7	12	6	18	8
PERRY POINT, MD	35	134	8	26	3
PHILADELPHIA, PA	4126	721	253	533	60
PHOENIX, AZ	112	269	13	39	3
PITTSBURGH, PA (HD)	1001	1001	1000	1000	250
PITTSBURGH, PA (UD)	38	39	6	6	56
POPLAR BLUFF, MO	20	52	4	7	5
PORTLAND, OR	715	2132	24	39	15
PRESCOTT, AZ	6	17	2	4	1
PROVIDENCE, RI	435	435	435	435	160
RENO, NV	39	109	1	1	0
RICHMOND, VA	86	92	1	0	0
ROSEBURG, OR	70	223	6	32	0
SAGINAW, MI	62	62	0	0	0
SALEM, VA	55	191	3	9	5
SALISBURY, NC	761	1468	2	2	0
SALT LAKE CITY, UT	327	1894	6	39	4
SAN ANTONIO, TX	271	562	19	54	33
SAN DIEGO, CA	116	369	11	52	18
SAN FRANCISCO, CA	465	1105	33	77	1
SAN JUAN, PR	189	918	25	58	0
		14			

TABLE 2 (CONTINUED). PERSIAN GULF VETERANS PROVIDED SERVICES AT VA MEDICAL CENTERS, THROUGH SEPTEMBER 30, 1991.

SITE	TOTAL	TOTAL #	# RECEIVING	# MENTAL	# FAMILY &
	# SEEN	CONTACTS	MENTAL HEALTH SERVICES	HEALTH CONTACTS	COLLATERAL CONTACTS
SEATTLE, WA	514	1901	28	168	0
SEPULVEDA, CA	92	92	9	9	0
SHREVEPORT, LA	194	297	3	6	7
ST. CLOUD, MN	50	160	3	5	0
ST. LOUIS, MO	20	148	4	13	0
SHERIDAN, WY	1	6	0	0	0
SIOUX FALLS, SD	115	264	8	48	16
SPOKANE, WA	13	13	1	1	1
SYRACUSE, NY	44	180	1	2	0
TAMPA, FL	8	19	5	14	6
TEMPLE, TX	189	1236	2	5	0
TOGUS, ME	130	316	7	27	0
TOMAH, WI	61	61	11	11	0
TOPEKA, KS	58	247	2	6	0
TUCSON, AZ	188	650	36	65	5
TUSCALOOSA, AL	48	161	5	17	0
TUSKEGEE, AL	4	15	0	0	0
WACO, TX	32	47	0	0	0
WALLA WALLA, WA	55	55	3	4	0
WASHINGTON, DC	79	212	5	5	0
WEST HAVEN, CT	167	364	193	415	123
WHITE RIVER JCT., VT	173	217	11	39	12
WICHITA, KS	261	903	14	96	0
WILKES BARRE, PA	169	1253	22	9	1
WILMINGTON, DE	1503	1503	2	3	0
TOTAL	35,217	73,534	9,813	14,342	2,489
PERCENT OF TOTAL	100.0%	100.0%	27.9%	19.5%	3.4%

TABLE 3: PERSIAN GULF VETERANS SEEN AT VA FACILITIES WITH SPECIALLY FUNDED PROJECTS, THROUGH SEPTEMBER 30, 1991.

SITE	WITHIN SPECIAL PROJECT										TOTAL WITHIN & OUTSIDE SPECIAL PROJECT									
	TOTAL # SEEN	TOTAL CONTACTS	# FAMILY & COLLATERAL CONTACTS	# FTEE ALLOCATED	FUNDS EXPENDED			TOTAL	# SEEN	TOTAL CONTACTS	# SEEN	TOTAL MENTAL HEALTH CONTACTS	# SEEN	TOTAL MENTAL HEALTH CONTACTS	# SEEN	TOTAL MENTAL HEALTH CONTACTS				
					PERSONAL SERVICE	EQUIPMENT (INCL. ADP)	OTHER										# SEEN	TOTAL MENTAL HEALTH CONTACTS	# SEEN	TOTAL MENTAL HEALTH CONTACTS
ALTOONA, PA	6	23	0	0.5	\$8,000	\$0	\$0	\$8,000	221	3,893	12	66	13	221	3,893	12	66	13		
AMERICAN LAKE, TACOMA, WA	192	224	2	0.5	\$8,000	\$0	\$0	\$8,000	278	310	196	239	12	278	310	196	239	12		
BATTLE CREEK, MI	21	41	4	0.0	\$576	\$0	\$0	\$576	54	161	22	60	404	54	161	22	60	404		
BOISE, ID	35	88	265	2.1	\$66,425	\$0	\$0	\$66,425	40	93	35	88	510	40	93	35	88	510		
BOSTON, MA	2879	2884	6	1.3	\$7,761	\$8,200	\$0	\$15,961	3,266	3,282	2,886	2,902	7	3,266	3,282	2,886	2,902	7		
BROCKTON, MA	4	19	1	2.0	\$8,020	\$0	\$0	\$8,020	127	172	24	51	9	127	172	24	51	9		
CINCINNATI, OH	490	558	0	3.4	\$41,688	\$7,500	\$15,000	\$64,188	853	1,635	502	667	0	853	1,635	502	667	0		
CLEVELAND(BRECKSVILLE)OH	304	304	0	3.0	\$22,000	\$12,786	\$44,094	\$78,880	304	304	304	304	0	304	304	304	304	0		
GAINESVILLE, FL	510	516	6	0.9	\$31,880	\$3,729	\$1,000	\$36,609	536	627	512	528	13	536	627	512	528	13		
LITTLE ROCK, AR	1931	1994	438	2.0	\$67,174	\$25,044	\$2,000	\$94,218	2,108	2,542	1,934	2,009	468	2,108	2,542	1,934	2,009	468		
MARTINSBURG, WV	261	261	12	0.6	\$17,925	\$2,000	\$2,500	\$22,425	349	495	265	270	12	349	495	265	270	12		
MOUNTAIN HOME, TN	188	592	6	1.6	\$38,076	\$12,820	\$10,289	\$61,185	357	786	190	599	8	357	786	190	599	8		
NEW ORLEANS, LA	151	302	16	2.6	\$126,330	\$9,800	\$16,500	\$152,630	453	877	157	308	16	453	877	157	308	16		
PHILADELPHIA, PA	220	500	35	2.5	\$17,791	\$7,000	\$132	\$24,923	416	721	253	533	60	416	721	253	533	60		
PITTSBURGH/MD, PA	1000	1000	250	1.6	\$91,259	\$113,500	\$62,250	\$267,009	1,001	1,001	1,000	1,000	250	1,001	1,001	1,000	1,000	250		
PORTLAND, OR	8	16	9	0.0	\$3,634	\$915	\$2,395	\$6,944	715	2,132	24	39	15	715	2,132	24	39	15		
PROVIDENCE, RI	435	435	160	3.0	\$68,000	\$0	\$0	\$68,000	435	435	435	435	160	435	435	435	435	160		
SAN FRANCISCO, CA	20	37	1	0.1	\$4,058	\$0	\$130	\$4,188	465	1,105	33	77	1	465	1,105	33	77	1		
SIOUX FALLS, SD	4	19	14	0.2	\$6,240	\$0	\$0	\$6,240	115	264	8	48	16	115	264	8	48	16		
WEST HAVEN, CT	164	364	3	3.9	\$24,609	\$0	\$0	\$24,609	167	364	193	415	123	167	364	193	415	123		
SOCIAL WORK TRNG	8823	10177	1228	31.8	\$659,446	\$203,294	\$156,290	\$1,059,030	12,260	21,199	8,985	10,638	2,097	12,260	21,199	8,985	10,638	2,097		

D. Plans for Providing Continuing Services

The evidence presented in this report indicates that a distinct minority of Persian Gulf Veterans appear to be suffering from stress-related difficulties since their return to the United States. Substantial educational and preventive efforts have been mounted by VA and, with the exception of the special medical center initiatives that concluded at the end of September, these efforts will continue.

Although formal clinical collaboration between VA Central Office and the Department of Defense (DoD) has been limited, both VA medical centers and Vet Centers have initiated efforts to provide outreach and other clinical services to Persian Gulf veterans, particularly those from National Guard and Reserve Units. Both VA medical centers and Vet Centers have been provided additional funds and have expanded the services they provide. The National Center for PTSD has continued to support these activities through consultation and educational initiatives and has initiated several longitudinal studies of the clinical and functional status of Persian Gulf veterans (including a multi-site collaborative study with Readjustment Counseling Service) and to seek collaborative opportunities with DoD programs and practitioners.

E. Conclusion

Currently available data suggest that about 9% of Persian Gulf returnees appear to suffer from significant PTSD symptoms and as many as 34% from other forms of psychological distress. VA has established a national network of specialized services for the treatment of PTSD that will be fully available to Persian Gulf veterans during the years to come.

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CHAPTER 2

FORT DEVENS REUNION SURVEY: REPORT OF PHASE I

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FORT DEVENS REUNION SURVEY: REPORT OF PHASE I

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A. Background

The Ft. Devens Reunion Survey represents one of the earliest efforts to collect empirical data on returning military personnel following the conclusion of Operation Desert Storm (ODS). To date, nearly all research in this country examining the behavioral and psychological impact of war-zone experiences has been conducted long after troops have returned to their predeployment settings (i.e., families and homes), a period of time that may be months or years after initial mobilization. As a result, efforts to gauge the effects of deployment and/or war-zone exposure to date are likely to have been influenced by a variety of intervening life events and the impact of retrospective reporting biases.

The survey described here - the Desert Storm Reunion Survey: Phase I (initial data collection) - was begun by members of the United States Army Chaplaincy based at Ft. Devens, Massachusetts. At the request of the Chaplaincy, design consultation and collaboration were provided by the National Center for PTSD, Behavioral Science Division, DVAMC Boston¹. Ft. Devens processed upwards of 5,000 troops from throughout New England and the U. S. during Operations Desert Shield and Desert Storm. This report presents Phase I data from the Desert Storm Reunion Survey which was administered at the outset to 2,951 military personnel (representing 84 units). These personnel were surveyed in the course of processing activities during the first five days of troops' return to Ft. Devens following deployment. Consequently, the study affords a highly unique opportunity to investigate broad-based, systematically collected data related to self-reported features of the deployment experience and subsequent adaptational processes. The survey involves two additional phases: Phase II (followup survey data collection) is currently in progress and will provide data on changes associated with readjustment during the first year of return from the Gulf as well as information on a variety of other psychological and behavioral domains (e.g., family and interpersonal functioning; self-reported health status). Phase III, planned for 1993, involves more detailed, face-to-face evaluations of a subset specially selected from the larger sample.

¹ Avron Spiro, Ph.D., Danny Kaloupek, Ph.D., Matthew Friedman, M.D., Robert Rosenheck, M.D., Paula Schnurr, Ph.D., and Terence Keane, Ph.D. provided invaluable assistance with this project.

Initial survey administration was conducted between mid-April and early July, 1991. Dates of administration for individual units were exclusively dependent on the unit's date of return to Ft. Devens; consequently, a highly uniform standard of administration exists for nearly all participants. Out of 84 units surveyed during Phase I, only two were sampled outside of the initial five day period due to unavoidable external constraints. Hence, because of possible confounds due to differences in administration format and/or chronology, data from these two units have been kept separately; they are referred to by name whenever they appear in this report (46th Combat Support Hospital and 10th Special Forces Group). Without these two units, the sample represents 2,345 individuals.

As noted in the initial Congressional report, the Reunion Survey consists of a self-report questionnaire involving a series of detailed questions and psychological instruments. Some of the instruments are previously validated measures of psychological distress and/or PTSD symptomatology and are in widespread use in the mental health field. Measures of general psychological distress were specifically included because of the likelihood that returnees would be experiencing a range of emotional and behavioral phenomena rather than the classically defined symptoms of PTSD which are often not evident until later in the course of readjustment. Other survey measures focused on relevant background and demographic characteristics (e.g., age, race, marital status, education, and occupation), distinctive deployment-related experiences, and the latter's potential relationship to subsequent patterns of readjustment. Because of the nature of the Persian Gulf conflict, there was an intentional emphasis on the identification of nontraditional (i.e., noncombat) deployment experiences, in particular, domestic stressors.

B. Results

Demographic Characteristics of the Sample

As noted, the larger sample was divided for preliminary analytic purposes to exclude two groups of returnees, the 10th Special Forces Group (SFG) and the 46th Combat Support Hospital (CSH). Data for these groups have been treated separately for two important reasons: survey administration of the 46th CSH was not conducted during the same time interval as all other units (i.e., within five days of return and before returning troops left the base) and the ODS experiences and prior background of the 10th SFG are sufficiently different from other units (i.e., two deployments during the war and/or participation in Operation Provide Comfort following ODS) to warrant separate consideration. These two units will be the subject of further, separate reports.

Demographic characteristics of the sample and various

subsets are found in Tables 1A-2B. These findings are descriptive and do not necessarily reflect the gender and ethnic compositions of the larger Desert Storm force; for example, the Devens sample contains a higher proportion of total Reserve forces than were deployed to the Gulf. The majority of veterans in this study were Caucasian (84%) with at least a high school education. However, a considerable number of minority groups including women (9%), Blacks, Hispanics, Asians, and Native Americans are also represented. Members of these groups span a variety of units with diverse war-time experiences, and further attention to both deployment experiences and subsequent adaptation in these individuals will be important based on prior research suggesting the contribution of gender and ethnicity to post-trauma readjustment.

In terms of service status, the majority of the overall sample is comprised of National Guard members (64%), with a portion of Reserve (25%) and active duty participants (11%). Other background variables indicate that males overall were far more likely than females to be married at the time of deployment (48% vs. 24%). Over half the women were single during the time of service. In addition, women on average were younger ($M = 28.3$ years ± 7.3 vs. 30.4 ± 9.1), slightly better educated, and served at lower ranks during the conflict (see Tables 1A and 2A). Vocational status, measured by the Hollingshead-Redlich Index, showed that 21% of the overall sample would be classified at mid-range occupational levels (e.g., administrative/service specialties) or above, with 79% at the lower end of the scale.

Because of the interest in gender and service status as potential factors in adjustment, a series of two-way analyses of variance (ANOVAs) using gender (male/female) and status (Active, Reserve, Guard) as factors was carried out using age, level of education, and time in Gulf as dependent variables. No significant interaction effects were obtained for any of these variables. However, main effects were obtained for gender on age ($F(1,2242) = 8.6, p < .01$) and education ($F(1,2332) = 10.0, p < .01$) and for status on all three background variables (age: $F(2,2332) = 17.9, p < .001$; education: $F(2,2332) = 8.3, p < .001$; months deployed: $F(2,2312) = 93.9, p < .001$). Followup tests showed that women were younger and better educated. For status, Reserve and Guard personnel were slightly older and better educated. Finally, groups differed on time in Gulf with Reserve troops serving the longest followed by active duty personnel and Guard troops. Comparisons using race were conducted by dividing veterans into white, black, and all others. Using this classification, analyses revealed that race was not a consideration in the educational level of the sample; however, black respondents were younger than both whites and all other minorities (28.1 ± 7.1 vs 30.3 ± 9.0 and 31.0 ± 10.0) and served longer in the Gulf than other minorities ($M = 4.2$ months ± 1.4 vs. 3.9 ± 1.4) but not longer than whites (4.0 ± 1.3).

Attitudes Towards ODS Service

This section reports on a variety of questions tapping impressions and attitudes towards perceived impact of military and nonmilitary stressors, personal preparedness, unit cohesion, anticipated impact on personal growth, social and vocational functioning post-service, symptom effects, and expectations of the need for mental health assistance following deployment (see Table 3). These types of items were included because of research strongly suggesting the importance of personal attributions in the mediation and buffering of response to major life events.

Findings from this section showed that, at least at initial return, the majority (73%) of respondents reported feeling well-prepared for military activity although it is noteworthy that females reported a lower rate (61% vs. 74%). Similarly, most respondents (85%) stated considerable satisfaction with their personal performance during the war. Roughly consistent with more objective war-zone exposure findings described later, just over one-third of the total sample reported having experienced military-related life threat of a moderate degree or greater, a finding important to consider in light of potential development of stress-related symptoms. A slightly lesser number (33%) reported environmental or physical stress that was noteworthy.

Similar proportions of nonmilitary stressors were described by respondents: On these items, almost one-third of women participants indicated the presence of greater than moderate levels of nonmilitary stress during their deployment while 28% of men endorsed this phenomenon. Overall, less than 10% of the total overall sample reported currently experiencing stress symptoms related to their ODS experience at a level that was greater than moderate, with only 3% endorsing any observed need at the time for psychological intervention related to their service. Because of the very early (and subjective) nature of these observations, data from these questions should be viewed with considerable caution due to the possible impact of considerable positive publicity on returnees and the extent of ongoing "welcome home" festivities. Furthermore, at the time of this evaluation, no participants had actually returned home, limiting personal appraisal of actual reunification.

Consistent with early reports of substantial personal well-being, a large number of returnees stated that they anticipated clearcut positive impact of the ODS experience on a number of important life domains including: personal growth (72%), family relationships (69%), and work performance (48%). The seeming discrepancy between anticipated personal growth impact and anticipated effects on work performance require further study. Nearly one third of the sample anticipated that religion would serve as more than a moderate source of support during the

upcoming months (30%). Support by the Nation was almost uniformly endorsed as positive at this stage (93%). In general, the stability of these reports and their interaction with longer-range readjustment patterns merit extended examination.

Measurement of Stressor Exposure

Research on the development of longer-term adjustment problems, post-traumatic stress, and other forms of dysfunction and recovery have highlighted the significant contribution of typology and intensity of the stressor event. For example, higher levels of stressor exposure and exposure to events involving death or near-death experiences appear to substantially increase rates of pronounced psychological distress and PTSD. Consequently, accurate identification and measurement of stressor exposure is essential. Apart from questions relating to perceived stressor exposure, respondents provided more systematic information about deployment and war-zone exposure in three other ways: (a) using a fixed format, self-report checklist involving previously validated combat exposure questions (Gallops, Laufer, & Yager, 1981), (b) using a similar format checklist expanded to reflect post-Vietnam (and specifically ODS) war-zone experiences (e.g., frequency of exposure to SCUD alert; frequency of exposure to SCUD attack), and (c) using an open-ended format where troops described the single most distressing incident during their deployment period. The first two formats focused on more objective parameters of event exposure (e.g., did this event happen and how often) rather than assessment of individuals' feelings about the event, a variable likely to be influenced by a number of factors. Correlational analyses conducted using levels of traditional and expanded war-zone exposure and current symptomatology in fact showed a significant positive relationship between these variables for the overall sample as well as within subsets grouped by status and gender.

Using the first format, which employs a 5-level (0-4) combat exposure classification derived from Vietnam veteran populations (Gallops et al., 1981), 70.2% of the overall sample in the present survey scored in the lower ranges for traditional combat activity (i.e., categories 0-1; see Table 4). Examining gender, 70.5 % of men and 71.9% of women reported these more minimal levels of combat exposure, leaving 29.5% of men and 28.1% of women with presumably more moderate to heavy war-zone exposure. Ethnicity was not a variable contributing to level of combat/war-zone exposure in this analysis. A status X gender factorial ANOVA yielded a significant interaction ($F(2,2281) = 5.5, p < .01$) with a significant main effect only for status. Post-hoc comparisons indicated that active duty troops had significantly higher levels of exposure than Guard personnel, who in turn had greater combat exposure than Reservists. A comparable result was found using the more comprehensive (i.e., expanded) war-zone exposure checklist described earlier. Because these findings are

based on the overall sample, considerable variability is present at the level of individual units. Consequently, analyses involving individual units are being conducted to better ascertain differential effects of particular war-zone events (e.g., friendly fire) on readjustment.

Qualitative data from the 33 war-zone stressors listed in the extended war-zone checklist indicate that being on alert for possible SCUD attack was the most commonly endorsed stressor, while nearly 10% of the sample cited no major stressor as having occurred. Chi square analyses of these data yielded significant differences in distributions for both status and gender. These results are shown in Tables 5 and 6. Of note are the findings that more women than men reported a major combat-based stressor while fewer women than men cited domestic stress as the most pronounced event during deployment. In terms of status, although Reservists reported the lowest combat exposure on formal checklists, considerably more Reservists than active duty or Guard personnel stated that combat-based stressors were most prominent for them during the conflict. Finally, for both the sample as a whole and for all subsets (excluding Special Forces), domestic stressors uniformly occupied second place in terms of prevalence, preceded only by the impact of full-fledged combat/mission-related activities.

Assessment of Stress Symptomatology and Adjustment

Research on the development of stress disorders suggests that the vast majority of individuals recover from exposure to traumatic stress and do not develop PTSD, at least the chronic form. However, research in veteran populations has repeatedly demonstrated the increased adverse effects of combat exposure, particularly when combat is prolonged or intense. Because most research on veterans has been conducted retrospectively, occurring decades after initial exposure, little is known about the evolutionary course of PTSD in deployed veterans or the patterns associated with subsequent readjustment. Furthermore, little is known about associated psychological problems or disorders that may develop in lieu of PTSD.

Because data were gathered at a uniform point very early in these veterans' return from war, this study affords one of the first opportunities to track veterans' reactions in a prospective fashion. Consequently, accurate assessment of any stress-related symptoms was essential. The possible presence of stress-related symptoms addressed along two dimensions in Phase I: symptoms suggestive of post-traumatic stress (PTSD) and symptoms suggestive of more general psychological distress. These symptoms were measured by two empirically validated scales - the Mississippi Scale for Combat-related PTSD (Keane, Caddell, & Taylor, 1988) and the Brief Symptom Inventory (BSI; Derogatis, 1983). In addition, other symptom indicators were derived using a checklist

format oriented towards the cardinal DSM-III-R symptoms of PTSD.

Mean scores on the Mississippi Scale for various sample subsets are shown in Table 7. Although an expanded version of the Mississippi Scale was administered, reported scores are based on the original 35-item Mississippi Scale in order to provide comparability with existing data bases. Generally, Mississippi scores during this survey fell considerably below previously determined clinical cutoffs (i.e., 89) that have been used in community veteran populations. However, 9.1% of women and 3.9% of men scored above the clinical cutoff and the difference between these two groups is statistically significantly ($X^2 = 12.5$, $df = 1$, $p < .001$). Percentages exceeding clinical cutoffs for active, Reserve, and Guard components are also shown in Table 5; these indicate that active duty personnel had significantly higher levels of presumptive PTSD than other troops during this time period.

Scores reflecting more generalized psychological distress are reported here based on the General Severity Index (GSI) of the BSI (see Table 8). Using that single index, nearly 32% of women and 28% of men scored above previously established cutoffs for the identification of clinically significant cases. The proportions for men and women are comparable to those obtained for active, Reserve, and Guard personnel, and generally point to elevated levels of overall emotional distress. Thus, while the prevalence of PTSD-specific symptoms appears to be low compared to more general psychological distress at this point, two factors should be borne in mind: (a) Respondents were very early in the return process and (b) more detailed analysis of PTSD symptoms and comprehensive evaluation of diagnostic status is likely to influence these findings.

Examination of a behavioral checklist of stress-related symptoms showed that when individual, rather than total, measures of PTSD symptoms were obtained, the presence of single PTSD symptoms occurred at a considerable rate. For example, on a checklist of eight items reflecting cardinal symptoms of the disorder, most subsets indicated the presence of at least one major symptom (see Table 10a-10b). Startle response was reported by 34% of the sample, with considerably more women endorsing this problem (52%). Nightmares were described by approximately 13% of respondents, with sleep following return adversely affected to some degree for almost half the group (44%). Irritability, another commonly endorsed symptom, was noted by over 36% of the sample. Thus, certain symptoms typically associated with PTSD are present in some substantial portion of the samples described here although levels of formal PTSD appear low. These findings are not surprising considering the levels of endorsement of positive effects of the deployment experience noted earlier. Future changes in either symptom reporting and/or perceptions of positive adjustment clearly warrant monitoring and reevaluation

over time.

Behavioral Adaptation: Uses of Coping

Percentages of approach-based coping, widely shown in civilian populations to be associated with better psychological adjustment, were calculated for the subsets described earlier using the Moos Coping Responses Inventory. Consistent with prior research, greater symptomatology was found to be inversely related to the amount of approach-based coping reported in conjunction with a major stressor. A gender X status factorial ANOVA failed to show an interaction. For main effects, there were no significant differences based on status of respondents. However, a significant main effect for gender indicated that men reported greater use of approach-based coping in dealing with a significant deployment stressor than women ($F(1,2163) = 4.7$ $p < .05$). Further analyses involving a wide variety of individual coping subscales are underway and additional examination of the contribution of demographic factors is needed.

Characteristics of High/Low War-Zone Exposure

In order to examine the effects of combat/war-zone exposure more closely, total sample participants were divided into high and low exposure subsets using a median split based on combat exposure total scores. Based on frequency distributions, a cutoff of six or higher was used to classify subjects as high ($M = 10.3 \pm 4.1$) or low ($M = 3.1 \pm 1.6$) exposed. T-tests conducted on these data showed a number of significant differences between these groups on various demographic and readjustment measures (see Table 11); for example, more highly exposed individuals were younger, spent more time in the Gulf, and had somewhat more education prior to deployment than troops with lower ODS war-zone exposure. As might be expected, personnel with greater war-zone exposure were significantly more symptomatic on all symptom measures described in this survey (see Table 11).

Characteristics of Previously Exposed Veterans

An additional analysis of the total sample indicated that 8.6% of Reunion Survey respondents (all male; $n = 202$) were theater veterans of prior wars. Preliminary examination showed no significant differences between these veterans and the remaining overall sample on any measures excluding age, that is, deployment length, level of ODS war-zone exposure, and total psychological symptom scores. As noted, age was the only variable on which previously exposed veterans differed: The latter were significantly older during ODS deployment ($M = 41.7 \pm 7.3$) compared to other troops ($M = 29.1 \pm 8.3$). Further analyses examining race and the nature of prior war-zone exposure are clearly required to more fully examine the exact impact of previous war-zone service on current readjustment.

Male/Female Comparisons: Preliminary Implications of Gender

To more directly examine effects of gender on post-return functioning, a matched sample of male and female veterans was derived using a number of variables as the criteria for inclusion. Using the variables of combat exposure, age, education, marital status, rank at deployment, race, and military status, 208 men were matched to the sample of women. These variables were chosen because of their presumed influence on adjustment to severe life stress. A series of comparisons between the groups revealed that women scored significantly higher on all symptom measures used during Phase I, that is, the Mississippi Scale, the Brief Symptom Inventory, and the modified PTSD Checklist (see Table 12). These findings require additional analysis and eventually the use of more comprehensive evaluation procedures. In any case, one important caveat is the finding that women in general are more likely to report symptoms of distress than are men.

C. Conclusion and Future Directions

While the overall rate of traditional combat exposure is relatively low in this sample, respondents during Phase I indicated a wide range of both traditional and nontraditional stressors during deployment including the anticipation of lethal biochemical attack as well as a series of other highly stressful war-zone events. In addition, there was considerable emphasis by respondents on the effects of domestic stresses. Consistent with exposure measures, psychological and stress-related symptoms based on the Phase I results are generally at a low level, with presumptive PTSD found in only approximately 4% of the total sample. This number is subject to the methodologic and assessment constraints noted earlier. An appreciable segment of the sample reported anticipating many positive effects of their wartime service. Nonetheless, other measures appear to reflect substantially higher levels of more generalized psychological distress including the presence of specific or discrete, "stressor-consonant" phenomena (e.g., startle, hypervigilance, irritability) with a prevalence of 30-40% in the sample.

Completion of Phase II will provide critical data on the course and possible persistence of these patterns. Similarly, the followup data will elucidate conditions under which delayed symptom onset may occur. Since these assessments are being conducted after troops have returned to their predeployment settings, the opportunity exists to assess effects on family and vocational adjustment as well as the possible influence of social support and treatment networks on readjustment. Furthermore, Phase II will offer novel data on the longitudinal course of readjustment in important subsets of the veteran population. Phase III, involving a selected subset of returnees, is detailed in a separate report.

Table 1a
Demographic Characteristics (percentage) by Gender

Demographic Characteristic	Total (n=2345)	Males (n=2137)	Females (n=208)
Race			
White	84.2	85.2	74.5
Black	7.5	6.9	13.9
Hispanic	3.6	3.6	3.4
Other	4.7	4.3	8.2
Marital Status			
Married	45.8	47.9	23.6
Single	38.5	36.8	55.8
Divorced	5.5	5.1	9.1
Other	10.2	10.2	11.5
Military Status			
Active Duty	11.3	11.0	13.9
Reserve	25.0	24.3	32.2
National Guard	63.7	64.7	53.3
Rank			
Enlisted	41.9	41.0	40.6
NCO	51.5	52.5	40.6
Officer	6.6	6.5	7.7
Occupation			
Professional	6.4	6.1	8.4
Admin./Svc.	14.6	13.2	26.9
Manual	79.0	80.7	62.7
Prior War-Zone Exposure			
	9.2	10.0	2.0

Table 1b
Demographic Characteristics (percentages) by Military Status

	Active (n=265)	Reserve (n=586)	Guard (n=1494)	Special Forces (n=449)
Females	10.9	11.4	7.5	0.0
Race				
White	57.4	83.3	89.4	82.6
Black	28.3	8.5	3.5	9.6
Hispanic	6.8	3.8	3.0	3.3
Other	7.5	4.4	4.1	4.5
Marital Status				
Married	46.8	44.9	45.9	69.8
Single	35.4	40.9	38.1	18.3
Divorced	4.9	4.6	5.9	5.6
Other	12.9	9.6	10.1	6.3
Rank				
Enlisted	64.2	43.0	37.6	13.1
NCO	32.4	48.0	56.2	73.2
Officer	3.4	9.0	6.2	13.7
Occupation				
Professional	2.4	9.6	5.7	1.6
Admin./Svc.	3.6	20.0	14.5	1.1
Manual	95.0	70.4	79.8	97.3
Prior War-Zone Exposure	4.6	9.4	10.0	11.5

Table 2a
Sample Demographic Characteristics (mean, standard deviation, and range)

Demographic Measure	Total (n=2345)			Males (n=2137)			Females (n=208)		
	M	SD	Range	M	SD	Range	M	SD	Range
Age	30.2	9.0	19-65	30.4	9.1	19-65	28.3	7.3	19-55
Education	13.1	1.8	7-24	13.1	1.8	7-24	13.6	1.8	12-20
Months In Gulf	4.0	1.3	1-8	4.0	1.3	1-8	4.1	1.4	1-8

Table 2b
Demographic Characteristics

	Active (n=265)		Reserve (n=586)		Guard (n=1494)		Special Forces (n=449)	
	M	SD	M	SD	M	SD	M	SD
Age	27.0	7.7	30.2	8.8	30.7	9.2	30.3	5.9
Education	12.8	1.4	13.4	2.1	13.2	1.8	13.2	1.6
Months in Gulf	4.2	1.6	4.6	1.4	3.8	1.8	2.6	1.5

Table 3
Attitudes and Recollections of Persian Gulf Service (percentages)

All Veterans Males Females
 (N=2345) (N=2137) (N=208)

Attitude Quite a bit or extremely

Preparedness for ODS duties	72.7	73.9	61.1
Sense of unit cohesion	43.6	44.5	34.7
Perceived life threat from combat	34.3	33.6	41.5
Performance satisfaction	84.7	85.3	77.9
Stress from non-military events	28.1	27.7	32.2
Stress from military events	9.2	9.0	10.6
Anticipated degree of help needed to overcome stress symptoms	2.7	2.6	2.9
Anticipated degree of need for religious support	30.0	29.6	33.8
Stress from environmental conditions	33.4	32.5	41.8
Degree mail affected feelings/thoughts	73.4	73.3	74.0
Degree of perceived national support	92.9	93.2	89.9
	Better or much better		
Degree of perceived change since ODS	72.3	72.1	75.2
Anticipated degree of change in rels. with family members	69.1	69.3	67.5
Anticipated degree of change in work	48.3	48.7	43.8

Table 4
Laufer Exposure Categories (percentages)

Laufer Category	Total (n=2345)	Males (n=2137)	Females (n=208)
Category 0 (Score=0)	11.5	11.2	14.6
Category 1 (Score=1-3)	58.9	59.3	57.3
Category 2 (Score=4-6)	24.3	24.6	22.1
Category 3 (Score=7-9)	4.6	4.6	5.0
Category 4 (Score=10-14)	0.7	0.3	1.0

Table 5
Stressor Categories by Total Sample and by Gender (percentages)

Stressor	Total (n=2345)	Males (n=2137)	Females (n=208)
Combat War-Zone Stressor	29.0	28.3	35.6
Non-Combat War-Zone Stressor	5.3	5.6	2.4
Domestic	24.5	24.9	20.2
Anticipation of War	9.6	9.4	12.5
Attributes of War-Zone	5.9	6.0	4.3
Intra-Unit Hassles	16.5	16.5	17.3
No Stress	9.2	9.3	7.7

Note. X^2 is for gender
 $X^2 = 45.3$, $df = 12$, $p < .001$

Table 6
Stressor Categories by Status (percentages)

Stressor	Active (n=265)	Reserve (n=586)	Guard (n=1494)	Spcl. Frc. (n=449)
Combat War-Zone Stressor	27.2	36.5	26.3	18.9
Non-Combat War-Zone Stressor	4.9	2.2	6.6	2.4
Domestic	23.0	20.8	26.2	18.3
Anticipation of War	10.9	11.3	8.8	5.8
Attributes of War-Zone	4.5	4.8	6.6	19.2
Intra-Unit Hassles	20.4	15.7	16.2	21.4
No Stress	9.1	8.7	9.4	14.0

$\chi^2 = 176.4$, $df = 18$, $p < .001$

Table 7
Scores on Mississippi Scale

Category	n	M	SD	% Above Cutoff	X ²	df
Gender					12.5***	1
Male	2136	61.8	13.1	3.9		
Female	208	67.7	15.8	9.1		
Status					30.2***	3
Active	385	65.2	15.8	7.7		
Reserve	586	62.6	13.7	4.3		
Guard	1494	61.7	12.8	3.7		
Special Forces	447	55.7	10.4	0.45		

*p < .05 ** p < .01 *** p < .001

Note. Cutoff > 89

Table 8
Scores on BSI/GSI

Category	<u>N</u>	<u>M</u>	<u>SD</u>	% Above Cutoff	<u>X²</u>	<u>df</u>
Gender					1.1	1
Male	2131	0.45	0.45	28.2		
Female	208	0.66	0.62	31.7		
Status					93.8***	3
Active	382	0.50	0.50	30.4		
Reserve	586	0.48	0.49	29.2		
Guard	1490	0.46	0.46	27.9		
Special Forces	449	0.17	0.30	7.1		

* $p < .05$ ** $p < .01$ *** $p < .001$
Note. Cutoff > 0.58 for males and > 0.78 for females

Table 9
Scores on PTSD Checklist

Category	n	M	SD	% Above Cutoff	X ²	df
Gender					19.0***	1
Male	2135	1.3	1.5	18.3		
Female	208	1.9	1.7	30.8		
Status					67.8***	3
Active	387	1.6	1.5	22.7		
Reserve	587	1.4	1.5	19.8		
Guard	1492	1.3	1.5	18.3		
Special Forces	449	0.41	0.79	4.0		

*p < .05 ** p < .01 *** p < .001
 Note. Cutoff > 1 SD above M

Table 10a
PTSD Symptoms (percentages)

Symptoms	Total (n=2345)	Males (n=2137)	Females (n=208)
PTSD Symptoms			
Nightmares	12.9	12.2	20.7
Startle	34.0	32.2	51.9
Irritability	35.6	34.5	47.1
Sleep:			
No change	42.1	42.4	38.7
Improved	14.4	14.4	14.2
Worse	43.5	43.2	47.1

Table 10b
PTSD Symptoms (percentages)

PTSD Symptoms	Active (n=265)	Reserve (n=586)	Guard (n=1494)	Special Forces (n=449)
Nightmares	15.8	11.9	12.8	3.6
Startle	30.2	41.6	31.6	10.7
Irritability	44.2	34.3	34.7	14.5
Sleep:				
No Change	47.3	40.5	41.7	76.6
Improved	11.4	14.2	15.0	5.3
Worse	41.3	45.3	43.3	18.1

Table 11
Comparisons Between High and Low Combat Exposure Groups

	High		Low		
	M	SD	M	SD	t
Mississippi	64.5	14.4	59.5	11.6	-9.1 ^{***}
BSI/GSI	0.56	0.51	0.36	0.40	-10.6 ^{***}
PTSD Checklist	1.7	1.6	0.94	1.2	-12.8 ^{***}
Age	29.4	8.4	31.1	9.6	4.6 ^{***}
Education	13.3	1.9	12.9	1.8	-5.3 ^{***}
Total Months in Gulf	4.1	1.2	3.9	1.4	-3.6 ^{***}

***p < .001

Table 12
Comparison of Matched Sample of Males and Females

	Males (n=208)		Females (n=208)		
	M	SD	M	SD	t
Mississippi	63.6	14.0	67.7	15.8	-2.81**
BSI/GSI	0.50	0.49	0.66	0.62	-3.00**
PTSD Checklist	1.33	1.48	1.90	1.65	-3.68***

p < .01 *p < .001

CHAPTER 3

**OPERATION DESERT SHIELD/STORM (ODS) RETURNEE EVALUATION,
DEBRIEFING, AND TREATMENT PROGRAM REPORT**

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A. Background information

In August 1990, the world watched as the armed forces of Iraq poured across the Kuwaiti border in an invasion of this Middle Eastern country. Leading a 29-nation coalition, the United States assumed a political and military stance that propelled as many as half a million military service personnel to the Persian Gulf. This action mobilized thousands of military reservists from the Army, Marines, Air Force, and Navy and National Guardsmen in support of what was to be labelled Operation Desert Shield/Storm (ODS). Within seven months of a relentless air war buttressed by Navy ships in the Persian Gulf and Red Sea and an aggressive land offensive, the tiny country of Kuwait was liberated. The military effort was applauded for its low Allied casualty rates and swift victory. Despite the popularity of this war initiative and positive outcome, the psychological and medical consequences of ODS war zone service require systematic exploration over time, as well as necessitate appropriate therapeutic interventions.

Research and clinical descriptions of stress-related residuals and blatant psychopathology among World War II (WWII), Korean, and Vietnam combat veterans have offered conclusive evidence that human beings are often unalterably negatively impacted by their participation in war (cf., van der Kolk, 1987). It has also been established that there can be no simple generalities to describe war trauma between and across individual participants, to draw parallels from one military conflict to another, and to summarize human responses to war experiences (cf., Sutker, Uddo-Crane, & Allain, 1991). For example, national recognition of the psychological aftermath of the Vietnam War was delayed for at least 20 years, and full appreciation of the extent of war-related psychological phenomena and psychiatric disability is only now being achieved. Researchers conducting the National Vietnam Veterans Readjustment Study (NVVRS) showed that 31% of all Vietnam theater veterans experienced the full symptom pattern diagnostic of post-traumatic stress disorder (PTSD) at some point in their lives, and 53% were determined to have suffered clinically significant war-related stress symptomatology (Kulka et al., 1990).

If there was a lack of early attention to war-related psychological and medical residuals among WWII, Korean, and Vietnam veterans, psychosocial scientists and clinicians have showed determination to identify possible war-related problems among Persian Gulf returnees and to address the psychosocial needs that

become obvious in appropriate fashion (Hobfoll et al., 1991). In addition to negative psychological outcomes, scientists are interested in exploring the concept of stress resistance, or the capacity of individuals to remain psychologically healthy during and subsequent to the occurrence of trauma. The implications of such work are critical for the development of training and debriefing protocols targeted to victims of military operations and political violence, as well as other trauma survivors. In April 1991, Congress passed two pieces of legislation providing for the needs of ODS returnees. Public Law 102-25 established a comprehensive package to expand benefits administered by DVA for Persian Gulf war veterans, including extending eligibility for readjustment counseling to all post-Vietnam era combat veterans and their families when psychological services are seen as appropriate. Through Public Law 102-27, Congress authorized funding to the DVA for establishment of ODS Treatment Teams and thus for provision of specialized intensive evaluation, debriefing, and treatment services to individuals affected by the events and aftermath of ODS.

B. Target population

Over 6,000 Louisiana-based U. S. reservists and National Guard personnel were deployed to the Persian Gulf, and an additional 9,000 troops were activated for ODS duty, the second largest number mobilized for a single state. Given the demographic characteristics of Louisiana state residents, significant numbers of individuals from subgroups thought to be at greater risk for developing stress-related symptomatology were called to active duty. For example, female troops and ethnocultural minorities were activated in relatively large numbers. Also, at high risk were parents of small children, individuals characterized by lower socioeconomic supports, and military personnel who were associated by marriage or family ties with veterans of Vietnam. It is these 6,000 ODS returnees, and veterans of other wars negatively impacted by the ODS initiative, who constituted the focus of the present assessment and treatment project. As the correspondence attached indicates, the DVA in New Orleans is offered opportunity to provide evaluation, debriefing, and treatment services throughout the State of Louisiana to Army and Air National Guard and Marine military personnel deployed to the Persian Gulf.

C. Work accomplished

Team recruitment and establishment. With initial funding and continued FY 1992 support, Psychology Service recruited and established a multidisciplinary ODS Treatment Team based at the DVA Medical Center in New Orleans. The team is composed of 9.5 FTEE and includes a psychiatrist, social worker, four psychology aides, psychology technician, and 2.5 social service representatives. Additionally, the team is benefitted by the assistance of six clinical psychologists who provide assessment, debriefing, and

treatment services to ODS returnees, members of their families, and veterans of other wars negatively impacted by ODS. Members of this team are housed in a special Medical Center wing devoted to outpatient PTSD clinical programs, and they work closely with mental health professionals comprising the Substance Use/Post-traumatic Stress Team (SUPT), Post-traumatic Stress Disorder Clinical Team (PCT), and staff of Psychology and Psychiatry Services more generally in providing a range of assessment, debriefing, and treatment services.

Debriefing services. The ODS debriefing experience is divided into two components: overview/education and small group debriefing. The overview/educational component is modelled after the debriefing principles elaborated by the National Center for PTSD (Wolfe, 1990). Overview is directed toward an entire group of assembled participants and consists of an introduction to the debriefing process, explanations of its history and course, and the setting of basic rules by which the experience is to proceed. Members of the ODS team acting as facilitators introduce themselves and set the stage for normalizing reactions to stressors by assuring participants that they are not regarded as bizarre or pathological in the expression of their feelings and concerns about the stressful aspects of ODS, or other life events. This component occurs within the total group assembled, and participants are offered information regarding the nature of stress reactions and their potential effects on body and mind. Description of physiological and psychological responses to trauma are presented in addition to materials on stress prevention, reduction, and treatment. Within the packet of brochures distributed, there is information regarding options for additional evaluation, consultation, debriefing, and counseling at the New Orleans DVA Medical Center and Vietnam Veterans Resource Center (VVRC).

Small group debriefing. Subsequent to overview and educational discussion, members of the larger group are divided into smaller subsets of 8-15 participants. Each group is led by primary and secondary facilitators who may be part of the formal ODS treatment team or may be members of Psychology Service or VVRC staff. Debriefing facilitators have attended a series of training sessions to prepare them for small group involvement, and primary facilitators are mental health professionals with doctoral, or in some instances, master's level training. During this time, facilitators assist ODS returnees in retracing their experiences in chronological order and framing the events into 14 potentially stressful time periods: the news event, preactivation, activation, deployment, arrival in Saudi, in-country time prior to air war, in-country time during hostilities, end of hostilities, rumors of going home, news of going home, breaking camp, travel home, arrival home, and actual homecoming are discussed. These groups follow Mitchell's (1988) model of fact, thought, reaction, and symptom phases, and the principles of stress recovery processes described by Hobfoll et al. (1991) guide participants in identification and

confrontation of individual stressors. In this way, participants describe what happened, what they thought about it, how it made them feel, and how they reacted physically and psychologically after it was over through to the present. Under optimal conditions, discussion is scheduled for two hours, and the conduct of the group is guided carefully by the facilitators to include all participants interested in expression of their viewpoints.

Completed debriefings. As of December 31, 1991, three Army National Guard and one Army Reserve Units, consisting of 342 (304 deployed to the Persian Gulf) individuals in drill attendance, have undergone educational overview and small group debriefing. Specifically, these sessions have been conducted in the 159th MASH Unit, the 812th Air Ambulance Company, the 3673rd Maintenance Company, and the 630th Quartermaster Company. The latter Company is composed of 35 reservists who served graves registration functions. Arrangements have been made to conduct debriefing in February 1992 for the 39th Military Police Company, comprised of 127 individuals, and scheduling is being finalized to conduct debriefing with the 3rd Battalion, 23rd Marine Regiment (905 members) and the 926th Tactical Fighter Unit of the Air Force Reserve (1,000 members), beginning in February.

Evaluation and assessment. Debriefing procedures are conducted in concert with comprehensive assessment of psychological reactions to ODS that incorporates measures of personal history and demographics, personal resources such as coping strategies and intellectual sophistication, ODS war zone stress severity and characteristics, negative mood states and traits, symptoms of post-traumatic stress disorder (PTSD), symptoms of physical health and general well-being, and psychiatric symptoms of a more varied nature. Appendix A lists the measures administered in most debriefing sessions. Of the 342 participants who have completed debriefing, a comprehensive data set for the assessment measures is available, scored, entered into the computer for 213 respondents. A brief summary of findings from partial analysis of these data is outlined in Appendix B.

Treatment and intervention services. Participants are invited at the time of debriefing and subsequent to debriefing by letter to avail themselves of opportunities for individual assessment feedback, further debriefing consultation, and individual or group readjustment counseling and psychotherapy as appropriate. Of the troops debriefed, 26 (7.6% of those debriefed) have presented at the VA Medical Center for individual appointments, and 108 contacts were recorded as of December 31, 1991.

Program evaluation. Integral to the ODS evaluation and debriefing program is assessment of the impact of intervention efforts. One of the ways in which outcome is explored is by use of a program evaluation/needs assessment component. Participants are encouraged to comment on the benefits of the debriefing package

using forms that are distributed following their completion of the full protocol. These forms offer troops opportunity to evaluate program efficacy, identify favorable and unfavorable program components, and request further readjustment counseling services. Using a 5-point Likert scale with anchors of extremely helpful (rating of 5) and not helpful at all (rating of 1), respondents rated overall program effectiveness. Most indicated that the debriefing was beneficial; that is, 31% rated the exercise as a 5, 26% as a 4, 29% as a 3, 9% as a 2, and 5% as a 1. Troops also responded to open-ended questions soliciting the most and least profitable session elements. Some respondents indicated that the entire protocol was helpful (15%), whereas others listed specific positive outcomes such as opportunities to ventilate, discuss, and release feelings (25%), normalize extraordinary reactions, thoughts, and feelings (23%), receive empathic support and information about available resources from mental health professionals (16%), explore the personal impact of ODS by reminiscing with others who shared the experience (14%), and identify and discuss unique ODS and war-related stressors (6%). Troops assigned to deployed units but not mobilized stated that they appreciated the opportunity to discuss feelings related to their status within the unit (1%).

As many as 71% of participants did not reply to the question asking for drawbacks of the program. Those troops who did respond to this item indicated that the least helpful aspects of the debriefing included completing the assessment battery (32%), feeling that the debriefing would not provide solutions to problems or improve financial difficulties (14%), having to neglect other duties and responsibilities during drill (11%), experiencing distress triggered by recollections of stressful ODS events (8%), and arousing anger toward top command for lack of attendance/participation (5%). The remaining 30% cited insufficient services as a drawback; that is, they wanted more individual attention, longer small group and psychoeducational sessions, and more timely attention upon return from the Persian Gulf. Regarding desires for further readjustment counseling services, 28% requested stress management training, 27% indicated that they would like more debriefing groups, and 40% endorsed an interest in activities/support groups with fellow ODS returnees (26%) and veterans of other wars (14%). In addition, troops requested individual counseling (25%), family counseling (11%), and couples therapy (9%). As noted earlier, these needs are addressed by personalized correspondence to troops who attended debriefing sessions. Letters describe the availability of needed services, invite participants to make appointments with ODS Team members, and provide names and telephone numbers of contact persons for ease of entry into the system.

D. Conclusions

Military commanders were enthusiastic in inviting members of the ODS Evaluation, Debriefing, and Treatment Team to conduct comprehensive assessment and debriefing exercises among troops regularly scheduled for drill. As the data derived from program evaluation suggest, participants themselves received the debriefing package, including the rather lengthy assessment component, with positive attitudes, and they communicated well-formulated perceptions of the severity of ODS war zone experiences as well as their needs for psychological support and readjustment counseling services. As many as 57% of participants stated that the evaluation/assessment/debriefing protocol was either very helpful or extremely so, and these data underscore the receptiveness of troops for attention to their needs perceived to stem uniquely from ODS participation. The number of participants who have appeared to date at the DVA Medical Center to receive individual counseling and assistance is relatively low, or 26; however, this phenomenon may be explained by a time lag between completion of debriefing and the mailing of letters of invitation for assistance as well as initial reluctance to address psychological problems among those participants affected. As with most new mental health initiatives, the few who seek services early are used by others to determine the potential helpfulness of interventions. Thus, as contacts are viewed as successful, the number of individuals seeking assistance is predicted to increase significantly.

Results of preliminary data analyses, involving only a segment of the instruments administered, are remarkable in pointing to a relatively high level of psychopathology among some returnees that may well be attributed in large part to the war zone exposure associated with ODS. Troops deployed to war zone duty in the ODS operation who reported higher levels of stress exposure tended to be characterized by significantly more elevated levels of negative mood states, PTSD symptomatology, and complaints about physical health and somatic problems. As the level of perceived stress exposure was increased, scores on measures of depression, anxiety, and anger were higher, and troops who reported higher levels of war stress exposure endorsed more symptoms categorized as diagnostic of PTSD. ODS returnees categorized by high stress exposure also endorsed twice as many complaints about bodily discomfort and physical problems than did their low stress exposure counterparts, particularly focusing on feelings of nervousness and tension, general aches and pains, disturbed concentration, and headaches. Findings reported in Appendix B are clearly correlational in nature, but the relationships between severity of stress exposure and psychological distress symptoms thought to underlie stress-related psychopathology suggest that war zone military duty exerts a negative impact on psychological well-being in a substantial subset of those deployed.

Findings that from 16-24% of a war zone-exposed military

sample is characterized by psychopathology sufficient for clinical diagnosis has important implications for war preparation, troop debriefing, and mental health interventions targeting veterans traumatized by combat. ODS returnees responding to our assessment were neither treatment-seeking at the time of evaluation nor active clinical patients; hence, these results are remarkable in suggesting the potential impact of war stressors among the masses of troops deployed. Although it is conceivable that the negative impact of war stress may be exaggerated among these troops because of the extent to which deployment constituted an unanticipated outcome, it is possible that such findings may have been recorded if any sample of combat soldiers were assessed within 4-8 months from the time of military duty in a combat zone. At least among U. S. troops, assessment of psychopathology outcomes of war and possible negative sequelae have been conducted only among soldiers who suffered acute battle neurosis or fatigue and were withdrawn from combat or among veterans returned from active duty and requiring psychological or psychiatric assistance.

In the present sample, as the level of psychological distress increased, factors of stress exposure severity, human characteristics, and environmental context became important in influencing negative stress outcomes; however, the most important factor was level and type of war zone trauma. For example, comparison of troops reporting symptoms of PTSD and those who report no symptoms of distress reveals that level of stress exposure is related directly to development of negative psychological outcomes. Findings also underscore conclusions generated in the NVVRS study of Vietnam veterans (Kulka et al., 1990) pointing to increased risk for PTSD and other stress-related psychopathology in ethnic minorities and female veterans. Present results show a tendency for black and female ODS returnees to report greater psychological discomfort, although the significance of these tentative results will require further exploration among a greater number of ODS returnees and using comparison data drawn from similar military personnel not deployed to the Persian Gulf.

At high risk are troops assigned military duties that involved increased contact and exposure to injury and death. For example, troops serving graves registration functions may be hypothesized to be particularly vulnerable to developing negative sequelae to war-zone exposure. Bartone, Ursano, Wright, and Ingraham (1989) found that family assistance workers providing support and other services to families of air crash victims were at significant risk for developing symptoms of psychological distress and somatic concerns, even after significant time delays when it appeared that effects were increased. Results of our multimethod, comprehensive psychological assessment and debriefing exercises conducted among the 630th Quartermaster Company, a 35-member graves registration Army Reserve unit, reveal a prevalence rate of current PTSD at 46% among the troops who were deployed. Further description of the findings of this protocol is summarized in Appendix B; however, it

is notable that almost half of the men and women assigned war zone duty that included identification and management of human remains were adversely impacted by their war-zone exposure. To the extent that our findings are replicated among Louisiana troops and military personnel throughout the nation, policy-makers and military leaders may explore options to expand and refine both training and debriefing protocols to address the enhanced needs of military subsets at high risk for negative sequelae.

Present findings target negative psychological outcomes, and this report does not address the psychological strengths of the majority of ODS returnees who did not exhibit negative mood states, symptoms of PTSD, and exaggerated somatic concerns, and particularly, that subset of troops who were highly robust to experiencing negative psychological sequelae to ODS war zone exposure. The data being collected in debriefing exercises address questions of stress resistance and identification of characteristics in the personal resource domain and the social environment that contribute to prevent stress-related negative sequelae.

Review and discussion of these preliminary results reveal the need for further work outlined as follows:

Continued assessment/debriefing of the military units in Louisiana deployed to ODS duty (total pool of 6,000 troops);

Refinement of the assessment battery to increase compliance and relevance of findings for training, debriefing, and individual treatment needs;

Expanded outreach to troops reporting high levels of psychological distress and negative psychological outcomes through telephone and letter contacts;

Continued provision of readjustment counseling and specialized psychological and psychiatric services to ODS returnees at the VA Medical Center;

Development of specially tailored methods to assess and debrief military units seen to be at greatest risk for PTSD and other stress-related symptomatology, such as units exposed to heavy combat and graves registration functions; and,

Establishment of repeated assessment and debriefing exercises at time points of one year from initial evaluation to test for stability of results and encourage treatment or readjustment counseling participation as appropriate.

APPENDIX A: ASSESSMENT INSTRUMENTS

I. Personal demographics and resources

Background information questionnaire. A brief format requesting personal demographic information, this instrument consists of fill-in-the-blank questions requesting age, sex, race, years of formal education, service branch, military status and unit, military rank, military occupational specialty, Persian Gulf arrival and departure dates, duties in the Persian Gulf, location of previous military service and combat exposure, relatives serving in the Persian Gulf, and location of previous military service and combat exposure of relatives. Questions focus on family characteristics and socioeconomic status of the parental home, occupational status prior and subsequent to ODS deployment, personal socioeconomic status, marital status and living arrangements prior and subsequent to ODS duty, number of children, previous mental health treatment, and experience of previous trauma.

Social Support Questionnaire (SSQ: Sarason, Levine, Basham, & Sarason, 1983). Consisting of brief fill-in-the-blank and multiple-choice items, the SSQ incorporates 6 items to measure number of perceived social supports and 6 items to reflect level of satisfaction with these resources.

Family Relationship Index (Holahan & Moos, 1991; Moos & Moos, 1981). A measure of family support, this index incorporates 27 true-false items that tap aspects of family relationships, specifically cohesion, expressiveness, and conflict. Each of these constructs is measured by 9-point scales and may be summed across scales to derive a total family support index.

Ways of Coping Checklist (Folkman & Lazarus, 1985; Vitaliano, Russo, Carr, Maiuro, & Becker, 1985). Designed to assess personal resources for responding to stressful events, the revised Ways of Coping Checklist was developed using factor analytic and rational approaches and measures the following coping methods: Problem Focused, Blames Self, Seeks Social Support, Wishful Thinking, and Avoidance. Respondents were requested to target ODS war zone duty and to complete 42 items using a 4-point frequency scale to characterize their coping strategies.

Shipley Institute of Living Scale (Shipley, 1983). This paper-and-pencil instrument consists of 40 multiple-choice verbal definition items and 20 fill-in-the-blank abstraction items and yields an estimate of intellectual sophistication. As such, it is a reflection of personal cognitive resources and capabilities for verbal and

nonverbal problem-solving.

II. Characterization of stressor

ODS War Zone Stress Exposure Scale. The ODS-SE is a 7-item scale drawn from a more lengthy war zone stressor scale compiled by the National Center for PTSD. Items reflect aspects of the ODS war zone stressor experience, including hardships of the physical environment, separation from family/home, exposure to physical injury and death, cohesiveness of military unit, and preparedness for military deployment.

Days of ODS Service Index. The ODS-SI is a simple summation of the reported number of days deployed to the Persian Gulf in support of ODS.

Open-ended assessment of trauma characteristics. The Ways of Coping Checklist included a question that requested respondents to list the three most stressful aspects of ODS deployment and service. These are entered into data files on an item-by-item basis, and content analysis is used to summarize responses.

III. Measures of mood states and traits

Beck Depression Inventory (BDI: Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). The BDI is a 21-item, 4-point, multiple-choice instrument that has been used widely to measure symptoms of depression, including elements of sadness, sleep disturbance, indecisiveness, loss of appetite, and guilt feelings. The BDI is typically expressed as a single score derived by summation over items.

State-Trait Anxiety Inventory (STAI: Spielberger, Gorsuch, & Lushene, 1970). A multiple-choice instrument, the STAI is composed of two 20-item scales measuring state (A-State) and trait (A-Trait) anxiety. On the A-State Scale, the respondent rates each item as he/she feels at the time of test administration using a 4-point intensity dimension; whereas on the A-Trait Scale, the respondent indicates the way he/she feels more generally using a similar continuum.

State-Trait Anger Scale (STAS: Spielberger, 1980). Designed to assess levels of anger and closely paralleling the STAI, the STAS consists of a 15-item State Anger (S-Anger) Scale completed to reflect feelings at the time of test administration and a 15-item Trait Anger (T-Anger) Scale answered to indicate feelings more generally. Both formats employ a 4-point, multiple-choice format.

IV. Psychiatric symptoms

Brief Symptom Inventory (BSI: Derogatis & Spencer, 1982). Constructed of 53 items selected from the Symptom Checklist-90-Revised (SCL-90-R: Derogatis, 1977), the BSI is presented in a 4-point, multiple-choice format and yields scores on Somatization, Obsessive-Compulsive, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation, Psychoticism, General Severity Index (GSI), Positive Symptom Distress Index (PSDI), and Positive Symptom Total (PST) Scales.

Health Symptoms Checklist (Bartone et al., 1989). This measure was administered to obtain data on psychiatric symptoms and psychosomatic complaints related to perceived general wellness and was composed of 11 items derived from the psychosomatic complaints scale developed by Stouffer et al. (1950) in their study of WWII veterans and 9 items drawn from the Hopkins Symptom Checklist (Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974) representing complaints frequently associated with traumatic stress, such as sleep disturbances and depressed mood. Response options range from 0 (none) to 3 (very often), and factor analyses have identified four factors: depression/withdrawal, hyperalertness, generalized anxiety, and somatic complaints. Responses may be summed to create a total symptoms score or analyzed by items.

V. Symptoms of post-traumatic stress disorder (PTSD)

Mississippi Scale for Desert Storm War Zone Personnel. Adapted from the Mississippi Scale for Combat-Related Posttraumatic Stress Disorder (Keane, Caddell, & Taylor, 1988), this self-report questionnaire employs a 5-point, multiple-choice format and requires the respondent to indicate the perceived extent to which individual symptoms and features associated with PTSD are applicable. A total score is derived by summation across items, and cutoff scores have been established to suggest presence/absence of PTSD.

PTSD Checklist - Military Version (PCL-M: Weathers, Huska, & Keane, 1991). The PTSD Checklist presents each of the 17 diagnostic criteria for PTSD specified in the revised third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R: American Psychiatric Association, 1987), and the respondent indicates the extent to which each has been applicable in the past month by endorsements on a 5-point intensity scale. In the present assessment, a total score was derived by summation, and an Intrusion score was computed using the 4 items assessing this phenomenon (Criterion B). After the manner of Watson

et al. (1991) with a similar inventory, an endorsement at or above the mid-point [i.e., 2 (moderately) to 4 (extremely)] was considered to represent the presence of a given diagnostic feature, and a diagnosis to reflect the presence/absence of PTSD was assigned according to DSM-III-R criteria.

APPENDIX B: TRAUMA CHARACTERISTICS AND PSYCHOLOGICAL RESPONSE TO ODS DEPLOYMENT AND PARTICIPATION

I. Participant sample

Of the 342 troops who participated in the full debriefing package, complete data were available and subjected to statistical analysis for 213 individuals deployed to the Persian Gulf. This sample was predominantly white (64%), followed by returnees of Black (31%), Hispanic (4%), and Asian (1%) ethnicity, and 15% were women. Returnees ranged in age from 20 to 53 years with a mean age of 29.94 ± 7.61 years, and they reported an average of 13.39 ± 2.10 years of formal schooling. Seventy-nine percent was employed prior to deployment, functioning in mid-level professional, administrative, managerial, clerical, technical, and skilled manual capacities, and another 18% was pursuing educational goals on a full-time basis. The sample was comprised of 84% enlisted troops and 16% officers, and the majority was categorized by middle/lower middle socioeconomic status (75%) determined by Hollingshead-Redlich (1958) criteria. Over half (54%) was single, 36% was married, and the remainder was separated, divorced, or widowed. As many as 18% reported that they had relatives serving in the Persian Gulf, and 11% indicated that a parent or spouse had served in Vietnam. Although 27% of the troops reported prior military service, only 6% indicated exposure to previous combat.

II. Characterization of war zone stressor

Respondents described deployment to the Persian Gulf for periods ranging from 35-240 days, with an average of 138 days for the total sample. Of the 213 respondents, 128 listed the three most stressful conditions experienced during Persian Gulf duty, yielding 307 responses. Content analysis of written replies revealed five major elements of stress: hardships associated with separation from home, family, and friends; fears of military attack, loss of life, or injury; discomfort related to the physical environment; fears of loss of control, uncertainty, and the unknown; and sense of lack of leadership. Roughly 17% of responses reflected concerns about the hardships of separation from family, home, and friends. Approximately 13% addressed fears of death or injury in military attacks, e.g., SCUD missiles, and discomfort associated with the austere physical environment and inadequate living conditions. Another 8% of responses targeted perceived sense of loss of control and uncertainty, and 7% referred to perceptions of lack of leadership.

III Relationship between stress severity and distress outcomes

The sample of returnees who completed assessment was divided into high and low war zone stress severity subgroups using a median split of scores on the ODS War Zone Stress Exposure Scale (ODS-SE). Scores on this measure ranged from 1-17, with a mean of 8.42 ± 3.16 . A frequency distribution of scores was created, and a cutoff score of 9 was applied to divide the sample into low ($M = 5.86 \pm 1.91$; $n = 107$) and high ($M = 11.01 \pm 1.73$; $n = 106$) subsets. Low and high stress exposure subgroups did not differ on the personal characteristic variables of age, sex, military rank, education, and Shipley intellectual sophistication estimate, or in total days deployed in the Persian Gulf. A significantly greater percentage of nonwhites was represented in the high-exposure subgroup, and correlational analyses indicated significant statistical relationships between war zone stress exposure and sex ($r = .16$, $p < .05$) and race ($r = -.30$, $p < .01$). Therefore, three-way analyses of variance with factors of war zone stress exposure, sex, and race were used to examine for possible differences on measures of psychological distress. To protect against Type I error, a Bonferroni procedure was applied, i.e., the typical alpha level of .05 was divided by the number of variables (12), resulting in an alpha required for significance of $p < .004$.

As can be seen in Table 1, war zone stress exposure groups differed significantly on the Beck Depression inventory, a measure often used to reflect aspects of dysphoria in clinical samples, the Spielberger State Anxiety measure, the Spielberger State and Trait Anger Scales, the Depression, Anxiety, and Hostility subscales of the Brief Symptom Inventory, endorsement of physical symptoms on the 20-item Health Symptom Checklist, the Mississippi and DSM-III-R-derived checklist PTSD measures, and report of intrusive symptomatology on the latter instrument. Interestingly, participants experiencing the higher level of war zone exposure scored nearly twice as high as the low exposure group on the Health Symptom Checklist and focused specifically on complaints of general aches and pains, nervousness and tension, headaches, concentration difficulties, sleep disturbance, fatigue and lack of energy, depressed mood, common cold or flu, and gastrointestinal distress. Although findings are correlational in nature, the relationships between severity of stress exposure and psychological distress symptoms thought to underlie stress-related psychopathology suggest that war zone stress exerted a negative impact on the psychological well-being of a substantial subset of those deployed. At present, our data base includes 38 troops who were not deployed to the Persian

Table 1

Comparisons of ODS War Zone Stress Exposure Subgroups on Mood State, Health Concern, and PTSD Symptom Measures

Variable	Low		High		F
	M	SD	M	SD	
BDI	3.71	4.78	8.14	8.52	15.15*
A-State	36.47	10.93	43.43	11.46	18.34*
State Anger	20.29	8.71	27.41	12.29	17.34*
A-Trait	39.58	12.27	43.94	10.55	5.29
Trait Anger	26.73	8.71	32.67	10.19	19.30*
BSI Depression	52.72	11.00	59.27	12.81	12.38*
BSI Anxiety	50.34	11.50	58.27	14.31	17.09*
BSI Hostility	50.75	11.30	59.63	13.75	25.16*
Health Symptom Checklist ¹	7.11	7.56	13.76	10.95	18.20*
PTSD Checklist	7.36	9.75	18.30	14.08	34.01*
PTSD Checklist: Intrusion (Criterion B)	1.61	2.66	3.88	3.81	19.23*
Mississippi Scale ¹	65.00	14.95	89.38	23.72	37.76*

* $p < .004$ (Bonferroni-adjusted significance level)

¹ Late additions to assessment battery; data available from 172 and 136 subjects for Health Symptom Checklist and Mississippi Scale, respectively.

Gulf, an insufficient number for meaningful statistical comparisons. In several months, however, a sufficiently large comparison group will have been assessed, and these findings will either underscore the relationship between war zone stress and psychological symptomatology or indicate that findings may not be attributed to stress factors specifically.

IV. Identification of clinically significant stress-related psychopathology

Several of the measures included in the assessment battery can be used to derive descriptive evidence of stress-related psychopathology among respondents. For example, the Beck Depression Inventory is often used in clinical samples to detect the presence of depression, and a cutoff score of 10 on this index demarcates the lower limit of clinical depression (Beck, Steer, & Garbin, 1988). Results generated by the two measures of PTSD symptoms and diagnosis can also be seen to have clinical significance. For example, cutoff scores of 89 and 107 have been found to signal the lower limit for classification of patients as positive for post-traumatic stress disorder (PTSD) on the Mississippi Scale for Combat-Related Posttraumatic Stress Disorder among Vietnam veterans (Keane et al., 1988; Kulka et al., 1990; Pitman, Altman, & Macklin, 1989). Taking these findings into consideration, we decided upon a cutoff score of 97 as suggestive of PTSD in our returnees, reasoning that the cutoff score of 97 was comparable to 89 after adjusting for the difference in number of items between the Desert Storm (38) and original (35) versions of the scale. Similarly, responses on the PTSD Checklist (Weathers et al., 1991) can be used to total the number of stress-related psychological symptoms as well as determine PTSD diagnoses. The results of applying these cutoff scores are summarized below.

As many as 24% of the overall sample of troops deployed to the Persian Gulf reported at least mild levels of clinical depression reflected by responses on the Beck Depression Inventory. Diagnoses of PTSD were indicated in 19% of the overall sample if the Mississippi Scale was used, and the prevalence of PTSD was set at 16% if the DSM-III-R-derived PTSD Checklist was applied. As might be expected, prevalences of clinical depression and PTSD were greater among returnees categorized in the high stress exposure subset (χ^2 s (1) = 13.92, 20.55, and 16.86, respectively, $ps < .004$). There were, however, diagnoses of PTSD (5-6%) and clinical depression (13%) in the low exposure subsample. Given the fact that this assessment occurred among nonpatient, nontreatment seeking military troops, evaluated at regularly scheduled drill sessions, the finding that almost one-fourth were characterized by psychological distress sufficiently exaggerated as to suggest diagnosable psychopathology is remarkable.

V. Comparison of stress-symptomatic and symptom-free subsets

A subset of stress-symptomatic subjects was identified consisting of individuals ($n = 31$) who met full criteria for PTSD diagnosis as determined from responses to the PTSD Checklist. A comparison group of symptom-free subjects was comprised of returnees ($n = 31$) who denied the presence of all symptoms of PTSD, even at subthreshold levels, i.e., a score of 0 on the PTSD Checklist. Stepwise discriminant function analysis was conducted to identify personal characteristic factors that might differentiate symptomatic and symptom-free subsets, or predict group membership. Potential predictor variables included sex, race, age, Shipley IQ estimate, education, ODS-SE score, number of days deployed in the Persian Gulf, prior combat service, and relatives in ODS or Vietnam. Score on the ODS War Zone Stress Exposure Scale was entered first into the discriminant function, but the F -to-enter values for the remaining variables were not statistically significant and were insufficient for entry into the discriminant function. The obtained discriminant function was significant, $F(1, 60) = 43.22$, $p < .01$, Wilks' lambda = .58, and yielded a canonical correlation of .65, accounting for 42% of the variance. Using score on the ODS-SE Scale, the discriminant function correctly assigned 82% of the overall sample according to group membership, including 81% of the PTSD-positive subset and 84% of the PTSD-negative subset.

VI. Stress outcomes among troops at high risk

Over the past decade, research has pointed to the role of stress characteristics and severity as contributors to development of negative psychological outcomes among survivors of disasters (Smith, North, McCool, & Shea, 1990) and war trauma (Ursano, Boydston, & Wheatley, 1981; Sutker, Bugg, & Allain, 1990). As the level of stress exposure increases, so do the ill effects, and elements of terror, exposure to grotesque stimuli, unpreparedness, and degree of nearness to death and dying have been shown to influence development of psychological symptoms and mental disorders subsequent to trauma cessation, with effects sometimes delayed over time (Bartone et al., 1989). Because of these findings, we conducted a more thorough and individualized assessment package among members of the 630th Quartermaster Company, a graves registration Army Reserve unit, to explore levels and type of psychopathology and psychological distress that might be associated with ODS war-zone duty. It was reasoned that an expanded assessment protocol, accompanied by a more intensive debriefing exercise, would provide greater opportunity for identification of potential psychological problems as well as a basis for encouraging unit members to avail themselves of mental health assistance if such were needed and desired.

In December 1991, 28 of 35 members of the 630th Quartermaster Company underwent the evaluation/debriefing protocol. The sample

from this unit was comprised of 21 men and 7 women, 27 of whom were black and 1 was of Hispanic ethnicity. Full assessment data are available for 26 of these troops, two of whom were not deployed to the Persian Gulf. In addition to the measures administered in other unit drills, the assessment battery included the Structured Clinical Interview for DSM-III-R (SCID: Spitzer, Williams, Gibbon, & First, 1989a) and the Structured Clinical Interview for DSM-III-R Personality Disorders (SCID-II: Spitzer, Williams, Gibbon, & First, 1989b) for assessment of antisocial and borderline personality disorders. The Minnesota Multiphasic Personality Inventory - 2 (MMPI-2: Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989) was also administered. The battery, therefore, constituted a multimethod evaluation of personality characteristics and psychopathology, incorporating clinical diagnoses of mental health disorders, as well as measures of social and family support, intellectual sophistication, and aspects of the war zone stressor experience.

Results of the full assessment package are not yet available, but data have been scored and recorded for the two SCID measures. Findings reveal strikingly high current prevalences of anxiety- and depression-based disorders with rates of 46% for PTSD, 25% for major depression, 8% for depressive disorder NOS, and 4% for simple phobia. There was also evidence of alcohol abuse/dependence in 17% of the sample and borderline personality disorder in 4%. There was little evidence of psychopathology prior to deployment to the Persian Gulf. Timing of symptoms through retrospective analysis showed that mental disorders predated ODS deployment in only four individuals (3 PTSD-positive, 1 PTSD-negative) and included lifetime cannabis abuse (8%), lifetime alcohol abuse (4%), lifetime and current simple phobia (4%), and lifetime and current PTSD (4%), although it is unclear in the latter case that threshold levels of PTSD were met prior to ODS duty.

A high prevalence of comorbid psychopathology was associated with current diagnoses of PTSD, or in 9 of the 11 troops labelled by this disorder. Of those 11 soldiers, 6 (55%) were assigned a concurrent diagnosis of major depression. Alcohol abuse/dependence (27%), depressive disorder NOS (18%), simple phobia (9%), and borderline personality disorder (9%) were also observed in combination with PTSD. One individual was assigned three diagnoses concurrent with PTSD (i.e., major depression, alcohol dependence, and borderline personality disorder), and two others received two additional diagnostic labels (major depression and alcohol dependence; depressive disorder NOS and alcohol abuse). In contrast, only one current diagnosis (alcohol abuse) was assigned among the 13 soldiers who did not meet criteria for current PTSD.

In summary, these findings suggest that of the 24 soldiers deployed to the Persian Gulf, 11 or 46% exhibited the full picture of current PTSD, and the remaining 13 were relatively free of notable psychopathology. Among the troops found to be suffering

PTSD, there was a high rate of disorder comorbidity, specifically depressive and alcohol abuse disorders. Hence, it is hypothesized that this sample of troops exposed to the macabre duty of managing the identification of human remains and other details of graves registration in the war zone were apparently at high risk for development of stress-related symptoms and frank disorder. The extent to which such findings remain robust when study design includes comparisons with troops who saw other war zone duty or other units assigned graves registration functions has to be ascertained by additional investigation. Work is also required to determine if symptoms are stable at repeated evaluation and if symptoms can be addressed by psychotherapeutic intervention.

Although these results are preliminary, they are compatible with reports of other investigators studying the impact of disaster circumstances in individuals whose work assignments have brought them in close contact with death and dying. Bartone et al. (1989) found long-term negative health consequences that spanned symptoms of psychiatric disorders, physical illnesses, and negative psychological well-being in Army officers up to a year after providing support activities to bereaved families after a major air disaster. Degree of exposure was directly related to severity of mental and physical distress, and there was evidence of enhanced negative sequelae at one-year follow-up, suggesting a delayed reaction to trauma impact. McFarlane (1988) described the longitudinal course of posttraumatic morbidity in a sample of Australian firefighters exposed to bushfire disaster at three time points over a 25-month period. Classifying firefighters into disordered and nondisordered categories, he found that only 49.8% of the sample were not disordered at one of the three time points, whereas 10.3% were disordered on all occasions. Taken together, our results are compatible with data pointing to the high penetration and persistence of PTSD symptoms in individuals who are exposed to the gruesome stress of managing the aftermath of human disaster.

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CHAPTER 4

WEST HAVEN VA MEDICAL CENTER OPERATION DESERT STORM REPORT

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WEST HAVEN VA MEDICAL CENTER OPERATION DESERT STORM REPORT

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Abstract

At the West Haven VAMC a multidisciplinary ODS team was assembled for the purpose of treating Desert Storm veterans and their families. The team provided support services and education to family members and debriefing services to returning soldiers. A questionnaire was also completed 1 month and 6 months after return to the United States. Using a cut-off score of 89 on the Mississippi PTSD scale approximately 8% of the 84 subjects met criteria for PTSD. Combat exposure was positively correlated with Mississippi scores at 1 month and 6 months suggesting that current PTSD symptomatology is related to depth of trauma experienced.

A. Target Population

Over 700 Connecticut reservists and National Guard personnel were deployed to the Persian Gulf during Operation Desert Shield and Desert Storm. During Desert Shield, the Adjuvant General of the Connecticut National Guard contacted the West Haven VAMC requesting assistance for Desert Storm reservists and their families. The two targetted units were the 142nd medical unit and the 143rd military police unit.

B. Work Accomplished

Team recruitment and establishment: Initial funding permitted the Psychiatry Service to establish a multidisciplinary ODS Treatment Team based at the West Haven VA Medical Center, West Haven, CT. The team was composed of a psychiatrist, psychologist, social worker, and three psychiatric assistants. The ODS team was supported by mental health professionals of both inpatient and outpatient divisions of the National Center for PTSD.

Family education and support services: Members of the ODS team met with 9 community based family support groups composed of the friends and 300 family members of deployed reservists. Psychoeducational and support sessions were usually 2 hours in duration, and focused on normalizing responses to the stress of having a family member deployed, on the expected domestic stressors upon the veteran's return home, and on the signs and symptoms of maladjustment. Families were offered reading materials and information detailing with how to contact the VA or local resources if needed.

Debriefing services: The ODS debriefing experience for returning reservists was divided into two major components--one

of psychoeducation and another to review the group's experience. Members of the ODS team presented information and facilitated discussion within the group. The educational information served to increase understanding of normal stress responses particularly as they present in domestic and work settings. Individuals were given a self report questionnaire which screened for signs and symptoms of PTSD, depression, and anxiety. In order to promote an atmosphere where traumas could be discussed, reactions normalized, and feelings expressed, the ODS team members acted as facilitators for group discussion. Reservists were given information regarding treatment opportunities at the West Haven VA.

Completed debriefings and follow-up: Our ODS team was successful in evaluating 165 of the 240 reservists of the 142nd and 143rd reserve units. Many of the nonresponders did not report to duty for the drill week-ends, and, therefore, could not be assessed. Letters were sent to these reservists in an effort to extend outreach but as of December 31, 1991, there is little available information on this segment of the targeted population. Of the 165 members who completed an initial debriefing, 84 agreed to another evaluation/debriefing at the 6 month time period after return to the United States. Once again, group experience was facilitated, a second questionnaire was completed, and members offered treatment opportunities at the VA.

Evaluation and assessment: A comprehensive assessment of psychological reactions to ODS initially was conducted on 115 members of the 142nd and 143rd National Guard Reserve unit one month after the war. Demographics, personal resources such as coping strategies and social supports, personal history, ODS war zone experience, severity of trauma, symptoms of PTSD, and symptoms of general psychopathology and personality were evaluated.

Of the 115, sixty members requested evaluation on site at the West Haven VA by the ODS team. Veterans were interviewed by a member of the team, and then the cases were presented and discussed with the entire ODS team. Consensus diagnosis was established and a treatment plan formulated for each individual. As of December 31st, 1991, twenty-five reservists have been seen on a weekly basis in the outpatient mental health clinic. At the present time, data from the clinic and from the questionnaires indicates that six months after returning from Desert Storm, PTSD symptoms are very common among the interviewed reservists. Clinically, of the 25 who have sought treatment at the VA 8 meet DSM-III-R criteria for PTSD as determined by consensus diagnosis. Five met within for partial PTSD. Additionally, 5 of the 25 met clinical criteria for panic disorder. Further, all but 4 of the ODS veterans who requested further evaluation in the clinic, showed prominent symptoms of difficulty managing anger, and irritability. A one-year follow-up questionnaire/debriefing is

planned, and will provide a greater understanding of this clinical picture.

Questionnaire

The questionnaire included a PTSD symptom scale based on DSM-III-R criteria. The subjects were asked to rate the following 17 DSM-III-R symptoms:

- Intrusive memories
- Nightmares
- Flashbacks
- Feeling worse with war reminders
- Avoidance of thinking about war
- Avoidance of war reminders
- Amnesia of war
- Decreased interest
- Feeling out cut off from other people
- Feeling less strongly about things
- Emotional numbness
- Sleep disturbance
- Irritability
- Decreased concentration
- Being watchful or on guard
- Increased startle
- Reactivity to war reminders

Each symptom was rated on a scale ranging of 0 (not at all), 1 (slightly), 2 (moderately), 3 (considerably) or 4 (extremely). A total PTSD score was calculated by summing the values of each symptom, allowing for a possible total score of 68.

The questionnaire also included the Mississippi PTSD scale, the Combat Exposure Scale (CES), items related to substance abuse, social support, past psychiatric history, family history and demographics.

The Mississippi Scale for Combat-Related Post-Traumatic Stress Disorder, a self-report scale, consists of 35 items derived from DSM-III criteria and associated features. Each item is scored on a 5-point likert scale and the total score ranges from 36 to 175. The Mississippi PTSD scale measures both symptom severity and the effects of symptoms on an individual's life.

The Combat Exposure Scale (CES) is a subjective measure which quantifies wartime stressors. All items are totaled, yielding a final score of 1 (light), 2 (light to moderate), 3 (moderate), 4 (moderate to heavy), or 5 (heavy combat exposure).

C. Results

At the one-month and six-month timepoints, the ten most

frequently endorsed individual PTSD symptoms having a value of 2 (moderately) or greater, are shown in Table 1. An increase in the mean score from one month to six months was observed for all ten symptoms. This increase over time was statistically significant for only two symptoms, intrusive memories ($T_1=0.68$, $T_2=1.04$) and irritability ($T_1=0.75$, $T_w=0.96$). The four most frequently observed symptoms at the one-month timepoint were all symptoms of increased arousal. These symptoms of hyperarousal were also among the most frequently observed at the six-month timepoint. While intrusion of memories was not one of the most frequent symptoms at one month, at six months it joined the hyperarousal symptoms as one of the most commonly endorsed items.

The scores on the Combat Exposure Scale (CES) ranged from 1 to 5, with a mean of 1.35 (s.d.=0.69). The mean Mississippi score was 58.43 (s.d.=12.28) at one month, and 64.13 (s.d.=15.17) at six months. Using a cutoff score of 89 or greater on the Mississippi scale, three subjects met criteria for PTSD at one month. All three were from the 142nd reserve unit. In addition to these three, four more subjects met criteria for PTSD at six months. Six of these seven were members of the 142nd. Using the self report PTSD scale based on DSM-IIIR criteria and scoring only those items that were endorsed at a moderate or greater level of severity, eight subjects qualified as having PTSD at one month and seven subjects at 6 months.

There were 65 males and 19 females in the group as a whole. The scores of male subjects were lower than females, the differences being of borderline statistical significance at both the one-month and six-month timepoints.

There was a slight but statistically significant increase in the total PTSD score of the group as a whole between the first and sixth month. Total scores on the Mississippi scale behaved in much the same way. There was a statistically significant increase in score over time in the group as a whole.

D. Discussion

Nearly all subjects reported at least one or more PTSD specific symptoms both at one month and six months after returning from the gulf. Consistent with accounts from WWII, Korea and Israeli wars, symptoms of hyperarousal were clearly evident early on. Although combat exposure per se was relatively limited, most soldiers spent months anticipating missile attacks and the possibility of a massive ground war. While in the Middle East, they recall living in a near constant state of alert expectation. After returning home, many soldiers described feeling aroused, vigilant and often irritable with insomnia and an increased startle response. It appears that even six months after Desert Storm, this heightened state of arousal had not fully dissipated in many Gulf War veterans.

Initially, at one month, intrusive symptoms were not as frequent as hyperarousal symptoms. However, at six months intrusive memories had increased and were approximately equal in frequency. Avoidance symptoms, on the other hand, tended to be less prominent than hyperarousal and intrusive symptoms at both time points. This finding is consistent with the hypothesis that over time avoidance develops in response to persistent hyperarousal and re-experiencing. The individual learns to avoid situations that are reminiscent of the trauma. Gradually, they begin to live more and more restricted lives. If this hypothesis is accurate in the current sample we would expect those patients who complain of distressing and persistent traumatic memories to develop symptoms of avoidance as time passes.

With the Mississippi PTSD scale and the DSM-III-R derived PTSD scale, the number of reservists actually qualifying for a diagnosis of PTSD was relatively small. Using a commonly accepted community sample cut off score of 89, only 3 subjects qualified for PTSD at one month and 7 subjects at 6 months by Mississippi criteria. On the DSM III-R derived PTSD scale when symptoms rated as moderate or greater were included, 8 subjects met PTSD criteria at 1 month and 9 at 6 months.

Compared to other wars, such as WWI, Korea, and the Vietnam war, combat exposure during Desert Storm was limited in scope and brief in duration. This is reflected in the mean CES score (1.35) which is far less than scores reported in studies of Vietnam combat veterans. None the less, like Vietnam studies, combat exposure was significantly correlated with Mississippi PTSD scores at both time points. This finding suggests that current PTSD symptomatology is related to degree of trauma experienced.

Finally, although mean Mississippi scores were relatively low, there was a statistically significant increase from time point one to time point two. Similarly the PTSD total score also increased. Whether and in whom this increase will continue awaits future assessment.

CHAPTER 5

**THE PERSIAN GULF OUTREACH PROGRAM
AT THE LITTLE ROCK VA MEDICAL CENTER**

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**THE PERSIAN GULF OUTREACH PROGRAM
AT THE LITTLE ROCK VA MEDICAL CENTER**

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A. Background

The following is a report of an impact and outcome evaluation study conducted by Social Work Service at the Little Rock VA Medical Center on it's Persian Gulf Outreach (PGO) Program that was funded by VA Central Office from June through December 1991. The program was designed to evaluate the efficacy of outreach activities and psychosocial interventions with Army, Air Guard and Reserve personnel who were activated and deployed in support of Operation Desert Shield/Desert Storm. Outreach and interventions were provided and/or facilitated by a hospital based Persian Gulf Outreach Team. The team was composed of a Licensed Certified Social Work Program Coordinator, four licensed social work case managers and a program secretary. An advisory council composed of representatives from the major mental health services - Psychiatry, Psychology, Nursing, Social Work and a representative from Chaplain Service provided for multidisciplinary input into program operations.

The objectives of the program were:

1. The identification of Persian Gulf Veterans: Contact was initiated with the State Guard and Reserve Administrators who provided a list of activated and/or deployed units from Arkansas, who referred team to officers in charge of family support units, public relations officers and a military resource office.
2. Case finding: Efforts were also coordinated with local private hospitals, mental health centers and other community based operations.
3. Conduct needs assessment: In order to determine the extent of needs of these veterans, an instrument was designed to obtain information from the veterans on their perception of any problem areas. This information would be later used in identifying prevailing problem areas experienced by the Persian Gulf veteran. This data also could be used to compare the effects of various wars.
4. Identify early signs of trauma: Social Work Case Managers asessed for early signs of trauma in veterans and family members. The Guard Administration provided a history of each deployed unit which was used in identifying units which would be at greater risk for exhibiting signs of trauma. In

addition, the Mississippi Scale for Desert Storm War Zone Personnel (MISS-PTSD), was administered with the MMPI-2 PTSD Subscale.

5. Provide services to families to stabilize relationships: One of the aftermaths of a war involves the breakdown of marital and family relationships. In the self report assessment, family disruptions were consistently identified by both male and female troops.

6. Develop and provide information and referral sources: Since this was a time limited program, it was not possible to provide extended services. It was, therefore, necessary to identify and develop linkages with community resources.

7. Provide local resources with training and technical assistance for long-term service needs: Assistance was provided to community groups that would give them the diagnostic and treatment information necessary to treat persons exhibiting symptoms of trauma.

8. Evaluate the effectiveness of the interventions and make recommendations based on the ongoing needs assessment.

Due to the unprecedented number of Guard and Reservists activated and the rapidity with which they were deployed, it was hypothesized that a significant proportion would exhibit symptoms typical of Post Traumatic Stress Disorder; dysfunctional intrafamilial relationships; decreased job satisfaction/performance and increased consumption of mood altering substances.

Administrative personnel for Guard and Reserve Units confirmed that Arkansas was fourth in the nation in number of troops deployed. These individuals were older, more likely to have young children, and included a large number of women who were in combat support roles that placed them on the front lines alongside their male counterparts.

Outreach to these veterans was a critical dimension of the program and a multi-pronged approach was used. The outreach had to be geared toward the veteran as well as the community since the project was for a short duration. The team targeted individual reserve and guard units that were mobilized and met with the units on drill weekends to brief them on stress responses and family readjustments. The briefings were conducted in conjunction with representatives from Medical Administration Service, Veterans Benefit Administration and major service organizations. These groups provided the veterans with information regarding basic benefits and medical service eligibility. More than 2500 veterans were briefed during the course of the project. Team members traveled over 20,000 miles and established contact with 117 community groups and organizations including ministerial alliances,

public school systems, colleges and universities, large industries, city, county and state police forces and community mental health centers. The team also participated in six statewide homecoming activities and provided brochures and information on available services.

Response to the briefing content varied according to type of unit, i.e. medical, combat, combat support, and attitude of command structure, with the latter being the greatest predictor of response from the veterans. In many instances, if the commander indicated that there were no problems in the unit, a review of the questionnaires would support this. However, on the other hand, if the commander was willing to admit the presence of re-entry problems, the unit was more likely to be open and honest in the discussion periods and on the questionnaires.

Mental health and marriage and family counseling interventions consisted of two or more sessions with veterans and families who requested assistance with their response to traumatic events, intra/inter family disruptions, financial strains, and career stress related to deployment. Sessions were also conducted with various units that expressed a need for intraunit treatment to address interpersonal stress that was affecting the effective functioning of the unit.

Although the recommended therapeutic approach for PTSD is group treatment, the outreach team found it necessary to utilize other intervention modalities because of the geographical distances involved. Problems identified were such that it was rarely possible to bring together persons with similar needs and issues. Interventions included individual sessions for support and insight as well as short-term psychotherapy with an emphasis on dream work and teaching relaxation strategies. A critical incident de-briefing model (Wolfe, 1991) was used as a guide in assessing and processing the veteran's traumatic event(s). Families were worked with in conjoint sessions to foster positive communications and healthy expectations. If the issues were primarily related to the couples' relationship, then the intervention was planned accordingly. The social work team also developed ways parents could help their children cope with stress.

B. Methods

Special funding for the provision of aggressive outreach mental health services by a mobile, hospital based Persian Gulf treatment team afforded a unique opportunity to: 1) describe in detail the target client population, 2) assess the impact of the Persian Gulf experience on the lives of activated reserve and national guard veterans and their families, and 3) evaluate the impact of treatment interventions with consenting individuals manifesting psychosocial dysfunction. The activation of Reserve and National Guard personnel for the Persian Gulf War was without

precedent in recent times, and posed some unusual problems for the design and conduct of the evaluation of the PGO Program.

The evaluation of the PGO Program was conducted in two parts. A Contact Evaluation approach was chosen to accommodate the bulk of program activity which consisted of military unit briefings. Since most contacts could be characterized as brief, one-time episodes with individuals who had not sought services prior to such contact, selected demographic and psychosocial data reflecting the impact of the Persian Gulf experience as well as level of stress of respondents sent to the combat theater were obtained anonymously.

Due to concerns regarding confidentiality and privacy of sensitive data that potentially could affect status and future opportunities for advancement, it was necessary initially to collect stress data independently of demographic and psychosocial data. Unlinked contact data were collected from June 1991 through September 1991. From October through December 1991 the PGO team was able to capitalize on their experience and reputation among the various reserve and national guard units to collect linked data. The linked and unlinked contact data sets were analyzed separately.

Data and Measures

Contact data were obtained from military personnel by means of responses recorded on a questionnaire distributed for that purpose at each briefing (see Appendix A). The following demographic information was collected:

1. military unit
2. date of contact/briefing
3. date of birth
4. theater of deployment
5. previous service
6. race
7. sex
8. marital status
9. number of persons in respondent's household
10. age of youngest child
11. age of oldest child
12. religious preference
13. highest education received
14. current employment status

Respondents were asked to indicate to what extent the Persian Gulf experience affected selected significant areas of their lives. Specifically, personnel were asked to rate the extent to which their perceptions regarding employment, family relationships, relationships with partners, sexual satisfaction, children, and use of alcohol/drugs changed upon their return to civilian life compared to their recall of perceptions held prior to deployment. Eighteen statements were chosen from the Mississippi Scale for

Desert Storm War Zone Personnel (MISS-PTSD), a version of the Mississippi Scale for Combat-Related PTSD (M-PTSD) developed by Keane, Caddell, and Taylor (1988, 1986), and the MMPI-2 PTSD Scale (MMPI-PTSD) a modified version of the MMPI-1 PTSD scale (Keane, Malloy, and Fairbank, 1984). Other items were selected from the Indices of Sexual Satisfaction, Marital Satisfaction, Family Relations, and Parent-Child Relations in W.W. Hudson's Clinical Measurement Package (1982). Ratings were made on a three point scale where a value of "1" indicated rarely or none of the time, "2" indicated some of the time, and "3" indicated most or all of the time. Respondents indicated their perceptions at the time of administration of the instrument and were asked to rate adequacy of function prior to deployment based on their memory.

Finally, two measures of post-traumatic stress were chosen to assess current stress levels of those veterans actually deployed to Saudi Arabia. The MISS-PTSD and the MMPI-PTSD scales were utilized in their entirety for this purpose. According to Keane, Caddell, and Taylor (1988), scores of 107 or more on the MISS-PTSD scale were found to indicate clinical levels of stress at least 90 percent of the time. The MMPI-PTSD scale identified 82 percent of cases manifesting clinical stress with scores of 30 or more (Keane, Malloy, and Fairbanks (1984). These criteria were used as markers for stress in the current investigation.

Design

A pre-/post-test design was selected to evaluate the effectiveness of PGO treatment team intervention with selected veterans and appropriate family members with identified psychosocial problems requiring counseling or other psychotherapeutic intervention. Clients requesting intervention provided the following information prior to initiation of treatment:

1. military unit
2. date of pre-test/initialization of treatment
3. previous active duty
4. combat prior to PG conflict
5. number of persons in household
6. years of formal education
7. race
8. sex
9. religious preference

The complete Indices of Sexual Satisfaction, Marital Satisfaction, Family Relations, and Parent-Child Relations were obtained as appropriate. The scales were administered again at post-test which varied according to individual client needs but in no case exceeded the seven-month project duration.

For unlinked contact data, Wilcoxon Signed Rank tests were used to test for significant changes in perceptions over time as a result of deployment in the areas of employment, family relationships, relationships with partners, sexual satisfaction, children, and use of alcohol/drugs. The MISS-PTSD and MMPI-PTSD scores were correlated by means of the Pearson product-moment correlation coefficient to check reliability of the selected measures of stress.

Linked contact data were analyzed similarly to confirm findings reported for unlinked data. Additionally, multiple regression analysis was employed to identify which variables best explain or account for post-deployment stress level.

Finally, treatment data consisting of the Indices of Family Relations, Marital Satisfaction, Sexual Satisfaction, and Parent-Child Relations, were analyzed by means of difference score t-tests to identify changes in level of reported stress or psychosocial dysfunction over time. Other statistical techniques were used as appropriate to identify what types of clients derived the most benefit from PGO team intervention.

C. Results

First Data Collection (Unlinked)

According to military unit officials, Arkansas was ranked fourth in the nation in number of Reserve and National Guard troops activated for the Persian Gulf War and second in the nation in terms of the number of troops deployed to Saudi Arabia. A total of 49 units located in the state were scheduled for briefings by the PGO team. Of that number, 25 units received briefings before the project ended, representing contacts with 2670 troops.

Fifteen Reserve and National Guard units received briefings from June through September 1991. Of the 1755 troops briefed, during this period, unlinked contact data were collected on 550 personnel for a return rate of 31 percent. Reserve and national guard troops were primarily Protestant, married, 33.5 years of age, white males educated at the high school level or higher and employed full-time prior to activation with a mean of 1.8 children and 3.2 persons per household (see Tables 1 and 2).

PTSD

Analysis of the frequency distribution of total score on the MISS-PTSD scale (n=438) revealed that 18 percent or 80 individuals manifested dysfunctional levels of stress ($\bar{x} = 93$, s.d. = 17.3, s.e. = .83) with a minimum score of 12 and a maximum score of 180. Analysis of the MMPI-PTSD scale (n=434) indicated that 9 percent or 39 individuals manifested dysfunctional levels of stress ($\bar{x} = 12$, s.d. = 10.1, s.e. = .49) with minimum and maximum scores of 0 and

44, respectively. The two scales were significantly correlated ($r = .7$, $n = 247$, $p < .0001$).

Wilcoxon Signed Rank tests of changes in perceptions of military personnel regarding their attitudes toward employment, family relationships, relationships with partners, sexual satisfaction, children, and use of alcohol/drugs prior to deployment compared to their return were significant (see Table 3). Troops reported that they found: 1) it harder to focus on their job, 2) decreased job satisfaction, 3) increased alienation from family, 4) less understanding by family members, 5) increased friction among family members, 6) less trust with their significant other, 7) decreased ability to settle arguments/disagreements, 8) less hopeful about the relationship with significant other, 9) decreased sexual satisfaction, 10) increased problems in controlling children, 11) own children compared less well to children of acquaintances, 12) significant changes in their children, 13) the use of alcohol/drugs helps deal with feelings, 14) that alcohol/drug consumption increased, and 15) that family and friends commented on their use of substances to a much greater extent.

Second Data Collection (Linked with Demographic Data)

Ten Reserve and National Guard units received briefings, during the second phase of the PGO Program, October 1, 1991 through December 1991. Of 915 troops briefed, during this period, linked contact data were collected on 449 veterans for a return rate of 49 percent. As before, respondents were primarily married white males although the incidence of blacks (153 or 37.6%), females (90 or 21.1 percent), and individuals not legally related to a significant other (179 or 48%) was significant (see Tables 4 and 5).

PTSD

Analysis of the frequency distribution of total scores on the MISS-PTSD scale for 448 respondents revealed that 9 percent or 40 individuals manifested dysfunctional levels of stress ($x = 49.9$, $s.d. = 44.08$, $s.e. = 2.08$) with a minimum score of 9 and a maximum score of 169. Analysis of the MMPI-PTSD scale for 448 respondents indicated that 4 percent or 18 individuals manifested dysfunctional levels of stress ($x = 10.20$, $s.d. = 7.27$, $s.e. = .34$) with minimum and maximum scores of zero and 46, respectively. The two scales were significantly correlated ($r = .36$, $n = 448$, $p < .0001$).

PTSD and Social Functioning

A correlation analysis for total MISS-PTSD and MMPI-PTSD scores with 18 statements measuring six areas of psychosocial function indicated that while the latter scale was correlated almost without exception to perceived function, both before and after deployment, the former scale was not (see Table 6). As a

result, the MMPI-PTSD scale was utilized as the preferred measure of PTSD stress level for subsequent analyses.

A regression analysis of perceptions of psychosocial functioning post deployment and selected demographic variables on level of stress as measured by the MMPI-PTSD scale indicated that five variables together explained 45 percent of the variance in stress level. Alienation from family (F4), nature of changes in children (C15), marital status (married; not married), self-reported increase in alcohol/drug intake (D17SCH), and reports of difficulty controlling children (C17SCH) were correlated at the .02 level of significance or higher (see Table 7).

An analysis of the six major areas of psychosocial functioning by Wilcoxon Signed Rank tests for unlinked contact data indicated that Persian Gulf veterans uniformly perceived deterioration in the quality of their relationships and increased intrapersonal dysfunction compared to recall of their status prior to activation. Veterans reported 1) increased difficulty focusing on their goals or concentrating on job tasks as well as decreased job satisfaction, 2) increased feelings of alienation within the family with significantly less perceived understanding and increased friction among family members, 3) decreased trust, less ability to manage arguments, and a more pessimistic view of the future regarding the respondent's spouse or significant other, 4) a decreased satisfaction and interest in sexual activities, 5) significant changes in children and increased difficulty in controlling them as well as a greater tendency to view them as more problematic than children of acquaintances, and 6) acknowledgment of increased use of alcohol and drugs to alter moods that has been noticed by family and friends (see Table 8).

Treatment data was collected on 42 individuals consisting of 34 Persian Gulf veterans and eight spouses. Total scores on the Indices of Family Relations, Marital Satisfaction, Sexual Satisfaction, and Parent-Child Relations exceeded without exception the marker for clinical dysfunction on all measures, a score of 30 (see Table 9). One tailed difference score t-tests on change scores for the treatment group on the four indices were not significant, although the post-test scores indicated slight improvement. In no case did scores fall below a value of 30 which would indicate normal functioning.

D. Discussion

It is apparent that a conservative five to ten percent of reserve and national guard troops activated and deployed to the Persian Gulf experienced dysfunctional levels of stress indicative of PTSD. The most compelling explanation for the variance in reported incidents of dysfunctional stress can be attributed to measurement error. In attempting to compare findings from this

sample of Persian Gulf veterans to veterans of other wars, several epidemiological studies were reviewed. Epidemiological studies completed with World War II, Korean, and Vietnam veterans, 20-40 years after combat experience, indicate that fifteen to twenty-four percent of sampled veterans experienced significant symptoms of PTSD and many have met the diagnostic criteria for PTSD at some point in their life (Card, 1983, 1987; Egendorf, et. al., 1981; Centers for Disease Control-Vietnam Experience Study, 1988).

Previous research supports the findings that combat veterans experience an increase in other psychological distresses, e.g. depression, anxiety, and alcohol and drug abuse and dependence. It should be noted that as wars became more technologically complex, the number of persons in each of the categories increased: Depression - Vietnam (4.5%); all others (3.2%); Anxiety - Vietnam (4.9%); all others (3.2%); Alcohol abuse and dependence - Vietnam (13.7%); all other (9.2%); (CDC Study, 1988).

Findings from this study indicate that at least five percent of the veterans reported an increase in their drug and alcohol use. Differences may be accounted for by age of veteran, type of war, veterans' experience at homecomings and time of data collection.

History of combat veterans indicate many veterans are wary of admitting psychological distress. Interviews with Persian Gulf veterans support this. Reasons given were: fear of being discharged from their reserve or guard unit; the heroes welcome home - "heroes don't have problems," it wasn't a real war like Vietnam, and the ever present "macho" concept that men don't have problems. Research suggests these veterans may be found presenting with stress-related medical illnesses rather than for psychological distress (Blake et. al., 1989).

As a group, returning veterans reported increased difficulties performing on the job while deriving decreased satisfaction; deterioration in their relationships with spouses, significant others, children; with increased alienation, friction; lessened ability to resolve disputes, and increased use of alcohol and drugs. The findings from this study support the need for mental health and marriage and family counseling services for Persian Gulf veterans and significant others.

Although the two instruments employed to determine the measure of PTSD were significantly and highly correlated, only the MMPI-PTSD scale correlated significantly with the six areas of psychosocial function obtained for this evaluation. It would appear that the latter is the preferred measure for the empirical assessment of the presence of PTSD in ODS veterans.

It should be noted that at least two problems were experienced in the collection and analysis of data presented above. First, it was not possible to obtain a uniform data set on all service

personnel and their families contacted by the PGO team. Thus, the data obtained do not represent a true random sample. Second, for the sample obtained, a considerable amount of data were reported as missing. Because services were extended to potential clients around the state, the PGO team's ability to collect quantitative clinical data in the detail and to the extent necessary to support meaningful analysis was severely limited.

Because of the limited duration of treatment, it is not surprising that the psychosocial status of the treatment sample did not change significantly. The extreme dysfunction in interpersonal relationships observed through the elevated scores and confirmed through case discussions with PGO team members, combined with the brief duration of the project, would mitigate against the production of more positive results. The slight decrease on scores on the four measures of dysfunctions is at least a hopeful sign that active intervention can improve the situation of severely troubled individuals.

These early findings with Persian Gulf veterans coupled with previous findings on World War II, Korean and Vietnam veterans strongly suggest the need for continued assessment of Persian Gulf veterans for symptoms of PTSD, and marital and family dysfunction. Early recognition of the traumatic experiences should assist veterans in seeking treatment sooner and developing an awareness of symptoms of stress in themselves and family members. VA social work, mental health and marriage and family counseling services will need to be readily available to Persian Gulf veterans and their families in order to meet these identified needs.

TABLE 1
FREQUENCY DISTRIBUTIONS ON SELECTED DEMOGRAPHIC VARIABLES
FOR UNLINKED CONTACT DATA

VARIABLE	n	%	VARIABLE	n	%
RACE			SEX		
Black	96	19.8	Male	493	94.8
White	382	78.8	Female	27	5.2
Native American	7	1.4	Missing	30	
Missing	65				
MARITAL STATUS			EDUCATION		
Never Married	114	24.2	High School	24	4.5
Married	309	65.5	High School	227	42.7
Divorced	40	8.5	College	174	32.7
Widowed	1	.2	College	52	9.8
Separated	8	1.7	Post Graduate	15	2.8
Missing	78		Votech	40	7.5
			Missing	18	
RELIGION			EMPLOYMENT		
Protestant	329	65.4	Fulltime	440	84.1
Catholic	36	7.2	Partime	22	4.2
Jewish	1	.2	Student	33	6.3
Other	137	27.2	Unemployed	28	5.4
Missing	47		Missing	27	

TABLE 2
 TABLE OF MEANS ON SELECTED DEMOGRAPHIC VARIABLES
 FOR UNLINKED CONTACT DATA (N=550)

VARIABLE	n	x	s.c.	s.e.
Number of Persons in Reservist/Guard's Household	505	3.24	1.40	.06
Number of Children in Household	407	1.77	1.39	.07
Reservist/Guard's Age in Years	452	33.52	9.56	.45

TABLE 3
 WILCOXON SIGNED RANK TESTS ON UNLINKED CONTACT DATA
 FOR CHANGES IN PERCEIVED PSYCHOSOCIAL FUNCTIONING
 BEFORE/AFTER DEPLOYMENT

VARIABLE	n	x	s.d.	w	p
E1 It is easy to focus on my job	492	-.21	.64	-3109.5	.0001
E3 I am satisfied with my job	469	-.16	.62	-1674.5	.0001
F4 I feel like a stranger in my family	492	.11	.62	1144.5	.0002
F5 My family understands me	499	-.07	.50	- 590.5	.004
F6 There seems to be a lot of friction in my family	478	.16	.62	1750	.0001
P7 I feel I can trust my partner	466	-.06	.46	- 394.5	.003
P8 Manage arguments well	454	-.10	.51	- 708.5	.0001
P9 Future looks bright for my relationship	452	-.12	.52	- 963	.0001
S10 Sex life is lacking in quality	469	.07	.62	560	.02
C13 Hard time controlling children	373	.11	.48	604.5	.0001
C14 Want children more like others	358	.04	.32	99	.02
C15 Noticed changes in my children	364	.18	.64	1221	.0001
D16 Alcohol/drugs helps with feelings	454	.06	.36	266.5	.0004
D17 Alcohol/drugs intake has increased	459	.10	.49	499.5	.0001
D18 Family/friends commented on use	455	.08	.39	300	.0001

TABLE 4
FREQUENCY DISTRIBUTIONS ON SELECTED DEMOGRAPHIC VARIABLES
FOR LINKED CONTACT DATA (N=449)

VARIABLE	n	%	VARIABLE	n	%
RACE			SEX		
Black	153	37.6	Male	337	78.9
White	247	60.7	Female	90	21.1
Hispanic	4	1.0	Missing	22	
Native American	3	.7			
Missing	42				
MARITAL STATUS			EDUCATION		
Never married	142	38.1	High School	10	2.3
Married	194	52.0	High School	117	27.1
Divorced	30	8.0	College	196	45.5
Widowed	1	.3	College	45	10.4
Separated	6	1.6	Post Graduate	44	10.2
Missing	76		Votech	19	4.4
			Missing	18	
RELIGION			EMPLOYMENT		
Protestant	362	86.4	Full time	298	70.1
Catholic	30	7.2	Part Time	39	9.2
Jewish	1	.2	Student	47	11.1
Other	26	6.2	Unemployed	41	9.6
Missing	30		Missing	24	

TABLE 5
 TABLE OF MEANS ON SELECTED DEMOGRAPHIC VARIABLES
 FOR LINKED CONTACT DATA (N=449)

VARIABLE	n	x	s.d.	s.e.
Number of Persons in Reservist/Guard's Household	410	3.05	1.41	.07
Number of Children in Household	376	1.35	1.32	.07
Reservist/Guard's Age in Years	370	32.6	9.52	.49

TABLE 6
CORRELATION ANALYSIS OF MMPI AND MISS-PTSD TOTAL SCORES
WITH SELECTED MEASURES OF PSYCHOSOCIAL DYSFUNCTION
BEFORE AND AFTER DEPLOYMENT

VARIABLE*	n	MMPI-PTSD	TOTAL MISS-PTSD
E1SCH	380	-.27 (.0001)	-.13 (.008)
E2PTD	382	.21 (.0001)	.14 (.005)
E2SCH	377	.19 (.0002)	.16 (.002)
E3SCH	377	-.25 (.0001)	-.11 (.05)
F4PTD	411	.14 (.005)	
F4SCH	394	.28 (.0001)	.14 (.007)
F5PTD	407	-.11 (.03)	
F5SCH	398	-.24 (.0001)	
F6PTD	411	.16 (.002)	
F6SCH	394	.23 (.0001)	
P7PTD	382	-.16 (.002)	
P7SCH	367	-.34 (.0001)	
P8PTD	377	-.10 (.05)	
P8SCH	362	-.27 (.0001)	
P9PTD	367	-.19 (.0002)	
P9SCH	358	-.34 (.0001)	
S10SCH	372	.19 (.0003)	
S11PTD	391	-.18 (.0002)	
S11SCH	374	-.24 (.0001)	
S12PTD	388	.10 (.05)	
S12SCH	377	.16 (.002)	
C13PTD	278	.21 (.0003)	
C13SCH	259	.21 (.0008)	.13 (.05)
C14PTD	268	.30 (.0001)	
C14SCH	256	.26 (.0001)	
C15PTD	273	.12 (.05)	
C15SCH	262	.21 (.0006)	.15 (.02)
D16PTD	314	.30 (.0001)	.10 (.05)
D16SCH	305	.33 (.0001)	.12 (.02)
D17PTD	378	.32 (.0001)	
D17SCH	366	.40 (.0001)	.12 (.03)
D18PTD	381	.21 (.0001)	
D18SCH	360	.38 (.0001)	.12 (.02)

*Refer to Appendix A for variable descriptions
PTD = Prior To Deployment
SCH = Since Coming Home

TABLE 7
 REGRESSION ANALYSIS SUMMARY TABLE ON DEPENDENT VARIABLE:
 TOTAL MMPI-PTSD SCORES POST DEPLOYMENT

VARIABLE	R	F	P
F4SCH	.20	24.20	.0001
C15SCH	.29	10.92	.002
MARITAL	.37	12.41	.001
D17SCH	.41	7.02	.01
C13SCH	.45	5.79	.02

F4SCH I feel like a stranger in my family since coming home

C15SCH I have noticed changes in my children since coming home

MARITAL Married, Not Married

D17SCH My alcohol/drug intake has increased since coming home

C13SCH I have a hard time controlling my children since coming home

TABLE 8
WILCOXON SIGNED RANK TESTS ON LINKED CONTACT DATA FOR CHANGES
IN PERCEIVED PSYCHOSOCIAL FUNCTIONING BEFORE/AFTER
DEPLOYMENT

VARIABLES	n	x	s.d.	w	p
E1 It is easy to focus on my job	375	-.21	.68	-2213	.0001
E2 Trouble concentrating on job task	362	.09	.67	750.5	.02
E3 I am satisfied with my job	364	-.17	.66	-1419.5	.0001
F4 I feel like a stranger in my family	387	.14	.55	1026.5	.0001
F5 My family understands me	388	-.07	.55	- 486	.02
F6 There seems to be a lot of friction in my family	390	.14	.57	1088.5	.0001
P7 I feel I can trust my partner	361	-.13	.52	- 589.5	.0001
P8 Manage arguments well	354	-.13	.59	- 813	.0001
P9 Future looks bright for relationship	347	-.18	.64	- 901.5	.0001
S10 Sex life is lacking in quality	369	.16	.63	1057.5	.0001
S12 My interest in sex is low	371	.14	.56	705.5	.0001

(TABLE 8 - continued)

	n	x	s.d.	w	p
C13 Hard time controlling children	257	.12	.50	317.5	.0002
C14 Wish children more like others	254	.06	.36	76	.01
C15 Noticed changes in my children	259	.23	.61	762	.0001
D16 Alcohol/drugs help with feelings	365	.06	.42	176.5	.01
D17 Alcohol/drugs intake has increased	357	.12	.50	590.5	.0001
D18 Family/friends comment on use	357	.09	.41	317	.0001

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CHAPTER 6

**THE NEED FOR CONTINUING MENTAL HEALTH INTERVENTION IN SOLDIERS
RETURNING FROM THE PERSIAN GULF WAR:
ASSESSMENT OF DEPLOYED AND NON-DEPLOYED RESERVE UNITS
FROM WESTERN PENNSYLVANIA, EASTERN OHIO, AND WEST VIRGINIA.**

Edward Pontius MD, Anne Wilson PhD, Stephen Perconte PhD,
Kay Spiro MSW, Ann Dietrick RN C-NP, Julie Sullivan MSW,
Eugenia Vogel MSW, Anne Ferrari and H.C. Weihrauch

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ABSTRACT

The Pittsburgh PTSD clinical Team (PCT) conducted mental health screening and outreach programs for 537 soldiers from deployed and non-deployed Army, Navy, and Marine reserve units in the Western Pennsylvania, Eastern Ohio, and contiguous West Virginia area following the Persian Gulf War. Outreach methodology and measures are reviewed. Results using conservative criteria suggest a continuing need for mental health intervention for war-stress related illness in approximately 16% of soldiers deployed in Operation Desert Storm (ODS).

A. Introduction

In January 1991 more than 530,000 American soldiers joined Allied forces to wage war against Iraqi forces in the Persian Gulf. While the number of American soldiers killed was much smaller than feared, a fraction of American troops experienced significant war trauma resulting from enemy efforts against Allied forces, "friendly fire" and other accidents and exposure to mass-casualties of atrocities and war. The Pittsburgh PCT has previously reported on specific unit-based efforts with mass-casualty survivors of a missile attack from the 14th QM unit. Based upon our experience with 14th QM survivors and with the support of that unit's parent organization, the 99th ARCOM, the Pittsburgh PCT developed a program to survey the need for war-stress intervention in soldiers returning to our tri-state region (Western Pennsylvania, Eastern Ohio, and West Virginia) from ODS deployment.

B. Clinical Program

Outreach Program Design

The first element in developing the outreach program was developing rapport with the local military command structure and obtaining their support. Because of the reservists' geographic dispersion and the difficulty many had in taking further time away from employment, the only practical way to reach the units was during their regularly scheduled weekend drill dates. When reserve unit commanders understood what we were trying to accomplish they were quite cooperative with our project, generally providing 3-4 hours for a morning or afternoon program. The Pittsburgh PCT sent

teams of 3-6 staff members to travel to weekend drill training sites for Saturday or Sunday presentations over the period from 7/6/91-10/2/91. Most of these presentations were made at a considerable distance from Pittsburgh, requiring lengthy travel and some occasions overnight stay by PCT staff.

Confidentiality was a major concern of many reservists identified early in the program. Although military commanders agreed to confidential screening, there was concern on the part of many reservists that medical records within the VA might become available to military personnel and later adversely influence retention and promotion decisions. We assured reservists that 1) participation in the outreach program was strictly voluntary, and 2) that all outreach documents would be considered "preclinical" and not a part of the medical record. of approximately 600 soldiers encountered only 12(2%) refused to participate. We also gave each soldier an opportunity to indicate whether they wanted further contact from the PCT or feedback on the scores for their own questionnaire.

Didactic Presentations

We first met with the officers and men and women of the unit(s) as a group in a lecture formate for approximately 75 minutes. a PCT staff member presented "Stress and Stress Disorders", an approximate 30 minute lecture given to ensure that the men and women of the unit had an understanding about the basics of anxiety, stress, and stress disorders, including the different types of stress, the physiological, behavioral, psychological, and social effects of stress, and what can be done to counter prolonged or dysfunctional stress. Vocabulary used was consistent with the High School education most reservists shared, and very attempt was made to use examples likely familiar to these men and women. A team member then gave a 25 minute talk covering the impact of deployment, war-zone service, and reunion upon the servicemen and servicewomen's families, including the types of problems commonly seen in children of different ages after deployment and reunion. The final lecture of about 20 minutes was the presentation of a personal recollection of war-stress by a (Vietnam combat veterans) Vet Center counselor. Throughout the presentation was the theme that stress itself is a part of life and neither good nor bad, but that prolonged or excessive stresses can lead to distress and to difficulty functioning. Recognition of stress was presented as a first tool in combatting stress disorders and in protecting the interests of the individual and his or her unit.

Small Group Discussion

Next, the large group was broken up into small groups of up to 12 men and women, with officers separated from enlisted personnel. One or two PCT staff members, often accompanied by a Vet Center counselor, engaged each small group in a 45 minute discussion about

the actual conditions of deployment. Our intent was to provide an informal but supportive environment for group members to report experiences they may have found stressful. Groups varied considerably, but in several groups members volunteered that they were having difficulty with symptoms such as severe intrusive recollections of traumatic experiences during their war-zone service.

Completion of Pittsburgh War Stress Survey Battery

Finally, the staff members instructed their small groups on how to complete the Pittsburgh War Stress Survey Battery (see Appendix C), distributed to each small group member with a pencil. Staff members remained available to group members during the administration of the survey, answering questions and on occasion encouraging individuals to stay on-task and complete the questionnaire. A majority of reservists were able to complete the 27 page battery in the allotted 60 minutes; staff members remained at the training site as long as needed to answer questions, facilitate clinical referrals, and collect completed survey forms.

C. Results

We compiled statistics on 44 measures from each of the 537 soldiers responding to our outreach effort. Both sum scores and customary subscales were evaluated. For the Mississippi Scale for Combat-Related PTSD-Revised (Miss-R-Total), Beck Depression Inventory (BDI-Total), and the SCL-90R General Severity Index (GSI) we used pre-defined cut-off scores to identify soldiers scoring within clinically significant ranges; results were analyzed by unit as the percentage of soldiers exceeding the cut-off for each measure. Below are the values used:

<u>Measure:</u>	<u>Clinical Cut-Off Score</u>
Mississippi Scale for Combat-Related PTSD-Revised (Miss-R Total)	≥89
Beck Depression Inventory (BDI-Total)	≥10
SCL-90R General Severity Index (GSI)	≥0.50*

(note-GSI cut-off provides for t-score > 60 for both males and females)

Demographics

Total 537 subjects

Age range: 17-59 years Means: 29.8 years Std Dev: 9.08

Gender Distribution:

Males	Females
468	67

Racial Distribution:

Unspec	Cauc	Black	Hisp	Amind
1	493	38	2	1

War-Stress Measures

Soldiers Scoring \geq 89 on the Mississippi Scale for Combat-Related PTSD-Revised (Miss-R Total):

	Frequency	%
89 and Above	67	12.5
Below 89	470	87.5

Soldiers Scoring \geq 10 on the Beck Depression Inventory (BDI-Total):

	Frequency	%
10 and Above	135	25.1
Below 10	402	74.9

Soldiers Scoring \geq 0.50 on the SCL-90R General Severity Index (GSI)

	Frequency	%
0.05 or Above	183	34.1
Below 0.50	354	65.9

D. Discussion

Design Limitations

As with all studies to date of war-stress we were not able to implement a design that studied soldiers or units prospectively randomized to receive different levels of war-stress exposure. Ethical considerations preclude deliberate trauma exposure. Nor dose war "randomize" trauma exposure; even in mass-casualty events such as a missile strike survivors will immediately respond in a variety of ways and immediate and subsequent psychological trauma can vary as much from one individual to another as do physical wounds. The war-stress experience of each in the war, and of each individual in a unit could only be described after the fact. A more serious problem is our lack of knowledge of each soldier's

mental health status prior to deployment. This limitation could be addressed in future studies with the cooperation of the Department of defense prior to unit deployment, preferably including baseline assessments in time of peace. Given the lack of systematic baseline assessment prior to war exposure, the best method available to us was to measure war-stress associated symptoms in units deployed to SW Asia versus those (hopefully comparable) units non-deployed or deployed outside the theater of war. Note that in our sample were some soldiers with previous war experience in Vietnam and other conflicts; elevations in war-stress symptoms reported by a soldier may represent reactivation of war-stress issues from previous experiences as well as the response to Persian Gulf War experience.

Another limitation of our study is that the units we studied were deployed and returned at different times and were necessarily studied at different times following their return. A major flaw is the most of the units studied strongly suggest that trauma survivors are relatively resistant to clinical followup efforts include a much higher proportion of those most symptomatic. Thus the groups of soldiers remaining which we studied probably provided a significant underestimate of the impact of war-stress in this population.

Finally, we have direct evidence that despite efforts to educate and support subjects in appropriate self-report, at least some soldiers under-reported war stress symptoms on standard instruments (see Case History #1).

Differences in War-Zone Deployed Units:

In our sample we were able to compare units deployed to the Persian Gulf Theater of War with non-deployed units and units deployed elsewhere. review of general psychometric data (BDI, SCL-90R) does not reveal any clear pattern of association with deployment. However a strong relationship between war-zone deployment was demonstrated with our principal war-stress measure, the Mississippi Scale for Combat-Related PTSD-Revised (Miss-R Total).

	<u>Non-SWA-Deployed</u> <u>Frequency</u>	<u>%</u>	<u>Non-SWA-Deployed</u> <u>Frequency</u>	<u>%</u>
89 and Above	2	2.13%	57	16.15%
Below 89	92	97.87%	296	83.85%

As discussed above, it is our judgement that most of the limitation in our methodology, (particularly access limited to the self-selected sub-sample of reservists continuing with their units and presenting for drill dates, and a strong tendency to under-report war stress issues), work to underestimate the influence of

war-stress in the population of reservists deployed to South West Asia during the Persian Gulf War. It is important to emphasize that score elevations above 89 on the Miss-R total do NOT constitute a diagnosis of PTSD. A prudent interpretation would be that about 16% of reservists SW Asia-deployed have scores warranting further attention for war-stress issues. The low rate (2%) of non-deployed reservists meeting this war-stress screening criterion in our sample suggests, but does not prove, that war-zone deployment itself is responsible. Alternative explanations, such as pre-existing differences in units eventually chosen for deployment, could be addressed in future studies with a prospective design.

E. Conclusion

Previously, clinicians from the Pittsburgh PCT have demonstrated the need for and the response to treatment in American soldiers surviving a mass-casualty event. Formal documentation has not been made available, but personal communications from military clinicians involved indicated that the immediate evacuation from the South West Asian theater and planned expedited deactivation of the 14th QM unit prior to effective treatment was against medical advice and in response to domestic political forces. Following this failure of the military to address war-trauma in ODS, hundreds of thousands of American servicemen and servicewomen were returned to the United States over the following months, again largely without implementing effective programs to assess or "debrief" personnel for war-stress (Becnell ref). Efforts by Va war-stress specialty teams across the country to gain the cooperation of military units after the fact will not yield all the information on war-stress the armed forces should have developed, but it is better than nothing. Given the extremely high costs of delayed recognition and treatment demonstrated after previous conflicts such as the Vietnam War, the VA must have some idea of what will be needed following this conflict.

Our nation that has learned so much about the cost of war-stress in Vietnam has not developed an effective program to assess war-stress in response to the Persian Gulf War. The reasons for this are open for interpretation. When the US military barred journalists and photographers from locations such as Dover Air Force Base during the Persian Gulf War, it effectively deprived potential critics the images of flag-draped caskets which historically have stirred American sentiments about the costs of war. In this, the most completely televised war ever fought, the images of war and its aftermath were more completely determined by American military commanders than in any previous conflict. Perhaps there are those who believe that an adequate account of war-stress, no matter how infrequent, is also a source of "unacceptable" images. History will decide whether these decisions by the military represented reasonable assessments of "national security" as claimed or whether they represent a cynical attempt to

influence public opinion. In any case, however small the percentage the men and women wounded once by war's trauma now risk being wounded again by America's neglect.

CHAPTER 7

OPERATION DESERT STORM OUTREACH PROGRAM

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OPERATION DESERT STORM OUTREACH PROGRAM

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A. Introduction

The potential for combat stress to cause prolonged mental health sequelae is well documented (Green 1989, Lindy 1988, Kulka 1986). Factors shown to relate to long term pathology include the nature of the stressor (such as exposure to death and the grotesque), personality and coping characteristics of the soldier, combat stress reaction during battle, and social support (Solomon 1987, Solomon 1987, Green 1989).

While the studies mentioned above have vastly expanded our knowledge of the risk factors, phenomenology, and clinical course of PTSD, they have left key questions unanswered. They examined only males and did not assess symptoms until years after their combat exposure. The only studies of recently returned combat veterans were done in Israel (Solomon 1987, Solomon 1988). Because none of the returning soldiers were female, Solomon was unable to make gender comparisons on sequelae to mobilization and combat conditions. It is also unknown what differences in results are attributable to the differences in the Israeli and American cultures.

In order to better understand the effects of mobilization in either a supportive or active combat role, we have gathered data on personnel in reserve units within the central Midwest, many of whom were mobilized to the Persian Gulf. The purposes of the study were: (a) to ascertain who was mobilized, (b) to gather data on the general level of distress in these veterans compared to other normative groups, (c) to explore the relationship between early life stressors, combat stressors, coping skills and current level of symptomatology, (d) to look at possible differences between, across, and within groups.

The Cincinnati Department of Veterans Affairs Medical Center organized and implemented an extensive Operation Desert Storm (ODS) Outreach Program which began on July 1, 1991. The goals of the ODS Outreach Program were: (a) to locate those individuals experiencing readjustment problems after their return home, (b) to provide education regarding the impact of stress, (c) to assess the veterans' needs, (d) to make referrals for further assistance when indicated.

B. Methods

To effectively implement the ODS Outreach Program, contact was made with key people at nearby reserve centers and military bases,

other area VA Medical Centers, Veterans Readjustment Counseling (Vet) Centers, the American Red Cross, and Operation Orange Ribbon (a national support system for military personnel and their families which originated in Cincinnati). Primary contacts were with reserve centers and military bases. Initial contact with the military was by telephone, followed up with a letter to the Commanders of the units explaining the Operation Desert Storm Outreach Program in detail. Two outreach social workers implemented the outreach effort at the reserve units.

The written materials included a brochure from the National Mental Health Organization, "When the Yellow Ribbon Comes Down," and two brochures designed by our program staff, "Information for Families," and "Traumatic Stress Syndrome." A videotape produced at the Cincinnati VA Medical Center was shown. The first half of the videotape contained interviews with two ODS reservists who had been deployed to Saudi Arabia. The second half was a panel discussion by the Chief of Psychology Service, the Associate Chief of Social Work Service, and a Clinical Psychiatrist, moderated by a veteran who is also a local radio personality. The videotape explored the various psychosocial issues surrounding the military call-up, the problems of readjustment for soldiers and family, and the need to both recognize when help is needed and to seek the services which are available. The videotape was well received by all of the reserve centers visited. After the film was viewed, a discussion period followed.

a. Clinical Measures: A questionnaire packet was distributed. This packet consisted of: (1) Operation Desert Storm Veteran Information Form, (2) Impact of Events Scale (IES), (3) Brief Symptom Inventory (BSI), (4) Coping Strategies Inventory (CSI), (5) the Mississippi PTSD (M-PTSD) Scale. Subjects were told that completion of these surveys was strictly voluntary, and that the data collected would be used for assessment and research only. The ODS Veteran Information Survey was compiled by a staff psychologist at the Cincinnati VAMC. A brief description of the last four surveys follows.

(1) Impact of Events Scale (IES) - The Impact of Events Scale (Horowitz, Wilmer, and Alvarez, 1979), is a self-report questionnaire modeled after Horowitz's stress response syndrome, consisting of 15 statements the subject rates in terms of response to a specific stressful life event along a four-point continuum (0, 1, 3, 5). The statements were scored for the Intrusion and Avoidance Subscales, which are central components of a stress response. The IES has been used frequently in trauma research and has demonstrated extensive reliability and validity.

(2) Brief Symptom Inventory (BSI) - This self-report instrument consists of 45 symptoms. Subjects think about whether the 45 symptoms were bothersome during the past week and rate these symptoms on a five-point scale ranging from "not at all" (0)

to a "a great deal" (4). Nine subscale scores were obtained by taking the sum of the scores. Additionally, items were also averaged to obtain a Global Severity Index (Derogatis 1983).

(3) Coping Strategies Inventory (CSI) - The Coping Strategies Inventory (Tovin, et al., 1985, 1989) is a 40-item self-report questionnaire designed to assess coping thoughts and behaviors in response to a specific stressor, in this case to being in the Persian Gulf, or to having a loved one in the Gulf. The CSI contains eight primary scales. These were combined hierarchically into four secondary scales, and two tertiary scales. Construction of the CSI's eight primary subscales was based on a review of the coping assessment literature (Tobin, Holroyd, and Reynolds, 1982) and upon factor analytic techniques. The primary subscales consist of specific coping strategies people use in response to stressful events. These include: Problem-Solving, Cognitive Restructuring, Social Support, Express Emotion, Problem Avoidance, Wishful Thinking, Social Withdrawal and Self Criticism. The shorter version was formed by choosing items with the highest loadings on the respective scales. Internal consistency and reliability for the short form is in the .80's and test-retest reliability is in the .70's.

(4) Mississippi Post-Traumatic Stress Disorder (M-PTSD) Scale - The M-PTSD Scale has been shown to be a highly reliable and valid measure of the spectrum of PTSD symptoms in Vietnam combat veterans. It has high internal consistency, and a principal components analysis indicates that its items measure three dimensions: intrusive re-experiencing/numbing-avoidance, anger/lability, and social alienation. Discriminant validity of the M-PTSD was supported by its high sensitivity in identifying PTSD patients (93%) and specificity in discriminating them from substance-abusing control subjects (88.2%). Finally, convergent validity of the M-PTSD was substantiated by significant correlations of the instrument with measures of combat exposure and interview and psychometric measures of PTSD symptomatology (McFall, Smith, Mackay, and Tarver, 1990).

After assessing the questionnaires, follow-up calls were made to the Persian Gulf veterans who had indicated significant stress to determine the severity of their current life stress and to offer assistance. As a result of these calls, some of these veterans came to the Cincinnati VA Medical Center for further assessment and counseling. Those who were too far away to come to our Medical Center were referred to other resources, e.g., their area Vet Centers.

Near the end of the program the outreach social workers conducted a telephone survey of the reserve units with whom there had been contact to thank them. The commanders agreed that the outreach program was an excellent way to disseminate information. Several of the commanders reported that the outreach program helped

some of their soldiers to identify problems and to seek help as needed. Some commanders stated that veterans resigning or leaving the military might benefit the most from the outreach program. They described the soldiers who sought discharges immediately after Desert Storm as extremely angry with their branch of military service.

For the duration of the ODS Outreach Program, July 1 through December 31, 1991, 19 reserve units were visited, covering an approximate radius of 90 miles beyond Cincinnati. The size of the units ranged from 8 to 100 soldiers, and some of the larger units were broken down into smaller groups which were visited separately. Through these outreach visits, 490 reservists were contacted. To date, 325 questionnaires have been completed.

b. Clinical Criteria: Scores on the self-report measures were examined by the project research assistant and compared to clinical cut-off scores. The clinical cut-off scores were set in advance based on previously published data. The cut-off scores established in the published data are: (1) the Impact of Event Scale (Green, Lindy, & Grace, 1991; Horowitz, 1986) outpatient norms of 2.8 on intrusion and avoidance subscales, (2) the Brief Symptom Inventory (Derogatis, 1982) outpatient norms of 1.2 GSE, and (3) the Mississippi PTSD (Keane, Caddell, & Taylor, 1988) psychiatric norms of 86.

Six very conservative criteria were used to identify outreach participants who might be at risk for possible war-related stress. The following criteria were used: (1) those who asked for help, (2) those who scored 2.8 and above on the intrusion subscale of the IES, (3) those who scored 2.8 and above on the avoidance subscale of the IES, (4) those who scored 1.2 and above on the BSI, (5) those who scored 86 and above on the M-PTSD, (6) those who responded positively (anything other than 0) to suicidal/homicidal items on the BSI and/or M-PTSD. The three suicidal/homicidal items on the BSI were "thoughts of ending your life", "thoughts of death and dying", and "having the urges to beat, injure, or harm someone", and the four suicidal/homicidal items on the M-PTSD were "if someone pushes me too far, I am likely to become violent", "when I think of some of the things I have done in the past, I wish I were dead", "lately, I have felt like killing myself", and "I feel like I can not go on".

C. Data Analysis

In order to understand responses to the Operation Desert Storm surveys most fully, data analysis was conducted in several phases. Initially, distributions on all variables were obtained, including cell frequencies and percentages. This was followed by obtaining additional descriptive statistics including means and standard deviations, medians, modes, and ranges of dispersion. Finally, in order to investigate the potential prediction of

clinical statistics, correlational analyses were performed using demographics, childhood experiences, and combat experiences as potential predictors. The significance of differences between groups were assessed by analysis of variance and t-tests.

D. Results

a. Descriptive Statistics: These conservative criteria resulted in identifying 191 (60%) of the 324 participants for follow-up. Forty-four and one-half percent of this group met one of the criteria, 22.5% met two of the criteria, 14% met three criteria, 9% met four criteria, 8% met five criteria, and only 2% met all six criteria. The modal age range of the sample was 24-29. The modal income range was between \$12,800/year and \$22,600/year. The following summarizes the results of the Veteran Information Form.

- (1) Date of Birth (mm/dd/yy) - calculated age within category:

<u>Age</u>	<u>% of Answered</u>
19-20	4.2%
21-25	24.7%
26-30	21.2%
31-35	16.7%
36-40	14.9%
41-45	11.1%
46-50	4.2%
51-55	2.8%
56-60	0.3%
TOTAL (288)	100.0%
Missing Info. (36/324)	11.1%

- (2) Gender:

	<u>% of Answered</u>
Male	74.0%
Female	26.0%
TOTAL (304)	100.0%
Missing Info. (20/324)	6.2%

- (3) Marital Status:

	<u>% of Answered</u>
Married	52.0%
Sep/Wid/Div	12.7%
Never Married	35.3%
TOTAL (252)	100.0%
Missing Info. (72/324)	22.2%

(4)	Race/Ethnic Ancestry:	<u>% of Answered</u>
	White	87.3%
	Black	11.0%
	Other	1.8%
	TOTAL (283)	100.0%
	Missing Info. (41/324)	12.7%
(5)	How many years of education do you have? (highest academic degree):	<u>% of Answered</u>
	Less than H.S.	2.8%
	High School	39.0%
	Some College	37.8%
	College Grad	13.5%
	Post College	6.8%
	TOTAL (251)	100.0%
	Missing Info. (73/324)	22.5%
(6)	What is your usual occupation?	<u>% of Answered</u>
	Unemployed	6.5%
	Unskilled	10.6%
	Skilled Labor	28.9%
	Homemaker	1.6%
	Secretarial	2.4%
	White Collar	11.0%
	Management	14.2%
	Professional	24.8%
	TOTAL (246)	100.0%
	Missing Info. (78/324)	24.1%
(7)	What is your annual income?	<u>% of Answered</u>
	< \$10,000	10.4%
	10's	25.5%
	20's	30.2%
	30's	17.2%
	40's	10.4%
	50's	3.1%
	60's	0.5%
	70's	1.0%
	80's	0.5%
	100's	1.0%
	TOTAL (192)	100.0%
	Missing Info. (132/324)	40.7%

b. Military Experiences

(1) What was your branch of service?

	<u>% of Answered</u>
Army	73.3%
Air Force	12.6%
Navy	11.6%
Marines	2.2%
Other	0.3%
TOTAL (318)	100.0%
Missing Info. (6/324)	1.9%

(2) Were you activated from the National Guard or Reserves for duty in Operation Desert Storm?

	<u>% of Answered</u>
No	1.9%
Yes	98.1%
TOTAL (258)	100.0%
Missing Info. (66/324)	20.4%

(3) What type of unit was/is your unit primarily? (If you served in more than one type of unit, code the one served in for the longest period.)

	<u>% of Answered</u>
Combat	4.2%
Combat Support	45.2%
Service Support	50.6%
TOTAL (259)	100.0%
Missing Info. (65/324)	20.1%

(4) Have you ever served in a war zone other than Operation Desert Storm?

	<u>% of Answered</u>
No	88.7%
Yes	11.3%
TOTAL (247)	100.0%
Missing Info. (77/324)	23.8%

(5) While you were in the Middle East for Operation Desert Storm, did you feel that the people back home supported the war effort?

	<u>% of Answered</u>
Not At All	3.8%
Slightly	1.6%
Moderately	4.3%
Considerably	28.0%
Extremely	62.4%
TOTAL (186)	100.0%
Missing Info. (138/324)	42.6%

(6) Please answer the following questions about the nature and extent of your exposure to combat in Operation Desert Storm, if any, including experiences that took place on land, in the air, or at sea.

(a) Did you receive friendly or hostile incoming fire from small arms?

	<u>% of Answered</u>
No	95.4%
Once/Twice	2.6%
Three or More	2.1%
TOTAL (194)	100.0%
Missing Info. (130/324)	40.1%

(b) Did you receive friendly or hostile incoming fire from artillery, scud missiles, mortars or bombs?

	<u>% of Answered</u>
No	67.0%
Once/Twice	16.0%
Three or More	17.0%
TOTAL (194)	100.0%
Missing Info. (130/324)	40.1%

(c) Did you encounter mines or booby traps while on patrol or at your duty station?

	<u>% of Answered</u>
No	83.1%
Once/Twice	7.2%
Three or More	9.7%
TOTAL (195)	100.0%
Missing Info. (129/324)	39.8%

(d) Was your unit ambushed or attacked?

	<u>% of Answered</u>
No	96.9%
Once/Twice	1.5%
Three or More	1.5%
TOTAL (195)	100.0%
Missing Info. (129/324)	39.8%

(e) Did you see either Americans or other troops killed or wounded?

	<u>% of Answered</u>
No	77.6%
Once/Twice	7.8%
Three or More	14.6%
TOTAL (192)	100.0%
Missing Info. (132/324)	40.7%

(f) Were you wounded or injured in combat?

	<u>% of Answered</u>
No	99.0%
Once/Twice	1.0%
Three or More	0.0%
TOTAL (195)	100.0%
Missing Info. (129/324)	39.8%

(g) Did you kill someone or think you killed someone?

	<u>% of Answered</u>
No	98.4%
Once/Twice	0.5%
Three or More	1.0%
TOTAL (192)	100.0%
Missing Info. (132/324)	40.7%

(h) Were you involved in handling dead bodies away from the battlefield?

	<u>% of Answered</u>
No	91.8%
Once/Twice	3.6%
Three or More	4.6%
TOTAL (194)	100.0%
Missing Info. (130/324)	40.1%

(i) Did you ever sit with anyone dying from battle wounds?

	<u>% of Answered</u>
No	96.4%
Once/Twice	1.5%
Three or More	2.1%
TOTAL (194)	100.0%
Missing Info. (130/324)	40.1%

(14) As a result of your service in the Persian Gulf, your family's finances were:

	<u>% of Answered</u>
Much Worse	13.1%
Slightly Worse	20.3%
No Change	57.4%
Slightly Better	2.5%
Much Better	6.8%
TOTAL (237)	100.0%
Missing Info. (87/324)	26.9%

(15) To what extent:

(a) Did you talk about your Persian Gulf experience with friends and family?

	<u>% of Answered</u>
Not At All	9.3%
A Little	58.1%
Quite A Lot	32.6%
TOTAL (227)	100.0%
Missing Info. (97/324)	29.9%

(b) Have you participated in homecoming activities, such as parades, parties, etc.?

	<u>% of Answered</u>
Not At All	38.4%
A Little	48.5%
Quite A Lot	13.1%
TOTAL (237)	100.0%
Missing Info. (87/324)	26.9%

(16) Where did you serve?

	<u>% of Answered</u>
Middle East	47.1%
States	40.5%
Other	12.4%
TOTAL (210)	100.0%
Missing Info. (114/324)	35.2%

b. Clinical Measures: The following summarizes the results on the clinical measures. Based on the results presented in this report, the majority of the ODS returnees who participated in the Cincinnati VAMC outreach program evidenced little distress both in general and in stress response specific areas of symptomatology. The modal response on each of the outcome measures most resembled non-patient norms. This finding may be due, in part, to the fact that most of those who participated in our outreach effort were members of reserve units who had very little exposure to actual combat experiences, the factor that has consistently been shown to be most predictive of psychological distress in veterans of other wars (Green, Grace, Lindy, Solomon, Keane).

However, it is also the case that a clinically significant portion of ODS returnees did report distress above the non-patient normative level. On the BSI, the most general measure of distress, 34% of the sample had scores in the sub-clinical range, 15% were in the outpatient range, and 6% (17 individuals) were above that level. A somewhat similar distribution was found when looking at total scores on the trauma-specific M-PTSD scores, although the distribution seemed somewhat more curvilinear with the well adjusted group (60%) and the clinically impaired group (26%) having more subjects than the sub-clinical group (14%). The following

graphs depict the means and standard deviations for the following measures: (1) the IES Intrusion, (2) the IES Avoidance, (3) the BSI, (4) the 35-item M-PTSD (prorated), (5) the 39-item M-PTSD (prorated).

c. Relationships Among Variables:

(1) Intercorrelations Among Demographic Variables - Age significantly correlates ($p < .01$) with marital status ($r = -.41$), times married ($r = .52$), number of children ($r = .54$), years of education ($r = .19$), and income ($r = .57$). The older individuals tend to be married, married a greater number of times, have more children, more education, and have greater incomes. Younger individuals tend not to be married. Females tend to have more education. (See Table 1.)

(2) Intercorrelations Among Childhood Stressor Variables - There were relatively high intercorrelations among the childhood variables. As would be expected, physical abuse, sexual abuse, and verbal abuse were significantly intercorrelated. Individuals who had been verbally abused also tended to be physically and/or sexually abused. Individuals who grew up under poverty conditions tended to report greater stress in childhood as measured by parents missing, divorced, or someone in household drinking or using drugs as well as greater physical, verbal, and sexual abuse. (See Table 2.)

(3) Intercorrelations Among Combat Stressor Variables - There were significant intercorrelations ($p < .01$) among combat stressors. Individuals who were stationed close to enemy lines reported being part of a unit that fired on the enemy ($r = .21$), received incoming fire from small arms ($r = .26$) and missiles ($r = .42$) as well as encountering mines ($r = .25$). Those close to enemy lines tended to engage the enemy in a firefight ($r = .20$) and saw American or other troops killed or wounded ($r = .27$). Being stationed close to enemy lines also was significantly related to being surrounded ($r = .26$), to having killed someone ($r = .21$), to having casualties ($r = .21$), to having had communications cut off ($r = .34$), and to having been exposed to poison gas ($r = .22$). However, these relationships should be understood as reflecting only a small portion of this sample's experience. Only 27% of subjects were in fact stationed close to enemy lines. (See Table 3.)

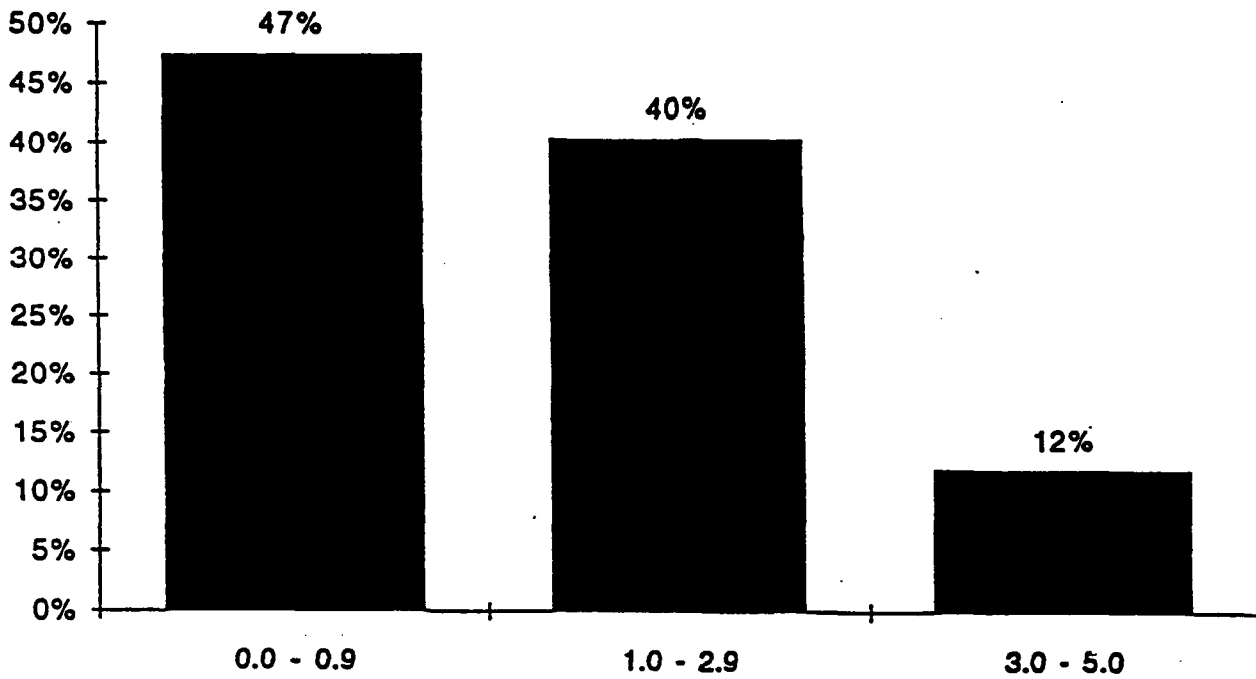
(4) Intercorrelations Among Outcome Variables - As would be expected, all clinical outcome measures were significantly intercorrelated. These relationships varied from .38 to .91. (See Table 4.)

(5) Correlations Between Predictor and Outcome Variables - Both high childhood stressor scores and high combat stressor scores correlated significantly ($p < .05$) with M-PTSD scores ($r = .31$ and $r = .11$ respectively). BSI scores were related to being black

IES-Intrusion

N=299

Impact of Event Scale-Intrusion



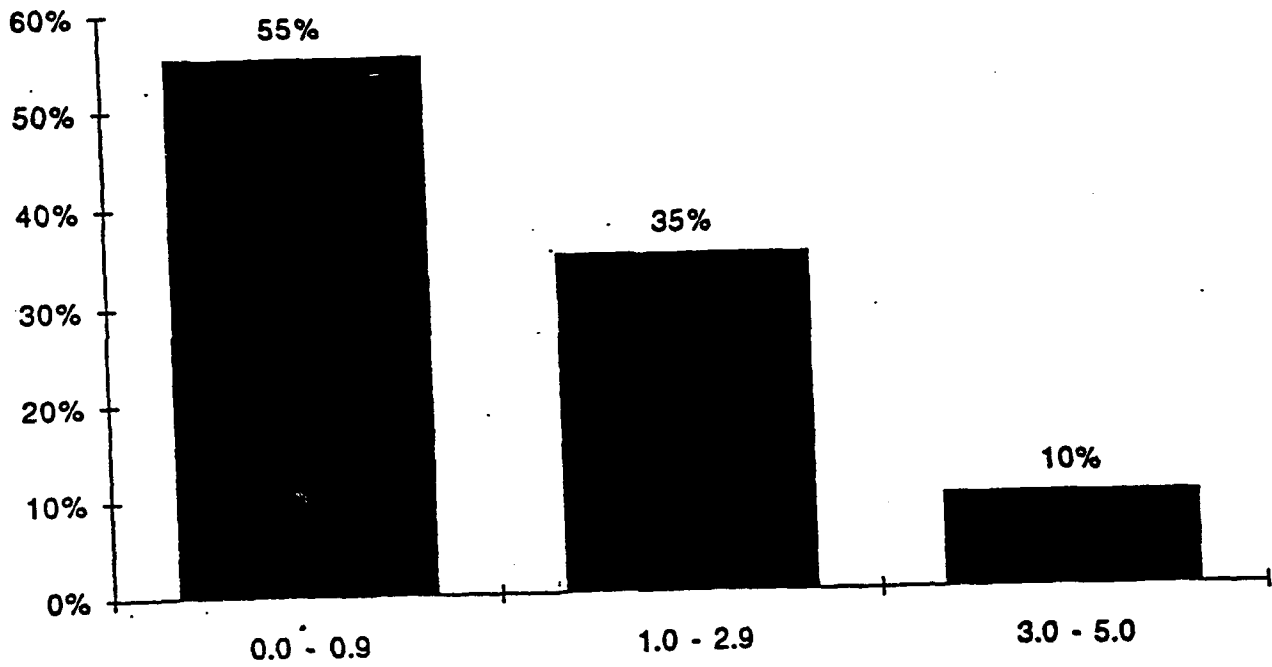
Mean = 1.28

S.D. = 1.23

13% scored at or above 2.8

N=298

Impact of Event Scale-Avoidance

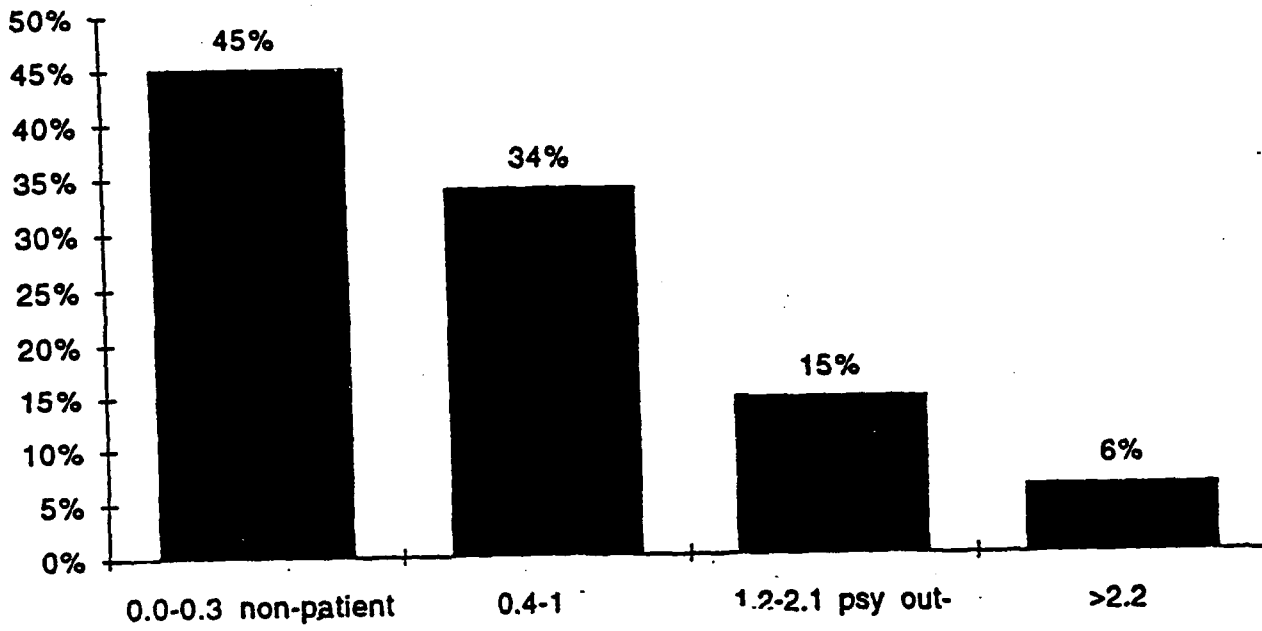


Mean = 1.12
S.D. = 1.18

14% scored at or above 2.8

N=286

BSI FREQUENCY

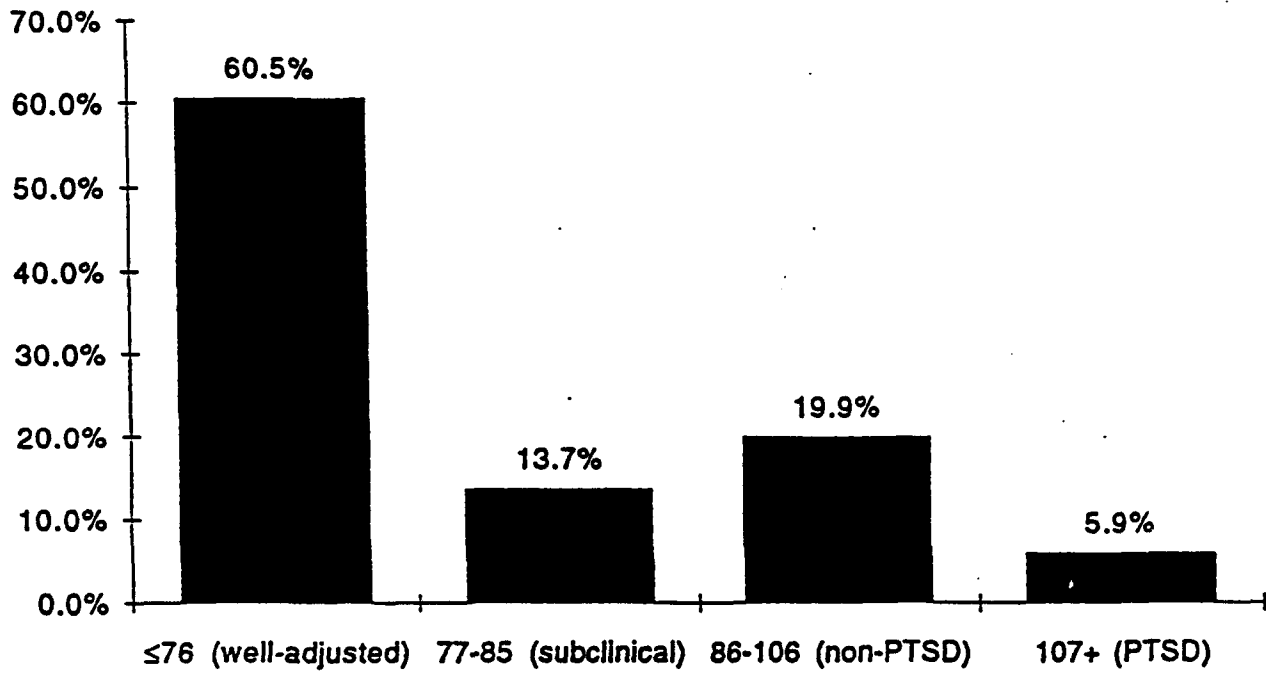


Mean = .66
S.D. = .72

21% scored at or above 1.2

N=271

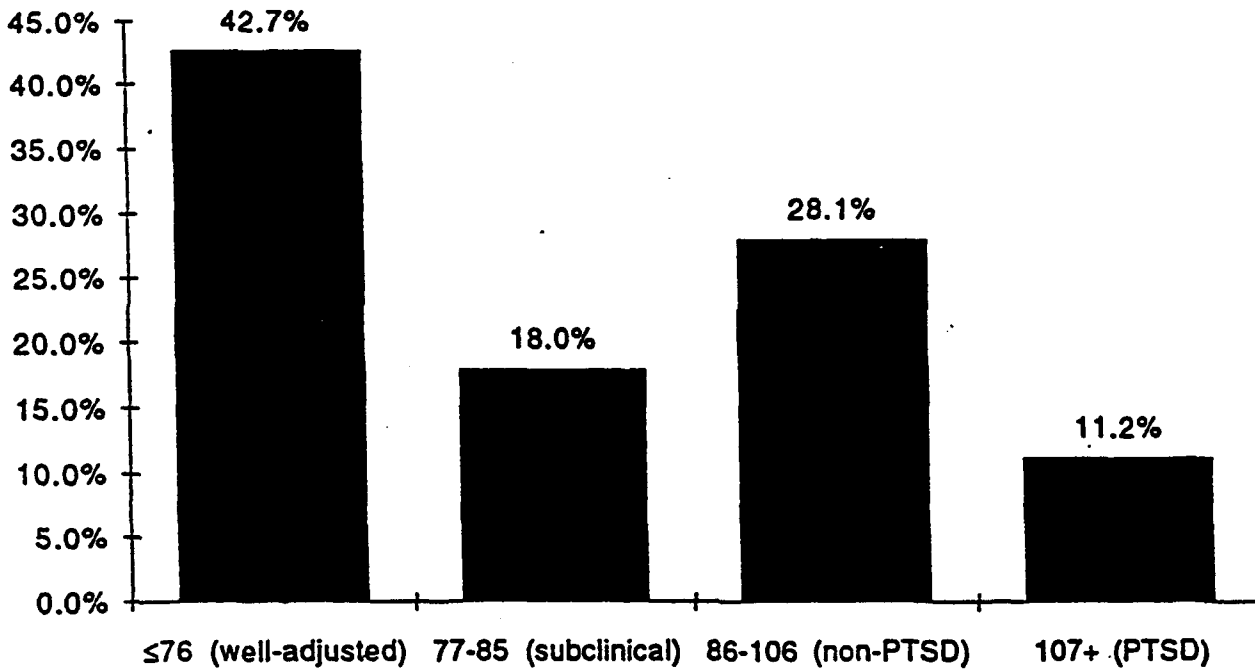
MPTSD FREQUENCY SCORES



Mean = 73.58
S.D. = 19.64

N=267

MPTSD FREQUENCY SCORES



Mean = 82.98
S.D. = 20.04

($r=.15$), to having high childhood stress ($r=.20$), to having high combat stress ($r=.27$), and to having lower incomes ($r=-.18$). IES intrusion scores were highest for veterans who were black ($r=.17$), and for those who reported high stress in childhood ($r=.18$) and in combat ($r=.35$). IES avoidance scores were related to being black ($r=.15$), to childhood stress ($r=.29$), and to low income ($r=-.19$). There were no significant correlations between outcome measures and age or gender in this sample. (See Table 5.)

d. Analyses of Group Differences:

Black veterans reported significantly higher BSI scores than did white veterans ($F=6.421$, $p<.0119$). Similarly, blacks produced higher IES intrusion scores than whites ($F=7.623$, $p<.006$) and higher avoidance scores ($F=6.33$, $p<.0125$).

Veterans with higher childhood stressors had significantly higher psychological stress on the BSI ($F=2.414$, $p<.0118$), the IES intrusion score ($F=2.558$, $p<.0076$), the IES avoidance score ($F=1.812$, $p<.0657$) and the M-PTSD ($F=4.843$, $p<.0001$) than did those with low childhood stress.

There were no significant differences on the outcome measures attributable to gender, educational level, or age. Unlike previous combat samples, there were no differences on clinical measures between younger veterans (ages 19-34) and older individuals (35-64).

e. Clinical Findings:

(1) Follow-Up Categories - Of the group of 191 veterans meeting criteria for follow-up, 58 chose not to record their name and phone number on the questionnaires, which left 133 veterans to be contacted by telephone. After many attempts by the outreach social workers, 11 veterans could not be reached. Thus, the actual number of follow-up calls was 122. The results from the follow-up phase of the program were organized into three categories:

(a) seeking help, (b) resolved issues, (c) unresolved issues. The total number of cases and the actual percentage of cases per category is indicated below. The percentage is based on the number divided by 122.

Seeking Help	---	37 veterans (31%)
Resolved Issues	---	68 veterans (56%)
Unresolved Issues	---	17 veterans (14%)

The "seeking help" category contains two sub-categories: (a) individuals who were already receiving professional counseling at the time of contact, (b) those veterans who were referred after the phone contact. The total number of cases and the actual percentage of cases per sub-category is indicated below.

Professional Counseling	---	10 veterans (8%)
Referrals	---	27 veterans (23%)

The veterans already receiving professional counseling were attending sessions at local mental health agencies and Vet Centers. In all cases, the cost for service at the mental health agency was picked up by the veteran's civilian health insurance. The proximity of the mental health facility and convenience of fitting the counseling sessions into the family work schedule were reasons the veteran sought counseling there.

To meet the needs and restrictions of all Persian Gulf veterans needing counseling, the Cincinnati VA Medical Center made referrals when necessary to other resources in closer proximity to the veteran's place of residence. Such referrals included Veterans Readjustment Counseling (Vet) Centers and VA Medical Centers in Chillicothe, Columbus, and Dayton (Ohio), and the Veterans Job Counseling Service in Columbus. In all of these cases, the counseling was sought out after the veteran had attended the Cincinnati VAMC's ODS Outreach Program in their reserve unit, and each veteran stated that the content of the outreach program motivated him/her to seek help.

E. Discussion and implications for future research:

Individuals who reported childhood stressors tended to show more psychological distress as demonstrated by higher scores on the outcome instruments. Additionally, those individuals who were exposed to combat (assessed by combat stressors) reported greater distress. Black veterans evidenced higher symptomatology than did whites on psychological measures, but there was no significant difference attributable to gender, age, or educational level.

Perhaps the most striking feature of this study of returning veterans is the relationship demonstrated between childhood stress and current adjustment. In the more rigorous analysis of this data which is to follow, several questions need to be addressed:

(a) "How much of current adjustment can be predicted by childhood stressor history alone?", (b) "Is the effect of race on distress level independent of income and childhood stress history?"

The lack of differences on gender, age, or educational level in this sample is discrepant from previous findings. For example, one of the common explanations for Vietnam combat-induced PTSD has been the youth of combatants. It is possible that these findings are an artifact of this sample's very limited exposure to combat stressors. Comparisons of this data with those of other groups with more extensive exposure should be done.

Analysis of the relationships between demographic and childhood variables is still underway. Similarly, an analysis of the unique contribution of combat and childhood stressors to the variance of outcome scores is ongoing.

In summary, the 27% of subjects stationed close to enemy lines were more likely to be exposed to one or more combat stressors. Those exposed showed higher levels of pathology on the IES intrusion subscale, the BSI, and the Mississippi PTSD Scale. While

individual pathology was assessed, the assessment instruments used did not allow an independent evaluation of family adjustment problems. As was noted, analysis of the available data is ongoing.

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CHAPTER 8

**AN EVALUATION OF TROOPS RETURNING FROM THE PERSIAN GULF:
A PRELIMINARY REPORT.**

Unger, W.S., Shea, M.T., & Curran, J.P.

Department of Veterans Affairs Medical Center, Providence, Rhode
Island

**AN EVALUATION OF TROOPS RETURNING FROM THE PERSIAN GULF:
A PRELIMINARY REPORT.**

Unger, W.S., Shea, M.T., & Curran, J.P.

Introduction

The following is a report of the services provided by the Providence VA Medical Center Post-traumatic Stress Disorder Clinical Team (PCT) for veterans returning from the Persian Gulf. The PCT staff is located in the Post-traumatic Stress Disorder (PTSD) clinic at the Providence VA Medical Center. This report is divided into two sections. The first section describes the initial contacts made by PCT staff, the evaluation procedures used and the data collection involved in assessing the needs and concerns of the returning veterans and their families. The second section describes the treatment program provided for these veterans. It includes information concerning the types of difficulties encountered by the individuals who sought psychotherapy services at the Providence VA Medical Center subsequent to their return from the Persian Gulf. It should be noted that community based clinicians were recruited by our PCT staff to provide the bulk of the psychotherapy services offered to the veterans. These clinicians were funded through a Department of Veteran Affairs program developed especially for the provision of treatment services for Persian Gulf Veterans.

The veterans discussed in this report were members of the Rhode Island units sent to the Persian Gulf, and were contacted upon their return to the United States. Specifically, the units were three Army National Guard military police units: the 115th, the 118th, and the 119th; the 6th motor transport Marine Reserve unit was also contacted. Of these units, 51 Persian Gulf veterans agreed to take part in an evaluation package for themselves and their spouses. Forty-two veterans from these units sought treatment services.

Part I. Initial contact and evaluation

A. Methods and Procedures

Upon the return of the Rhode Island units assigned to military service in the Persian Gulf, a team from the Providence VA PCT attended the debriefing sessions scheduled by the Unit Commanders and held at unit headquarters. Four staff members- a psychologist, social worker, outreach counselor, and psychology technician attended these meetings. Presentations were made by the PCT staff to units concerning the availability of treatment services. Evaluation packages were distributed at that time.

A subset of 51 Persian Gulf Veterans (PGV) completed and the returned the evaluation packages. The group was asked to

volunteer to take part in a research study to investigate the treatment needs of the returning veterans. Evaluation packages were distributed to the veterans for themselves as well as for their spouses. The PGV package consisted of a brief demographics questionnaire, the Mississippi Scale for Persian Gulf Veterans (MS), the Combat Exposure Scale (CES), the Symptom Severity Index (SSI), and the SCL-90 questionnaire. The spouse package consisted of a demographic questionnaire and the Life Stress Survey. The evaluation required approximately 30 minutes to complete. The veterans and their spouses were given the option to participate in a series of three follow-up contacts scheduled at six month intervals.

A group of 34 National Guard Servicemen (NGS) also from a transportation unit, who were placed on active duty but who remained stationed in the United States, were evaluated as a control group. These personnel were contacted through their unit commander during a drill regularly scheduled as part of their ongoing training for the National Guard; they were requested to participate in an evaluation procedure identical to the package completed by the Persian Gulf Veterans and were also given the option to participate in a series of three follow-up evaluations.

The CES is a short seven item scale which asked the veteran questions concerning the frequency of being assigned to dangerous duty, frequency of interactions with enemy units, and frequency of times the individual was in danger of being killed. The Mississippi Scale of Desert Storm War Zone Personnel is a 38 item five point Likert scale modified from the version developed and normed for use with Vietnam veterans. It includes questions concerning the presence of PTSD symptoms as well as the ability to function socially, on an interpersonal level, and within the family. The SSI is a 23 item seven point Likert scale of PTSD symptoms. It is based upon the criteria established to formulate a diagnosis of PTSD in the DSM III-R. The Life Stress Survey is a list of possible life stressors. The veteran's spouse was asked to indicate with a "yes" or "no" if an area was a source of stress during the absence of the veteran. If an item was responded to with an affirmative answer the spouse was asked to rate the level of stress experienced by completing a seven point Likert scale for each item endorsed with a "yes" response.

B. Results

An independent samples T-test on Combat Exposure Scale (CES) scores indicated a significant difference between the PGV group and NGS group. $T(1,67)=3.98, p \leq .01$ (see Table 1). Persian Gulf veterans reported significantly higher levels of combat exposure versus the NGS group.

An independent samples T-test on Mississippi Scale (MS) scores indicated a significant difference between the PGV group and the

NGS group $T(1, 71) = 3.95, p \leq .01$. These results are depicted in Table 1. The Persian Gulf veterans reported significantly greater symptoms of distress than did the NGS group. A further evaluation of the MS scores via the Yates Corrected Chi-Square indicated that a significantly greater number of PGV group veterans (40 percent) scored above the cutoff criterion of 89 for individuals from a non-psychiatric population of Vietnam veterans ($15.9 \leq .01$).

An analysis of Symptom Severity Inventory (SSI) scores by group via an independent samples T-test indicated a significant difference between the scores of the PGV group and the NGS group $T(1, 70) = 4.62, p \leq .01$. The Persian Gulf veterans reported significantly greater levels of distress than did the NGS group.

An analysis of the SCL-90 scores indicated the presence of significant differences at the $p \leq .01$ level between the responses of the PGS group and the NGS group on seven of the nine clinical scales. Significant differences were found on the obsessive-compulsive ($T = 2.82$), isolation ($T = 2.90$), anxiety ($T = 2.41$), hostility ($T = 2.86$), phobia ($T = 4.30$), paranoia ($T = 3.36$), and psychoticism ($T = 3.25$) scales. Significant differences were not found on the or depression scales. Please see Table 2.

Results of a analysis of the frequencies of the PGV group responses on the CES indicated that 66% participated in combat patrols, 50% were under enemy fire during their service in the Persian Gulf, 50% saw someone killed or injured, and 75% endorsed feeling that they were in danger of being killed. An analysis of the frequencies of items endorsed by the PGV group on the SSI indicated that 50% reported at least moderately severe intrusive thoughts, 35% had nightmares of their military experiences, and 50% engaged in behaviors to avoid thoughts or stimuli associated with their military experiences.

C. Discussion

The major results of this study suggest that the Persian Gulf veterans are experiencing greater distress than the control group subjects. Significantly greater scores were observed for the PGV group versus the NGS group on the MS, the SSI, and on seven of the nine clinical scales of the SCL-90. The PGV group endorsed the presence of nightmares, intrusive thoughts and that they have made attempts to avoid stimuli associated with their military experiences. These symptoms are include in the criteria used to formulate a diagnosis of PTSD in the DSM III-R. The impact of these symptoms on the overall level of function of the PGV group members must still be assessed. However, this group also endorsed a significantly higher level of anxiety, isolation, hostility and negative ideation on the SCL-90. It must be noted that these scores were not at a clinically significant level.

An analysis of the PGV group responses on the MS indicated

that a significantly greater number of the PGV group veterans achieved a score at or above 89 when compared to the scores of the NGS group. This result suggested that the PGV group was reporting a higher level of distress than the NGS group as measured by Mississippi Scale. The cutoff criterion of 89 was based upon an analysis of the data from the National Veterans Readjustment Study for individuals from a non-psychiatric population (Kulka, Fairbank, et al., 1988). Therefore, the cutoff score of 89 may generalize for use with the PGV group. However, the MS scores of the PGV group fell below the cutoff of 107 used to assess PTSD symptoms of Vietnam veterans. It must be noted, the MS was developed and normed as an assessment device to be used with Vietnam veterans. Therefore, the cutoff score of 107 may not generalize for the assessment of PTSD symptoms for veterans from the Persian Gulf.

As expected, the PGV group experienced significantly greater exposure to combat than the control group. A significantly larger CES score was observed for the PGV group versus the NGS group who were activated during the Persian Gulf Crisis but remained stationed in the United States. It must be noted that the scores of the PGV group generally fall in the light/moderate range for combat exposure on the CES. However, this scale was developed and normed for use with Vietnam combat veterans.

D. Conclusions

Significantly higher scores on the MS, the SSI, and seven of the clinical scales of the SCL-90 were found for the PGV group. A significantly greater number of the MS scores for the PGV group exceeded a score of 89 established for use with a non-psychiatric population. However, none of the symptoms fell in the clinically significant range for Vietnam combat veterans. Three follow-up evaluations will attempt to assess the course and development, either an increase or a decrease, of PTSD symptoms for the PGV group. Questions concerning the prominence of symptoms with regard to frequency and severity will be addressed.

Data from the National Vietnam Veterans Readjustment study (Kulka, Fairbank, et al., 1988) indicated that exposure to combat was the factor most related to the development of PTSD symptoms. Clinical observations suggest that when many of the Vietnam veterans returned to the United States they did not immediately present with symptoms of sufficient severity as to warrant a diagnosis of PTSD. This observation may also partially explain the low scores observed for the PGV group. Follow-up data on the course of symptom development is necessary.

In addition, the scores of Vietnam combat veterans on the CES often fall in the moderate to heavy range of combat exposure. It is not unusual for a Vietnam combat veteran to have engaged in life threatening duties for the majority of his one year tour of duty. The CES scores of the PGV group fall in the light/moderate range.

The differences in the intensity and duration of combat exposure may also explain the current results.

Lastly, the Persian Gulf troops received a great deal of support upon their return to the United States. Upon their return from the war zone, many of the troops expressed great relief at being reunited with their families. The administration of the present evaluation shortly after the return of the troops may also play a role in the explanation of the current results. Additional research on the development of PTSD symptomatology from combat related trauma is necessary to determine if symptom severity will change with time.

Part II. Treatment Summary

The staff of the Providence VA Medical Center PCT organized a treatment program for the returning Persian Gulf veterans. The PCT staff served as therapists for the veterans and as supervisors for community based clinicians recruited to assist with the delivery of treatment services. The community based clinicians provided the bulk of the treatment services for the Persian Gulf veterans. The treatment program included a clinical assessment of the veterans needs via self-report questionnaires and an individual interview. The veterans were then assigned a therapist based upon the findings of their clinical evaluation. The treatment services offered included group therapy. A 12 week structured debriefing group was offered at six different locations in the State of Rhode Island. The groups were held at the National Guard Armories, and were open to the veteran and his or her spouse. The groups were lead by two clinicians from the community. In addition, veterans and their spouses were seen for couples counseling and/or individual psychotherapy.

In total, 42 Persian Gulf veterans from the Army National Guard units and from the Marine Reserve unit were seen for individual clinical evaluations. Of these veterans, 36 subsequently sought treatment services shortly after completion of the individual evaluation. These veterans were assigned to individual psychotherapy, couples counseling, or group psychotherapy. Issues presented by the group as a whole included difficulty readjusting to living at home, increased alcohol consumption, unemployment, poor impulse and anger control, nightmares, poor communication with family members, depression, and suicidal ideation.

The formal treatment program for the Persian Gulf veterans was ended with termination of funds for the community based clinicians. Many of the veterans originally seeking treatment chose to discontinue psychotherapy with the termination of the formal treatment program and the departure of the therapist assigned to them. Thirteen Persian Gulf veterans continue to receive treatment services at the Providence VA Medical Center PTSD clinic. Nine

veterans continue to receive individual psychotherapy; four veterans and their spouses continue to receive couples counseling. Treatment services are currently being provided as necessary. Persian Gulf veterans continue to present for services at the PTSD clinic.

Table 1.
Independent samples T-test

Combat Exposure Scale scores X Group

Group	N	Mean	SD
Control	29	2.0	7.64
Gulf Vet	40	8.5	5.92

DF = 67, T= 3.98, p \leq .01 DF=67.0 Probability=0.00

Mississippi Scale scores X Group

Group	N	Mean	SD
Control	33	62.67	10.53
Gulf Vet	40	81.15	25.12

DF = 71, T= 3.95, p \leq .01

Symptom Severity Inventory scores X Group

Group	N	Mean	SD
Control	33	63.58	10.08
Gulf Vet	39	76.80	13.56

DF= 70, T= 4.62, p \leq .01

Table 2.
Independent samples T-test on SCL-90 scales

Obsessive-Compulsive Scale scores X Group

Group	N	Mean	SD
Control	32	33.59	13.90
Gulf Vet	36	42.19	10.83

DF= 68, T = 2.86, p \leq .01

Isolation Scale scores X Group

Group	N	Mean	SD
Control	32	34.84	11.75
Gulf Vet	36	42.61	10.37

DF= 66, T= 2.90, p \leq .01

Anxiety Scale scores X Group

Group	N	Mean	SD
Control	32	31.19	16.10
Gulf Vet	36	38.58	8.46

DF= 66, T= 2.40, p \leq .01

Hostility Scale scores X Group

Group	N	Mean	SD
Control	31	36.00	16.85
Gulf Vet	36	45.44	9.70

DF= 65, T= 2.86, p \leq .01

Phobia Scale scores X Group

Group	N	Mean	SD
Control	31	31.23	19.30
Gulf Vet	36	46.14	7.26

DF= 65, T= 4.30, p \leq .01

Table 2. (continued)
Independent samples T-test on SCL-90 scales

Paranoia Scale score X Group

Group	N	Mean	SD
Control	32	36.28	15.31
Gulf Vet	36	46.69	9.99

DF=66, T=3.36, p < .01

Psychoticism Scale score X Group

Group	N	Mean	SD
Control	32	32.18	16.02
Gulf Vet	36	42.64	10.16

DF= 66, T= 3.25, p < .01

CHAPTER 9

**INITIAL CONTACT INTERVIEWS WITH MARINE RESERVISTS
IN OPERATION DESERT STORM**

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INITIAL CONTACT INTERVIEWS WITH MARINE RESERVISTS IN OPERATION DESERT STORM

Patrick Sloan, Ph.D., Linda Arsenault, B.S., William A. McCormick, M.A., Stephen Dunn, M.A., Laurene Scalf, B.A.

In the spirit of the Veterans Affairs/Department of Defense contingency plan passed by Congress in 1982 to provide for soldiers' mental health needs, including combat-related post-traumatic stress (PTS) and post-traumatic stress disorder (PTSD), an initial contact/early intervention project was conducted in 1991 at the Mountain Home VAMC (Johnson City, Tennessee) with a group of U.S. Marine Corps Reservists who had just returned from three months of active duty in Operation Desert Storm (ODS).

Due to the brief war and the relatively low amount of exposure to combat among this particular unit of Marine Reservists, we expected that there would be few actual psychiatric casualties; however, it is well known that early intervention, education and support of combat veterans and their families reduce the incidence of both acute and delayed post-traumatic stress morbidity and mortality (Abueg et al., 1991). Over the past several years, mental health professionals at this VAMC have also successfully provided intervention and support to non-military survivors of stressful events affecting our local community, such as an airplane crash-landing, a fire claiming 16 lives, and fatal automobile accidents. These professionals formed the nucleus of an ad hoc committee formed during ODS to organize this VAMC's response to returning veterans.

Our own clinical experience, as well as the existing research literature, has taught us that such interventions provide active and preventive mental health care, positive community relations, and unique opportunities for clinical research. We are particularly interested in our region's combat veterans, given their vulnerability to war-related stress, as their volunteerism and soldiering skills expose them to greater likelihood of being in harm's way. For instance, the casualty rate for Appalachians in the Vietnam War was higher than for any other section of the country. Appalachians are known for their patriotism and marksmanship skills, and we suspect that their combat morbidity and mortality are related to these values learned at an early age (Giles, 1981).

This project provided a nonpathological model of early intervention, education and support to young (average age 22), mostly single, white, male, enlisted Reservists (one enlisted female and one male officer were included) from the local Marine Reserve Unit (Company H, 3rd Battalion, 24th Marines). Access was obtained through the unit commander, Captain Don D. Cline, and his staff. Although this program was primarily a clinical

identification and treatment endeavor, our research model was also endorsed by the local VA Research and Development Committee and the Internal Review Board of East Tennessee State University, our affiliated institution.

On July 14, initial contact was made with a group of 115 Marines during a weekend drill at their local training center. The contact included an introduction by the Unit Commander, who endorsed the project and its nonpathological model, and made it explicit that participation was strictly voluntary. Dr. Sloan then made a presentation to the group that included: (1) a brief review of their heritage as Appalachian combat soldiers, unique characteristics of the Persian Gulf War, and information about normal reactions to combat, including symptoms of post-traumatic stress, (2) opportunities for group or individual discussion, (3) administration of standardized instruments, and (4) referral for health or other concerns.

Specifically, Dr. Sloan's didactic presentation offered a brief history of the VA mission and described the history and facilities of Mountain Home VAMC. He related these resources to the potential needs of ODS participants and their families, and to the general benefits established by Public Law 102-25 for Persian Gulf Veterans. He also addressed our current knowledge of and concerns about the effects of PTS on combat veterans, particularly Appalachians. This was followed by a review of general expectations about war-related stress and readjustment, using local case examples of survivors from other wars and nonmilitary stressors. Emphasis was placed on normal reactions and adjustment to war and its related stress; post-traumatic stress was defined and differentiated from post-traumatic stress disorder (PTSD). Common symptoms were described in detail with their expected normal course of recovery.

Along with the description of common symptoms, the likelihood (and normality) of individual differences in reactions to apparently similar experiences was also noted. This included a brief description of the interactionist model of PTS, which suggests that three factors determine recovery: (1) premorbid personality, (2) situational events, and (3) the recovery environment. Thus, it was strongly encouraged that these veterans understand their experiences, communicate these with loved ones or comrades, and seek further help, if needed. The didactic presentation was followed by a lively question and discussion period.

Of the group of 115 Marines, 66 volunteered to participate further and completed Informed Consents, Part I of the War Stress Interview - Operation Desert Storm (WSI-ODS), the Impact of Event Scale, and the Minnesota Multiphasic Personality Inventory-2 (MMPI-2). The group testing session in a large room allowed informal contacts among program staff and small groups of veter-

ans, which facilitated information sharing and rapport-building. Specific questions about benefits that could not be answered immediately were noted by program staff and answered subsequently by telephone. By working closely with the unit's leaders, care was taken to avoid duplication of efforts or miscommunications. Based on the cooperation and interaction of the Reservists, Captain Cline and Training Sergeant Michael Sylvestro judged the first phase (Phase I) of the project a success. The commander and his staff strongly supported our keeping confidential all individual data gathered.

During the following week, program staff reviewed individual data of 25 Marines (20% of the Unit) who reported having significant symptoms of PTS or other problems, such as with alcohol or family. Among this group, the most frequently reported symptoms were sleep disturbance (41%), hyperirritability (38%), hyperalertness (36%), emotional numbing (28%), intrusive thoughts or nightmares (23%), and family or interpersonal problems (22%). The program staff consulted by telephone with each of these individuals and explored further the reported problem areas.

Fifteen of those 25 Marines contacted felt no need for further referral for mental health services, as they perceived their problems as largely situational and resolving. Where indicated, referrals for nonpsychological needs (e.g., benefits, medical appointments) were offered by the Project Coordinator and often were accepted. Although 15 Marines deemed further psychological help unnecessary, each expressed appreciation for our contact with them. Consequently, we suspected that telephone consultations alone were therapeutic for these individuals. Nonetheless, ten (10) of those 25 Marines contacted by telephone agreed to participate in the second phase of the project.

Phase I produced useful demographic and experiential data for more than half of the unit (N=66). For example, the War Stress Interview revealed that the vast majority of respondents were enlisted men who served in a combat unit, generally trusted their comrades, noncoms, and officers (in that order) and greatly appreciated the support of the people back home. Although they and their leaders perceived their exposure to combat as generally quite low, several reported receiving small arms fire, about one-fourth received large arms fire, and about one-fourth saw people killed or wounded. As mentioned, about 20% of the unit reported acute symptoms of PTS.

A number of individuals reported equipment failures or communications being cut-off between units. Anecdotal comments were noted and were particularly revealing, as Marines reported variable perceptions or experiences of such activities as deployment, leadership, training, equipment, and guarding prisoners, as well as a gamut of personal symptoms or reactions to their experiences. One Marine's description of his post-war experienc-

es was typical of some of the symptoms reported; he said, "I have problems focusing, problems sleeping. I lose interest fast. I always feel like I might be harmed." Regarding interpersonal relationships, a number of Marines expressed difficulty with emotional closeness with significant others since their return from ODS. One stated simply, "My engagement seems colder." Other comments and suggestions were made by the Marines as to how each would do things differently in future operations. Although some felt preparation was good, a number of suggestions were made as to improving procedures for notification, deployment, and communications with families, as well as regarding their duty operations.

A written summary of these data were shared anonymously (so no individual could be identified) with the unit commander and his staff and discussed with Captain Cline at a formal briefing on August 1. He reported that the data and briefing were most useful, both for the purposes of training and for increasing leadership's awareness of the Reservists' reactions.

Of the 66 Marines who completed Phase I, 30 men volunteered for Phase II, which included in-depth interviews at the VAMC where program staff administered individually the WSI-ODS, Mississippi Scale for Combat-Related PTSD and Rorschach (inkblot) test. These contacts allowed extensive interaction with each Marine and ample opportunity for him to address any questions, concerns or specific problems. Project staff debriefed each Marine after the interview/testing and offered further contact, if desired. Eight of the 30 Marines accepted an additional feedback interview with the Project Coordinator. In these, Dr. Sloan reviewed the individual's interview and test results, addressed questions and made recommendations.

The Phase II individual findings suggested that these Marines experienced (in varying degrees) acute reactions to war-related stress, problems in adjustment and a desire for reassurance. As a group, those Marines who participated in Phase II of the project obtained significantly different scores on some of the psychometric measures than those who participated only in Phase I. The results suggested the Phase II group may have been less cynical about mental health care, more open to intervention, perhaps more distressed (or more willing to admit distress) in some areas and more likely to seek help. Group data on the Rorschach test suggest situational anxiety, concerns about impulse control, emotional stimulation and effects on cognition. We are also interested in specific war-related content reported on the Rorschach test. Vulnerability to stress is also being investigated in this group. Further data analyses are being carried out in an attempt to better understand the group and individual differences.

Including the group meetings, over 300 personal contacts

have occurred thus far between program staff and these Reservists. Only four (4) of 66 Marines were referred for formal psychological treatment or counseling, and reportedly only one of those has engaged in counseling. As yet, no psychological casualties have been reported. Excellent communication has been established with the Reserve Unit staff, and trust has developed between the project staff and some Reservists. Many of these veterans previously knew little about the VA system, its benefits, or this particular VAMC, but now they have had one or more positive encounters with VA personnel. In fact, during Phase II of this project, over one-fourth of the veterans in the initial contact session has visited the local VAMC at least once. We believe these personal contacts provide vital links with the system, should any of these veterans need VA services in the future.

As for our findings and conclusions thus far, this combat unit saw little direct action and individuals minimized the unit's and their own roles as primarily providing security for military positions and prisoners. Many expressed guilt or disappointment about their roles--one Marine's comments were typical, ". . . we didn't get to do our job [i.e., combat]. I don't feel we deserved all that hero stuff." Nonetheless, the preliminary data analyses suggest support for our original hypotheses that: (1) despite low incidence of severe symptoms, many Marines indeed experienced normal variants of acute PTS, (2) in most cases, the PTS symptoms were reported as diminishing rapidly or abated, (3) there were significant individual differences as to both their unique experiences and their reactions to ostensibly similar situations, (4) the recovery environment (e.g., welcome home, family support, job/finances) is important in readjustment, and (5) professional consultation is very important to some veterans.

The volunteers' perceptions of their experiences and the Unit's problems were shared anonymously with the Commander, which was consistent with the Corps' tradition of oral history and learning from past endeavors. A formal presentation of group results to the entire Unit will be part of their regular training at a weekend drill in early 1992. A paper reporting initial findings, "Early Intervention with Appalachian Reservists in Operation Desert Storm," has been accepted for publication in the spring of 1992 in the Clinical Newsletter of the National Center for Post Traumatic Stress Disorder (NCP), Department of Veterans Affairs. Also, the Project Coordinator has been invited to present an inservice training program on lessons learned from this clinical/research project on NCP's national PTS Conference Call scheduled for February, 1992. Pending further data analyses, additional papers or symposia may be prepared for publication or presentation. We believe the program was even more successful than initially anticipated, and we hope to share our findings with a broader audience.

In summary, previous observations in other field studies (Green, Wilson, & Lindy, 1985; Sloan, 1988) were validated and underscored by the findings in this project as follows: (1) an understanding of the regional culture was helpful in communicating with the target population, especially in penetrating the protective "membrane" surrounding the group (Lindy, Grace, & Green, 1981), (2) the project staff's swift intervention and well defined goals (consistent with Marine Corps and VA missions) were imperative in establishing credibility with the Unit Commander and the veterans, (3) the project staff communicated clearly the track record of how such intervention can alleviate PTS and provide preventive health care, which helped gain access to the audience and engaged them in helping themselves, (4) in order to be most effective, the didactic presentation about PTS required the presenter to use concrete examples, emphasize normality and offer direct avenues to help, (5) referral for nonpsychological needs (e.g., educational, health, financial) was an important component of the program, and (6) an opportunity to help others through participating in research was well received by these veterans and seemed to serve as an inducement for them.

Finally, anecdotal information was important in highlighting the importance of this type of community outreach program. This is illustrated by one Marine's answer to the WSI question as to when he first became consciously aware that the stress of the war was affecting him, "When I was at the Reserve Center and Dr. Sloan gave his presentation, I started comparing what he said with what was happening to me." This outreach approach clearly stimulated veterans' awareness. Another important finding was demonstrated recently by two Marines who returned late in the project and requested consultation and referral for PTS symptoms and readjustment problems. Our previous experience tells us that others will likely follow. This latter occurrence illustrates a PTS maxim proven true over and over again in our experience with combat veterans: "If you show them you can help and leave the door open, some survivors will find their way back eventually." As VA health care providers, it is our mission to not only let them know we are here and leave the door open, but to help them find their way back and work with them.

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CHAPTER 10

**COMING HOME FOR GOOD:
THE OPERATION DESERT STORM VETERANS AND FAMILY PSYCHOSOCIAL
DEBRIEFING PROJECT**

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EXECUTIVE SUMMARY

The PTSD Clinical Team (PCT) of the Portland VA Medical Center initiated a clinical research project to educate and counsel returning veterans from Operation Desert Storm (ODS) and their families about effective ways to manage the residual stress of military service and family separation, and ways to successfully resume healthy and productive personal, family, and work lives. Eight Reserves and National Guard units with a total of over 1000 soldiers were provided with one or two educational group presentations to enable the veterans to identify normal signs of war-zone and personal/family readjustment stress and practical psychosocial approaches to constructively cope with and resolve such stressors. Brief psychological tests revealed that these veterans were experiencing residual and readjustment stress. At the close of the large- and small-group educational presentations, veterans were encouraged to come to the PCT (at the VAMC Outpatient Clinic) if they or their spouses felt that brief counseling would help to resolve stress symptoms and to facilitate personal, family, and vocational readjustment.

Twenty-five couples (ODS veteran and spouse) have been provided with conjoint psychosocial debriefing. Another 30 ODS veterans have been seen for one-to-one psychosocial debriefing. Debriefing involves two to six 60-90 minute counseling sessions with one or two mental health professionals, utilizing a format derived from critical incident debriefing and other modalities.

All 80 participants (veteran $N = 55$; spouse $N = 25$) who enrolled completed or are in the process of successfully completing the debriefing process. A total of 8 veterans (17%) met clinical criteria for Posttraumatic Stress Disorder (PTSD) although in only 5 cases (10%) was the diagnosis exclusively related to ODS experiences, since three other veterans had served in Vietnam. A comparison of debriefing participants with a sample ($N = 60$) of veterans (from the same Reserve/National Guard units) who chose not to debrief showed that regardless of whether the veteran sought assistance through debriefing and regardless of whether the veteran served in the Persian Gulf or in Europe during ODS approximately 75% of ODS veterans reported some stress symptoms and/or personal and family readjustment difficulties 4-9 months after ODS demobilization, although the extent to which this sample reflects the larger sample of 1,000 veterans is

unclear. In addition, 67% of the spouses participating in debriefing reported some stress symptoms (although generally with slightly lower intensities of distress) and all spouse participants reported significant family readjustment difficulties.

Data comparing the veterans and spouses stress levels and readjustment status before versus after debriefing are available for the first 22 veterans and spouses completing debriefing. Statistically and clinically significant gains were achieved in decreased post-traumatic stress, anxiety, depression, and social dysfunction and improved family functioning. The timely ongoing combination of educational outreach and psychosocial debriefing thus appears promising as a method for resolving acute stress reactions.

A. Introduction

Soldiers and their families experience intense upheavals in their lives during wartime and in its aftermath. Stress and trauma symptoms are normal responses to these circumstances, but without timely therapeutic assistance what begin as transient acute stress reactions can crystallize into chronic emotional, family, interpersonal, vocational, and medical problems. The human and financial costs of belated psychological assistance for war-related stress and trauma have been all too well illustrated by the aftermath of the Vietnam war.

Although the lessons of World Wars I and II and the Korean War (cf. Archibald & Tuddenham, 1965; Glass, 1954; Grinker & Speigel, 1946; Kardiner, 1941; Menninger, 1948; Swank, 1949) enabled military mental health specialists to develop a sophisticated effective early-intervention approach to forestall combat stress reactions and return soldiers to the field before their distress became chronically debilitating (cf. Bourne, 1979; Colbach & Parrish, 1970; Jones & Johnson, 1975; Pettera, Johnson & Zimmer, 1969), treatment of the individual and family-systems manifestations of war-zone post-traumatic stress (e.g., Borus, 1973; Brown, 1984; DeFazio & Pascucci, 1984; Figley, 1986; Gault, 1971; Goldsmith & Cretekos, 1969; Haley, 1984; Langner, 1971; Polner, 1971; Solomon, 1988; Strange & Brown, 1970) experienced by returning military personnel was often overlooked or delayed. As a result, normal acute war-zone stress reactions crystallized into chronic post-traumatic stress disorders (cf. Rahe, 1988) that have been debilitating for as many as one million Vietnam veterans (Kulka et al., 1988) and hundreds of thousands of their spouses, children, and families (Carroll et al., 1985; Kulka et al., 1990; Marrs, 1986; Mason, 1990; Matsakis, 1988; Rosenheck & Nathan, 1985; Silver & Iacono, 1986; Williams, 1987). Reports on the postwar adjustment of Swedish soldiers in the Belgian Congo (Kettner, 1972) and Israeli soldiers in the 1973 Yom Kippur War and the 1982 Lebanon War (Solomon et al., 1987; 1990) corroborate the finding from the Vietnam War that soldiers who experience combat stress reactions are at high risk for chronic combat stress syndromes and later post-traumatic stress disorder.

Military psychiatry and psychology continue to refine the highly effective immediate treatment approaches for war-zone stress syndromes (Hazen & Llewellyn, 1991; Rundell et al., 1990; Sokol, 1989), reporting excellent rates of return to duty for acutely distressed ODS personnel (Gunby, 1991 a, b, c). Upon demobilization and return to family, community, and work, however, the normal stress reactions (in response both to wartime and readjustment experiences; cf. Ateberry, 1991; Hobfoll et al., 1991) have been left to the veteran and her/his family to resolve on their own. In the population served by the present project -- Reserves and National Guard units -- the demobilization standdown and post-demobilization readjustment protocol has largely con-

sisted of formal military briefings and drills in which little or no mention is made of stress responses or how to constructively address them.

B. Overview of the ODS Psychosocial Debriefing Project

The ODS Psychosocial Debriefing Project was conceived as an ounce of prevention that might enable ODS military personnel and their families to successfully achieve the civilian counterpart of military return to duty. The project's goals are as follows:

1. Teach ODS veterans to recognize personal, familial, and vocational stress-response symptoms.
2. Teach ODS veterans to understand acute stress symptoms as normal reactions on the part of military personnel and families which can be resolved expeditiously without deteriorating into a chronic post-traumatic stress disorder.
3. Identify stress and trauma symptoms experienced by ODS veterans and their spouses and children, and the specific wartime and readjustment events or experiences that are likely to precipitate and exacerbate, or on the other hand, prevent or reduce the negative impact of these reactions.
4. Provide ODS veterans and spouses with, and document the results of, brief and personalized psychosocial counseling (debriefing) which will enable them to clearly recall, openly discuss, and therapeutically gain a sense of mastery from the stressful and traumatic experiences during and after ODS.

Veteran and Family Participants. Over 1000 ODS military personnel from 8 different Reserves and National Guard units and one active-duty Army unit based in the Pacific Northwest participated in the project. Large group (i.e., 25-125) and small-group (i.e., 10-20) educational presentations were provided to: (1) medical personnel who had been stationed in the Persian Gulf or in Germany (one Mobile Army Surgical Hospital and two Station Hospital units), and (2) frontline Persian Gulf combat support personnel (two Combat Engineering, one Combat Transportation, one Combat Reconnaissance and one Combat Communications units). All personnel and spouses from these units who volunteered (on a confidential basis) to undergo psychosocial debriefing were enrolled. In addition, a small number of frontline active-duty infantry and stateside or European-theatre rear echelon support (e.g., supply, emergency services) soldiers participated in the debriefing protocol.

Both male (70%) and female (30%) ODS veterans volunteered for psychosocial debriefing, roughly comparable to the gender distributions of their military units. (The relatively high proportion of female personnel was due primarily to a large sample of female nurses in the three medical units.) The age range of debriefed veterans and spouses was from 23 to 55, with a median of 32 -- slightly but not significantly older than the norm for their units and substantially older than U.S. veterans of all previous 20th century wars. The educational attainment of debriefed veterans and spouses was bimodal, with 35-45% having terminal high school degrees and another 35-40% having college (R.N. and B.A./B.S) or graduate degrees. Income levels were similarly bimodal, with lower-middle (\$15-25,000) and upper-middle (\$35-50,000) yearly family incomes as subclusters. The racial/ethnic composition of the debriefing group was primarily Caucasian (including three Black veterans and two Asian-American veterans), corresponding to that of the military units.

Education/Outreach Program. The first level of intervention involved large- and small-group educational presentations to Reserve and National Guard units. Locating and making initial contact with local units proved an unanticipated difficulty: each unit was an isolated entity with no centralized or readily available connections with civilian or military communications resources, directories, or coordinating groups. Media reporters, military chaplains, and personal contacts were the only entrees to most units. Most units were unaware of the availability of mental health services for their personnel in the Veterans Affairs system. Those few that did know that their personnel were eligible for services at the VAMC (or local Veterans Centers) had no plans to initiate contact with these resources. The psychosocial aspects of post-demobilization readjustment by veterans and families were given a priority lower than that of returning the units as a whole to their pre-ODS military locales and levels of functioning. Family Support Centers existed in some of the units, but many provided only pamphlets and announcements of local community social and financial resources and ad hoc counseling by chaplains. However, there were at least four family support groups which were functioning during the time of ODS activation. Unfortunately, most of these groups terminated their activity as soon as the unit returned home.

The Portland ODS Psychosocial Debriefing Project began in January 1991 as a program of community/public education through the media and via continuing education seminars for mental and medical health professionals. Nevertheless, despite numerous efforts we were unable to gain entree to

any Reserve or National Guard unit until three months after they had returned from ODS assignment, in June 1991.

Beginning in July 1991 and continuing through December 15, 1991, each of the eight local Reserves and National Guard units was provided with a 30-90 minute educational presentation that (1) identified normal symptoms of personal and family stress reactions; (2) described how both veterans and spouses had been subject to a host of stressors, and in some cases traumas, from the outset of ODS mobilization and through the demobilization; (3) identified changes in personal, vocational, marital, family, and child functioning that can occur as a normal but problematic result of either these stressors or the readjustment process; (4) described (in practical and normalizing terms) and modeled the debriefing process; (5) encouraged group discussion to bring home the educational information; and (6) invited participation in individualized debriefing counseling. The normalcy of both stress responses (including both vague and specific feelings of emotional, bodily, and interpersonal discomforts) and resultant change in familiar personal expectations and life patterns, and the debriefing experience, were strongly emphasized so as to demystify and destigmatize the experience of stress and healing.

Psychosocial Debriefing. Veterans and couples enrolled in debriefing were counseled by one or two Project clinicians for between two and six 60-90 minute sessions. Debriefing was conducted at the Portland VAMC Outpatient Clinic, with sessions scheduled on a weekly or twice-monthly basis. The course of each participant's psychosocial debriefing was tailored to best fit the needs, stressor experiences, goals, and resources of each veteran or couple. However, every debriefing covered all of the following key issues:

*Detailed review of stressful events during ODS for the veteran and (if participating) spouse, with a goal of clarifying any distortions in memory or perception and identifying personal and relational strengths and accomplishments.

*Thorough but general overview of significant stressful events and important developmental challenges experienced by the veteran and the spouse in their childhoods, adolescences, and pre-ODS adulthoods, with a goal of identifying personal values, ideals, goals, abilities, self-defeating beliefs and behavior patterns, relationship scripts, and the emerging self-concept that was further influenced by ODS.

*Thorough but general review of the family history and dynamics in the veteran's identified primary adult family prior to, during, and subsequent to ODS, with a goal of identifying family roles, rules, scripts, and binds that

shaped and were shaped by the ODS experience.

*Empathic reflection and reframing of the veteran's and spouse's emotional responses to stressful challenges and events before, during, and after ODS, with a goal of identifying a coherent and meaningful personal response both to the specific experiences and to the overall life trajectory of the person and her/his relationships.

*Creative problem solving to identify goals and strategies for future personal and family growth which build upon the lessons learned and strengths developed in the ODS experience, and which blend the priorities and styles of each member of the veteran's/ spouse's family and support system.

*Guided self-assessment of the personal and family growth accomplished during debriefing, with a goal of planning constructive approaches to anticipate and resolve potential relapses into stress syndromes or psychosocial dysfunction -- and referral to appropriate resources for continued assistance.

C. Measurement Instruments

Prior to the first debriefing session, each veteran and (when participating) spouse was asked to independently complete the following brief battery of psychosocial questionnaires. Immediately following the final debriefing session, each debriefing participant again completed the same questionnaires, to provide an assessment of change.

Impact of Event Scale (IES; Horowitz et al., 1980; McFall et al., 1990a; Schwarzwald et al., 1987): a fifteen item questionnaire assessing 7 symptoms of intrusion stress responses (e.g., "Pictures about it popped into my mind") and 8 symptoms of emotional avoidance stress reactions (e.g., "My feelings about it were kind of numb"), with demonstrated reliability and validity. For the present assessment, participants were asked to report on these 15 symptoms over the past 7 days in relation to each of three stressor/traumatic events: (1) The most traumatic/stressful event for you during your/your spouse's military service in ODS; (2) The most traumatic/stressful event of your life before ODS; (3) The most traumatic/stressful event of your life after ODS.

General Health Questionnaire (GHQ; Malt, 1989): a 28-item self-report instrument that assesses anxiety, depression, somatization, and social dysfunction symptoms with demonstrated reliability and validity.

Marital Satisfaction Global Rating (MSG): a single item

rating of the degree of satisfaction with the present marital/couple relationship, which was found in this sample to be very highly correlated (.87-.90) with reliable and valid subscales of the Marital Satisfaction Inventory (Snyder, 1985).

Family APGAR: a five item questionnaire assessing the affective and problem solving communication, trust, cooperation, and involvement within a family as perceived by each family member. The F-APGAR has demonstrated reliability and validity (Smilkinson, 1980) and was found in this sample to correlate moderately (.26) with the Cohesion subscale of the Family Environment Scale (Moos, 1976).

Abbreviated Personality Inventory for Children (APIC): a fifteen-item sample of questions from the PIC which assess the two primary (Achenbach, 1991) dimensions of childhood behavioral and emotional dysfunction, internalizing (APIC-I, 8 items) and externalizing (APIC-E, 7 items). The correlation of the APIC-I and APIC-E with reliable and valid corresponding measures from Achenbach's (1991) Child Behavior Checklist will be calculated for the present sample when all participating couples with children have completed both inventories.

In the first debriefing session, the structured interview developed by the DVA Northeast Program Evaluation Center (the War Stress Interview-ODS Version; WSI-ODS) was used to make a clinical assessment and differential diagnosis of PTSD, sub-clinical PTSD, other DSM-III-R Axis I Disorders (including substance abuse), DSM-III-R Axis II Disorders, and specific combat or war-zone trauma exposure. The data from WSI-ODS evaluations are being prepared for subsequent reports.

In addition to the brief pre-post assessments of individual, marital, family, and child functioning, more extensive data are being gathered by administering the following questionnaires immediately after the first debriefing session: the Mississippi PTSD Scale (Keane et al., 1988; McFall et al., 1990) and the MMPI-PTSD Subscale (Keane et al., 1984; Koretzky & Peck, 1990) to assess stress reactions; the Symptom Checklist-90 (Derogatis et al., 1974; Lipman et al., 1979) and Beck Depression Inventory to assess psychological distress symptomatology; the Marital Satisfaction Inventory (Snyder, 1985) to evaluate the couples' marital relationships; the Family Environment Scale (Moos, 1976) to assess family relationships; the Child Behavior Checklist (Achenbach, 1991) to evaluate child psychological functioning; the Social Support Scale (Hobfoll & London, 1986) to assess the perceived quality of social support received during ODS; the Sleep Quality Index (Buysse et al., 1989) to measure the quality and disruptions of participants' sleep.

D. Principal (Preliminary Findings)

War Zone Stress

A total of 8 veterans (17%) met clinical criteria for Posttraumatic Stress Disorder (PTSD) although in only 5 cases (10%) was the diagnosis exclusively related to ODS experiences, since three other veterans had served in Vietnam.

Many ODS veterans show some clinically significant signs of WAR-RELATED STRESS reactions 4 to 9 months after demobilization from ODS. Veterans who seek help through Debriefing show a similar, slightly Lesser, level of stress reaction when compared with veterans who do not seek Debriefing. ODS veterans assigned to duty outside the Persian Gulf (e.g., Germany) report stress response levels comparable to or Greater than those of ODS veterans who were stationed in the Persian Gulf.

In a sample of 60 ODS veterans who attended educational presentations but did NOT elect to enroll in debriefing, 80% reported Avoidance stress symptoms directly related to an ODS experience at a level at or above the IES cutoff score (9) derived from Horowitz et al.'s (1980) research with patients in psychiatric treatment for PTSD and Schwarzwald et al.'s (1987) median score for soldiers diagnosed with combat stress response syndrome. A slightly lower, but comparable, percentage (67%) of the veterans who DID enroll in debriefing scored at or above this cutoff level for AVOIDANCE stress symptoms related to ODS.

Fewer, but still approximately half of the ODS veterans surveyed reported IES Intrusion stress response symptoms related to ODS at a level comparable to PTSD psychotherapy patients (Horowitz et al., 1980) and combat veterans diagnosed with combat stress reaction (Schwarzwald et al., 1987) (i.e., 14+): 50% of the veterans who did not seek help and 40% of the veterans who did enroll in the Debriefing intervention.

On the GHQ, ODS veterans reported elevated levels of anxiety (M = 10.0, SD = 4.5), depression (M = 3.5, SD = 4.0), somatization (M = 7.3, SD = 4.6), and social dysfunction (M = 8.3, SD = 3.5), as well as overall distress on the Total Score (M = 29.1, SD = 14.3).

Sixteen of the 48 ODS veterans who sought Debriefing and for whom data are available were stationed either in Germany (N=13) or the USA (N=3) during ODS. The Mean IES scores for these veterans (in relation to the primary ODS stressor/trauma) were almost identical to -- and in fact slightly higher than -- those for the participating veterans who had been stationed at or close to the front lines in Saudi Arabia: Mean IES-Intrusion = 12 vs. 11; Mean IES-Avoidance = 12.5 vs. 11.7. The non-Persian Gulf veterans' GHQ scores also reflected levels of psychological distress comparable to those of the Debriefed veterans who served in the Persian Gulf.

While there was a great deal of variability from veteran to

veteran, the overall trend is clearly toward an acknowledgement of continuing psychological discomfort or distress 4-9 months after demobilization from ODS. Seeking treatment via Debriefing does not appear to mean that a veteran is experiencing either a greater number of or more intense stress symptoms: the slightly higher levels of distress among ODS veterans who declined the offer of Debriefing is a reminder that the undetected and untreated stress symptoms that can lead to chronic stress disorders do persist for many months. Further, service outside the primary zone of military operations appears to persistent psychological distress comparable to that experienced by medical and combat support troops assigned to Saudi Arabia and Kuwait.

The primary stressor for most ODS veterans appears to have been the abrupt, unpredictable, uncontrollable, and potentially dangerous separation from their ongoing family, work, community, and daily life experiences and support systems. Trauma was encountered sporadically, at a distance, and without incurring or witnessing death or devastation (e.g., SCUD missile attacks; bomb threats by terrorists) by most of the ODS veterans in our sample. Diagnostically, the majority (i.e., 29 of 45, or 65%) of the veterans seeking Debriefing fit DSM III-R criteria for Adjustment Disorders with mixed features of anxiety and depression, and only a minority fit criteria for either sub-clinical posttraumatic stress disorder (i.e., exposure to a traumatic stressor, plus symptoms from two of the three PTSD domains [intrusion, avoidance, or hyperarousal/hypervigilance]; 19 of 48, or 40%) or full PTSD (i.e., 8 of 45, or 17%). Only 5 (10%) of the 45 ODS veterans enrolled in Debriefing were diagnosed with PTSD as a result of ODS events, because 3 of the veterans with full PTSD had primary trauma exposure in prior wars (i.e., Panama or Vietnam).

The specific stressor/trauma events occurring during ODS mobilization, as identified by Debriefed ODS personnel, illustrate the range and individuality of war-time stressors for veterans.

Abrupt rapid call-up -- with as little as one day's notice -- provided little or no adjustment time for the veteran (and spouses and families). In some cases this involved closing a household and moving children to a different state and to the care of relatives or making major business decisions hastily. Some veterans were required to participate in a lottery determining whether they would be deployed to Saudi Arabia apart from their home unit; the lottery took place with no advance warning just as veterans were saying goodbye (for the third time in three weeks) to their families immediately after a weekend with the families.

Family separation involved learning of emotional and medical problems incurred by children, spouses, and parents with no way to directly monitor or participate -- leading to a sense of helplessness, apprehension, guilt and frustration. Three of

the female veterans were separated from infants whom they were still nursing and came home to find that they and/or their baby have had extreme difficulty renewing their emotional attachment/bonding; in two of these cases the interim caregivers for the infants of two veterans (who were single mothers) had formed strong attachments with the infant and had difficulty relinquishing that role and allowing the veteran/mother to resume it. Many veterans described feeling a sense of estrangement from family members and sadness at having missed watching and being a part of their families' ongoing lives and their children's development. Departure often occurred during or immediately after holidays such as Thanksgiving and Christmas, leading to feelings of numbing and withdrawal during a time usually expected to strengthen family and relationship bonds.

Significant emotional losses occurred during ODS deployment for several veterans, including the loss of parents to death and marital breakups. Veterans reported having difficulty fully grieving the loss because of a compounding of the normal bereavement process by the separation and by post-traumatic stress symptoms triggered by war experiences.

Most veterans and spouses experienced themselves as having **little or no control over many significant decisions and events** (e.g., not knowing their destination until actually in flight for their station overseas; not knowing when they would go home, separation from their units). Many veterans experienced long periods (i.e., months) of languid inactivity and extreme boredom, interspersed in which were brief periods of frantic activity and threat of danger. Other veterans worked nonstop (i.e., 18-hour days) for the entire duration of their deployment with little rest and no clear final result from their efforts.

Some female veterans reported instances of **sexual harassment** by allied officers and enlisted personnel. The culture in Saudi Arabia was experienced by female veterans as judgmental of (and in some cases even hostile toward) women (e.g., a requirement that women's residences have all windows covered with bars; female personnel were required to defer totally to Saudi officers and doctors).

Direct exposure to combat or its aftermath occurred in the form of passively waiting for and observing nightly SCUD attacks for weeks, suiting up for potential biological/chemical attacks in MOPP gear, receiving incoming fire from both Iraqi tanks and allied planes and artillery, pulling bodies out of destroyed buildings, and observing severely wounded and dying enemy soldiers "with their guts hanging out and bodies splattered all over the insides of tanks," "burned to a crisp," "crawling away in the sand with hands blown off,"

and "with arms reaching out for help," counting enemy soldiers' bodies (for example, one veteran reports he and his team counted 1600 dead or dying Iraqis in one day),

Indirect exposure to combat included being sent into mine fields, driving transport vehicles along "Suicide Alley" and the "Highway of Death", treating approximately 3000 EPWs in a two month period in a hospital set up to handle 100 beds at any time, shepherding Iraqi and Kurdish civilians (many of whom were children begging for food and water, often injured or wounded), and being positioned between enemy lines and the forward position of allied active-duty combat troops after being told to expect 50-80% casualties in their unit (leading them to feel as they were being used as artillery bait prior to the start of ground war).

Readjustment to Civilian Life

Readjustment to civilian life after military service in ODS adds significant additional stressors which trigger an overlapping or exacerbating stress response syndrome in the majority of veterans who seek Psychosocial Debriefing.

ODS veterans described encountering a host of readjustment stressors in their personal, marital, family, financial, social, and vocational lives. For example:

Returning home involved sudden shocks for many veterans. One returned to find the locks had been changed at home by a partner who was using this as a means of ending their relationship and who had legally removed the veteran from a partnership role in their joint business venture. This veteran had to live in a car for several weeks before finding a job and the funds to establish a new residence. Others returned to similar abrupt and final announcements by spouses of impending divorce or marital/family separation. Several veterans returned to bankruptcy or mortgage foreclosures as a result of their (or their spouses', due to childcare duties) diminished income during deployment. Many veterans found their job positions filled by other employees, cut entirely, or significantly reduced in stature or responsibilities.

Marital discord was experienced by many veterans whose spouses did not take drastic action but who gradually expressed feelings of estrangement or hostility as a result of changed goals and values (by the veteran or the spouse), stress-related emotional numbing and isolation by the veteran, difficulty in resuming former marital roles (e.g., some veterans and/or spouses felt newly independent and were reluctant to relinquish this autonomy in their marriage), and emotional conflicts of interest as a result of relationships (both of intimate and friendship types) that had developed for the

veteran or for the spouse during separation.

Children's behavioral problems were commonly noted by veterans and their spouses, including increases in discipline and academic difficulties at school, disobedience at home, restlessness and agitation, nightmares, excessive sadness and fears (e.g., worry that the veteran would return to military duty and again be in danger), feelings of estrangement from the veteran as a result of prolonged separation during early periods in the child's development).

Post-traumatic emotional shifts occurred for both veterans and spouses, including unanticipated feelings of irritability, sadness, worry, hopelessness, guilt (both as a result of excessive hero-welcoming and as a result of feeling that they had participated in a massacre), inability to let others get close, and needing to be secretive and withdrawn. Veterans and spouses were puzzled and disturbed by these unexplained and enigmatic emotional changes, and felt that they might be experiencing severe breakdowns with which they did not have any idea of how to cope.

Homecoming was emotionally overwhelming for most veterans, for a variety of reasons -- for example, feeling they had not completed the job they'd been sent to do and did not deserve the lavish "hero's welcome," or experiencing well-intended support from family, friends, community, and the media as smothering and burdensome ("I was their toy soldier and I had to make all of them feel proud of me.").

IES data from the question asking veterans to report stress symptoms specific to post-ODS (readjustment) stressors suggest that the readjustment process itself directly triggers stress symptoms. ODS veterans report higher levels of intrusion stress symptoms prior to debriefing in relation to readjustment stressors than to ODS stressors (M = 12.75 vs. 11). They report comparable (slightly lower, M = 11 vs. 11.67) avoidance stress symptoms in relation to readjustment vs. ODS stressors.

Again, service in the Persian Gulf theatre (versus Europe or USA) does not correlate with higher stress reaction levels for readjustment stressors, just as it did not for ODS-specific stressors. IES Avoidance (M = 11.75 vs. 13) and Intrusion (M = 12 vs. 12.5) scores were lower for readjustment events reported by Persian Gulf returnees versus by European/USA theatre vets.

Spouse and Family Reactions

Spouses and Families experience significant stressors and stress reactions both in relation to family/marital separation during ODS and especially in relation to stress/trauma in the

readjustment period after the veteran returns and is demobilized.

Spouses who participated in debriefing reported levels of stress symptoms, somewhat in relation to stressors experienced during ODS (M = 12, IES-Intrusion; 4.5, IES-Avoidance), and most strongly in relation to stressor experienced during the readjustment period after ODS (M = 13, IES-Intrusion; 9, IES-Avoidance). Spouses' intrusion symptom levels were comparable to those reported by veterans, as were their avoidance symptom levels in relation to the readjustment. Spouses' avoidance symptom levels related to ODS were lower than those reported by veterans, possibly as a result of the virtual compulsion that many civilians, especially family members of military personnel, felt to keep track of ODS events via the media -- at times a healthy active coping response in that period of uncertainty.

Spouses also described experiencing levels of continuing psychological distress on the GHQ comparable to those self-reported by ODS veterans -- generally high and occasionally in the range suggestive of clinically significant distress. Diagnostic formulations are available at this preliminary juncture for only 14 spouses of ODS veterans. Fifty per cent of the husbands and wives show no evidence of any DSM III-R diagnosis other than V-codes for marital or parenting problems. Another 30% of spouses fit criteria for an Adjustment Disorder secondary to ODS separation and/or readjustment. Three (20%) of the spouses showed evidence of more severe psychological disorders, one as the result of prior trauma (a Vietnam combat veteran), one due to a chronic schizoaffective disorder, and one as a result of secondary traumatization (i.e., exposure to the veteran's ODS-related PTSD). It is possible that, if the veterans' stress/adjustment syndromes are left untreated, spouses with either normal or moderately problematic adjustment problems may experience deterioration in their psychosocial functioning. However, at present, the insidious pattern of secondary traumatization that has been reported in families of military veterans suffering from chronic or delayed PTSD seems to occur only rarely with ODS veterans' spouses. Early intervention to prevent exacerbation of the existing relationship and spousal adjustment disorders may avert that chronic scenario.

Both spouses and veterans independently reported moderate marital and family disharmony in a substantial number of cases. One in three marriages was reported by one or both partners to be mildly to extremely dissatisfying (MSG 3 or less). One in three families was described by one or both partners as generally dissatisfying in the domains of support, communication, time together, emotional expressiveness, and encouragement of individual goals and development.

Child behavior problems were reported as occurring for one or more children within the family by most Debriefing enrollees. Externalizing symptoms (e.g., discipline problems, agitation) were

more frequently reported ($M = 3.4$, i.e., more than half of the seven potential problem behaviors endorsed as a problem) than were internalizing symptoms (e.g., worrying, withdrawal; $M = 2.1$, i.e., one quarter of the eight potential problem behaviors reported as a problem). The tendency toward more child difficulties in the area of acting-out or overt agitation (as opposed to private fear or discouragement) may be due to the frequent situation of non-veteran parent attempting to serve as an "instant single parent" and not being able to maintain the familiar guiding structure sustained by both parents together. Alternately, parents may simply be less aware of the more hidden internalizing symptoms, especially if they are coping with the obvious strains of separation and readjustment.

The overall picture is one of marriages and families that are stretched to (or beyond) the limit of their capabilities to maintain psychosocial equilibrium, and spouses and children who are experiencing adjustment problems that may derive from and/or exacerbate the veterans' stress reaction symptoms. Clinically significant marital, family, and child dysfunction are the exception amongst ODS veterans and spouses who seek Debriefing. However, they uniformly report adjustment and relationship difficulties that could deteriorate into chronic dysfunction.

Effectiveness of Debriefing

Psychosocial Debriefing is associated with clear and statistically significant improvements in ODS- and readjustment-related stress symptoms, anxiety, social dysfunction, depression, and family functioning.

Significant gains were achieved for the first 24 Debriefing participants to complete the intervention and the posttest data collection. Clinical observation suggests that veterans and spouses still in the Debriefing process (or whose posttest data are not complete) have achieved comparable improvements -- but more definite conclusions must await the Project's completion, at which point not only will we have a complete summary of the results for all participants but we will also report data from two quasi-control groups: a posttest-only sample for the primary dependent variable (Impact of Events stress symptom level) and a pretest-posttest sample of veterans and spouses who declined Debriefing.

The following gains for Debriefing participants are clear and statistically significant even with a small initial sample:

*IES-Intrusion, ODS Stressor: Decreased by $M = 2.5$, from 11 to 7.5, $t = 2.796$, $df = 21$, $p = .011$.

*IES-Avoidance, ODS Stressor: Decreased by $M = 2.8$, from 11.67 to 8.80, $t = 2.173$, $df = 15$, $p = .04$.

*IES-Intrusion, Readjustment Stressor: Decreased by $M = 3.10$, from 12.75 to 9.65, $t = 2.837$, $df = 18$, $p = .01$.

*IES-Avoidance, Readjustment Stressor: Decreased by $M = 4.3$, from 11 to 7.7, $t = 3.391$, $df = 18$, $p = .003$.

As predicted, Debriefing appears to be associated with consistent decreases in stress symptoms in relation to both the ODS and the readjustment stressors -- but not in relation to stressors experienced earlier in life (prior to ODS). Further data and analyses will be needed to rule out the possibility that the stress response levels that participants experienced in relation to earlier life stressors did not change because they were lower than those for ODS and readjustment from the start. However, the preliminary finding appears to be that Debriefing accomplished its primary objective: helping ODS veterans and their spouses to master, resolve, or better cope with specific stress responses related to experiences during ODS and in the readjustment period since ODS. Diminishing stress reactions associated with prior life events was not -- indeed could not -- be the goal for time-limited psychosocial debriefing (although it might be an unanticipated benefit in some cases). The key goal of psychosocial debriefing is to enable participants to reduce or resolve acute stress symptoms before those normal reactions deteriorated into chronic distress and dysfunction. Results from several other measures of personal and family functioning suggest that Debriefing may indeed prevent such costly and debilitating chronic conditions.

*GHQ Anxiety: Decreased by $M = 2.8$, from 10.1 to 7.3, $t = 3.4$, $df = 23$, $p = .001$.

*GHQ Depression: Decreased by $M = 2.6$, from 3.6 to 1.0, $t = 3.688$, $df = 23$, $p = .001$.

*GHQ Social Dysfunction: Decreased by $M = 2.4$, from 8.3 to 5.9, $t = 2.6$, $df = 23$, $p = .02$.

*F-APGAR: Increased by $M = 1.0$, from 6.1 to 7.1, $t = 2.808$, $df = 23$, $p = .01$.

Decreases in anxiety, depression, and social dysfunction suggest that Debriefing may set in motion a generalized trend toward enhanced personal and interpersonal mental health. In combination with the finding of increased satisfaction with family relationships, the results are consistent with a view of Psychosocial Debriefing as an expeditious means to reversing the general personal and interpersonal decline associated with unresolved stress reactions.

E. Conclusion

Preliminary findings from the ODS Psychosocial Debriefing

Project indicate that veterans, spouses, and families show low levels of PTSD but often experience an expected normal stress reaction response both to the dilemmas (and, in some instances, traumatic threats) posed by ODS service and family separation and to the challenges posed by readjustment to civilian personal, family, and work life. A timely intervention of psychosocial debriefing appears to have promise for breaking the cycle of stress deterioration, stopping acute focal stress from degenerating into chronic multifaceted PTSD and psychosocial dysfunction. Although the Psychosocial Debriefing intervention appears to have been highly effective in restoring veterans' and families' mastery of an otherwise insidious stress reaction, much more has still to be learned about how to reach and assist the 95+% of ODS veterans who did not participate in Debriefing -- and how to sustain the gains made by those who did.

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CHAPTER 11

**PSYCHOLOGICAL ADJUSTMENT IN OPERATION DESERT SHIELD/STORM
VETERANS**

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PSYCHOLOGICAL ADJUSTMENT IN OPERATION DESERT SHIELD/STORM VETERANS

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A. Introduction

This is an interim report of a study that is ongoing in terms of both data collection and analysis. This study was devised by members of the Operation Desert Storm Team supervisory committee and the Operation Desert Storm Team of PTSD Clinical Team (PCT) of the the Gainesville VAMC. The Operation Desert Storm Team committee is composed of Patricia Sohler, PhD (who is also the principal investigator); Lovetta Smith, PhD; Ruth Welk, LCSW; Randy Stacey, ACSW, and Ileana Godown, RN. The Operation Desert Storm Team, now deactivated, was composed of David Willkomm, MSW; Carol Alderson, RN, CS; Michael Gillaspie, MS; and Douglas Wheeler.

Subjects were 507 members of National Guard and Reserve units in Northcentral Florida. Data was collected over a two-month time period from July 29 to September 23, 1991. Thus, the data was collected approximately 6 months after the ground war ended, and usually from one to two months after the troops had returned to the United States. Data was collected during the customary monthly weekend drills, and with the endorsement of the units commanders. For units that had been deployed to the Persian Gulf, troops were also briefed about the potential emotional and family problems associated with post-war adjustment, were provided with information about veterans benefits, and were advised of the availability of readjustment counseling in our VAMC and other facilities in their communities. The order of presentation of these elements of necessity varied from site to site, and sometimes within a site, as it was imperative to oblige the needs of the units' and those of others involved (e.g. Vet Center counselors, veterans benefits counselors).

Subjects were assured of the anonymity of their responses, and were instructed to hand their packets of questionnaires directly to the study's investigators, in an attempt to assuage subjects' concerns that their careers might be jeopardized by their disclosures. However, it is evident that doubts lingered, as some subjects commented on their concerns about how the results might be used, and many failed to provide their names (requested in order to conduct follow-up). Six troops omitted information about their gender as well, and were thus excluded from analysis.

The subjects, tested at different sites, consisted entirely of combat support troops, including engineering units, mobile medical units, transportation units, military police, a quartermaster unit and a demolition unit. Of the 507 troops included as subjects, 397 were male and 110 were female. Although a minority in the other

units, females made up about 50% of the mobile medical units. Further analysis of the units' composition in terms of gender, race and other demographic variables is ongoing. For the purpose of analysis, subjects are categorized as "deployed" (i.e. activated and sent to the Persian Gulf during Operation Desert Storm/Shield), "activated/not deployed" (activated for duty during Operation Desert Storm/Shield but serving in the United States) and "not activated" (remaining on non-active status throughout Operation Desert Storm/Shield).

	Males	Females
Deployed	213	75
Not Activated	173	26
Activated / Not Deployed		9

An additional unit composed of troops who were activated but not deployed will be surveyed in two weeks. Due to the low numbers currently available in this category, the current analysis is restricted to "Deployed" and "Not Activated".

Unit officers provided strong encouragement to their troops to participate in the study, and although it is not possible to know exactly what percentage did actually participate, 90 % would be a reasonable estimate. Of those subjects that did return their questionnaire packets, many did not complete the entire protocol, which normally required about one hour to complete. The questionnaires were presented in the following order: 1) demographic questionnaire, 2) combat exposure scale from the War Stress Interview, 3) SCL-90 plus 15 additional items from the Cincinnati Stress Reaction Scales, 4) Gainesville Readjustment Questionnaire, 5) Family Environment Scale, 6) Impact of Events Scale, 7) Work Environment Scale.

Further analysis on the vast amount of data collected in this sample will continue, but is necessarily slow due to the pressure of clinical and administrative duties on this principal investigator. One-month follow-up questionnaires have been returned by 30 subjects but have yet to be entered into the database, due to lack of clerical help. An additional set of 6-month follow-up questionnaires will be mailed in February.

B. Findings

A total of 469 subjects completed the Impact of Event Scale (Horowitz et al., 1979), a well-known scale measuring the psychological effect of traumatic events. Subscales for this scale are the IES-I, composed of 7 items examining intrusive symptoms, and the IES-A, composed of 8 items measuring avoidance symptoms. In

a cross validation study of the IES (Zilberg et al., 1982), patient and non-patient subjects were tested 2 months after the death of a parent. Subjects were 33 female and 2 male outpatients, and 18 male and 19 female field subjects. The average ages for Zilberg's groups and the groups of this study are comparable, as the following table of ages and means illustrates.

		N	Mean Age	Mean IES-	Mean
Zilberg	Patient	35	31.4	21.2	20.8
	Nonpatient	37	37.8	13.5	9.4
Deployed	Males	209	32.1	11.61	12.77
	Females	71	34.9	11.37	12.73
Not	Males	170	32.9	10.29	11.95
	Females	71	27.6	6.26	7.91

In the present study, a Pearson Product Moment Correlation was used to determine if age was a factor in the determination of IES scores. The correlations between age and IES-I ($r = -.06$) and between age and IES-A ($r = -.07$) were low and nonsignificant. Analyses of variance were used to assess the nature of the effect of "action" (deployed/nonactivated) and gender on the IES-I and IES-A scores. There was a significant effect of action on the IES-I scores ($p = .000085$), with deployed subjects averaging 11.49 and nonactivated subjects averaging 8.27. Gender was also found to have a significant effect on the IES-I scores, ($p = .009$) and there was a significant interaction effect ($p = .02$), due to the nonactivated females scoring 4 points lower than their male counterparts on both IES subscales.

Summary of all Effects 1-ACTION, 2-GENDER						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	1	605.8768	469	38.52750	15.72583	.000085
2	1	267.6797	469	38.52750	6.94776	.008671
12	1	209.5401	469	38.52750	5.43872	.020118

2 - way ANOVA, fixed effects for IES-I

There was also a significant effect of action on the IES-A scores ($p = .002$), with the deployed averaging 12.75 and the nonactivated

averaging 9.93. The gender effect ($p = .03$) and the interaction effect ($p = .03$) were also significant.

Summary of all Effects; design: 1-ACTION, 2-GENDER						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	1	465.8566	469	48.78844	9.548503	.002120
2	1	242.4431	469	48.78844	4.969275	.026274
12	1	234.6020	469	48.78844	4.808558	.028809

2 - way ANOVA, fixed effects for IES-A

The Pearson Product Moment Correlation was used to assess the relationship between IES-I scores, IES-A scores and scores on the Combat Exposure Scale for deployed subjects. The average Combat Exposure Scale score was 3.88 with males averaging 3.66 and females averaging 4.52. A 2-tailed t-test was used to compare the male and female means, which were found not to differ significantly ($p = .09$). Correlations between each pair of scales were found to be significant. The IES-I correlated .278 with the combat exposure scale ($p = .000004$), the IES-A correlated .209 with the combat exposure scale ($p = .000545$) and the IES-A correlated .806 with the IES-I.

Analyses of variance were used to assess the effect of prior war experience on vulnerability to avoidance and intrusion symptoms from Operation Desert Storm. Deployed subjects with prior war experience were found to exhibit significantly fewer intrusion symptoms (IES-I mean = 8.81) than the inexperienced deployed subjects (IES-I mean = 10.83) ($p=.051$).

Summary of all Effects; design: 1-ACTION, 2-PRIOR WAR						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	1	99.7015	453	38.72064	2.574892	.109268
2	1	148.2299	453	38.72064	3.828189	.051011
12	1	2.7071	453	38.72064	.069914	.791582

2 - way ANOVA, fixed effects for IES-I

There was a similar pattern in their avoidance symptoms, although the difference did not reach significance. An examination of the mean IES-A scores of these 4 groups reveals that the difference between deployed and nonactivated veterans with war experience prior to Operation Desert Storm is essentially non-existent (10.78 for deployed, 10.50 for nonactivated), and both of these means lie below those of the inexperienced nonactivated (11.33) and deployed (13.04).

Summary of all Effects; design: 1-ACTION, 2-PRIOR WAR						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	1	18.51744	453	48.70144	.380224	.537793
2	1	86.18272	453	48.70144	1.769614	.184099
12	1	35.65435	453	48.70144	.732101	.392656

2 - way ANOVA, fixed effects for IES-A

		Means	
ACTION	PRIOR WAR	IES-A	Valid N
NOTACTIVE	NO	11.32941	170
NOTACTIVE	YES	10.77778	18
DEPLOYED	NO	13.04049	247
DEPLOYED	YES	10.50000	22
All Groups		12.19256	457

Altogether 373 males (208 Deployed and 165 Nonactivated) and 92 females (71 Deployed and 21 Nonactivated) completed the SCL-90-R. Derogatis (1983) has established criteria for "caseness" as a method of using the SCL-90R as a screening measure. Those individuals meeting the criteria are reporting enough symptomatology to be considered a positive diagnosis and thus in need of further evaluation. According to the operational rule for caseness, if a person obtains a GSI (General Severity Index) score greater than or equal to a T-score of 63, or any two dimension scores greater than or equal to a t-score of 63 (when compared to non-patient norms) that individual meets the criteria for caseness. Using the first part of this definition, subjects were categorized according to whether their GSI scores met these criteria ($GSI \geq T$

63 = positive diagnosis). T 63 for non-patient males = 0.58 and T 63 for non-patient females = 0.78. In order to screen out the psychological effects of having been in a prior war, those 20 deployed male veterans, 17 nonactivated male veterans and 1 deployed female veteran who indicated prior military service in a war zone were eliminated from this analysis. A crosstabulation of the frequencies in these categories was analyzed using the Pearson Chi Square statistic. A comparison of deployed males versus nonactivated males approached statistical significance ($p=.063$), with 18.09% of those deployed and 10.81% of those who were not activated achieving a positive diagnosis.

CASE- NESS ACTION	Crosstabulation (count) FOR MALES NOT IN PRIOR WAR	
	GSI < T 63	GSI ≥ T 63
336	286	50
NOTACTIVE 148	132	16
DEPLOYED 188	154	34

A comparison of females subjects also produced a nonsignificant difference of $p=.72$, with 15.71% of deployed females and 9.52% of nonactivated females achieving a positive diagnosis.

CASE- NESS ACTION	Crosstabulation (count) FOR FEMALES NOT IN PRIOR WAR	
	GSI < T 63	GSI ≥ T 63
91	78	13
NOTACTIVE 21	19	2
DEPLOYED 70	59	11

Of those veterans with prior war experience, 4 deployed males (20.00%), and 3 nonactivated males (17.64%) met the criteria for caseness, a quite nonsignificant difference. The deployed female with prior war experience did not meet the criteria for caseness.

An analysis of variance on these same subjects was used to assess the effect of "action" (deployed\nonactivated) and gender on GSI raw scores. There was no significant effect ($p=.35$) for the action variable. Females were found to have significantly higher scores than males ($p=.01$), a finding that generalizes to the nonpatient population, in which women are found to report more symptomatology than men (Derogatis, 1979). There was no interaction effect.

Summary of all Effects 1-ACTION, 2-GENDER						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	1	.157724	423	.185572	.849934	.357097
2	1	1.121715	423	.185572	6.044625	.014348
12	1	.000008	423	.185572	.000045	.994672

2 - way ANOVA, fixed effects for GSI

A Pearson r Correlation Matrix was used to compare all of the SCL-90-R dimensions, the GSI and the PSI (positive symptom index), all based on the SCL-90-R scores, the combat exposure scale (Rosenheck, ?), action, gender and military unit. No significant correlations were found between any of the independent factors (unit, gender, action) and the dependent measures.

C. Discussion

The present study investigated the psychological functioning of individuals from national guard and reserve Units six months after they served in Operation Desert Storm. These deployed subjects were found to differ significantly from individuals in reserve and national guard who were not activated during Operation Desert Storm or Shield. Specifically, they reported a greater degree of intrusion and avoidance symptoms related to the war. When compared to Zilberg's 1982 subjects, they appeared to be exhibiting more avoidance symptoms and fewer intrusive symptoms than his bereaved nonpatients. They scored well over a standard deviation below Zilberg's bereaved patients on both IES subscales.

Although not actually called to serve, the nonactivated males in the present study nevertheless reported some intrusive and avoidance symptoms, with a less degree of such symptomatology reported by the nonactivated females. One might suspect that being in a position in which they could be called up to serve in this war with very little notice created distress in some of these individuals. Comments by these nonactivated subjects revealed that some deeply regretted that they were not activated, and thus given the chance to do what they had trained to do for many years. Conversely, others reported considerable relief at not being activated. Certainly they are likely to have experienced more deeply and personally the combination of dread and excitement felt by the rest of us watching from the sidelines.

The veterans of prior wars appeared to be less vulnerable to

these intrusion and avoidance symptoms. Age was not found to be a significant factor, as the correlation between age and IES was quite low and nonsignificant.

In contrast to symptoms specific to war memories, there was not a significant difference between the deployed and nonactivated subjects in terms of more general psychological symptoms as measured by the SCL-90-R. In fact the percentage of individuals in both the deployed and the nonactivated groups meeting the criteria for a positive diagnosis is smaller than one would find in the general population. This finding could indicate that individuals serving in the national guard and reserve are on the average more psychologically healthy than the norm. However, the concern that some subjects expressed about the possible detrimental effect of admitting to psychological problems on their careers in the national guard and reserve is likely to have caused at least some suppression of these scores. Although deployed females did score significantly higher than deployed males on the Global Symptom Index of the SCL-90-R, when compared to the non-patient norms for their own gender, they were no more likely to meet the criteria for positive diagnosis than were the deployed males.

One-month, six-month and one-year follow-up assessments are planned to determine if there is a change in the psychological status of these subjects over time.

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CHAPTER 12

**PERSIAN GULF VETERANS SEEN THROUGH VA'S READJUSTMENT COUNSELING
SERVICE (RCS) AND IMPACT OF THE PERSIAN GULF WAR ON VA'S
PROVISION OF READJUSTMENT COUNSELING.**

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PERSIAN GULF VETERANS SEEN THROUGH VA'S READJUSTMENT COUNSELING SERVICE (RCS) AND IMPACT OF THE PERSIAN GULF WAR ON VA'S PROVISION OF READJUSTMENT COUNSELING.

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On the day the war began in the Persian Gulf, the Secretary of Veterans Affairs directed a legislative initiative to open VA's Readjustment Counseling Service to Persian Gulf veterans. The initiative was subsequently adopted by the Congress and signed into law by the President.

In response to this mandate, the Director of RCS mobilized a transition coordinating committee to facilitate a smooth transition to an enhanced Vet Center mission. Concurrently, liaisons with the regular military, reserve units and national guard were initiated. To date, the vast majority of activated units have been contacted by and interacted with a Vet Center from their area. It should be noted that this multi-faceted and expeditious implementation of services to a new population (which includes referral of many cases to medical facilities and VA Regional offices, and receipt of many referrals from those sources) has thus far been carried out without any complaints or adverse publicity. That is, to date VA Central Office has not received any letters of complaint or noted any instance of unfavorable media coverage nationwide, pertaining to readjustment counseling for Persian Gulf veterans and family members. There has been a favorable response from the media at many locations.

By the end of September 1991, RCS had seen 9,994 veterans of the Persian Gulf War. A sample (9,090) were surveyed for type of presenting problems (Table 1). As expected because of the short duration of the war and other factors, the numbers of PTSD, sub-diagnostic PTSD, and acute stress reaction cases are relatively small, with larger proportions of readjustment problems pertaining to family and employment. The large proportion of cases showing a presenting problem concerning benefits reflects the fact that many clients have rather suddenly become veterans as a result of the war, are unfamiliar with VA, have come in looking for basic orientations to their benefits as veterans and/or are looking over the Vet Centers as a place to go for other kinds of help. Through January 1992, approximately 17,738 Persian Gulf veterans had been seen by Vet Center staff.

It should be mentioned that the Persian Gulf War also had a significant impact on Vietnam Veterans. The number of new clients seen by RCS staff nationwide (in Vet Centers, at medical facilities, and through outreach elsewhere in the community) began to increase in October 1990, as the military built-up, and the associated intense media coverage began in the Persian Gulf. The increase in the number of new clients, producing also an increase in the number of visits, during and after the Persian Gulf War is

notable when compared to the past few fiscal years.

For all of fiscal year 1991, there was a total net increase of 23,259 (28%) in the number of new veteran clients seen in Vet Centers systemwide. The total increase in Vietnam Veteran clients during the fiscal year was estimated at 7,828.

Vietnam veterans coming for readjustment counseling for the first time in reaction to the Persian Gulf War have typically observed, at length, the sights and sounds of the war on television, have observed hometown activities welcoming returnees post-war, and have reacted to their own experiences in the Vietnam War zone. They tend to be persons who have been functioning relatively well in life, have developed some post-traumatic disorder (PTSD) symptoms or fully-diagnosable PTSD, and have come for help expressing their own judgement that it is time to work out the psychological residua of their Vietnam experience.

The increase in new Vietnam veteran clients during the period October 1990 - December 1991 is not surprising in light of the data furnished by the National Vietnam Veterans Readjustment Study, which documented that as of 1988, there were approximately 480,000 Vietnam veterans with PTSD (most untreated) and another few hundred thousand with some PTSD symptoms.

At present, RCS, in collaboration with the VA's National Center for PTSD, is carrying out a prospective study on a sample of Persian Gulf veteran new cases being seen at seventy Vet Centers. This study will produce valuable data for assessing, in the years ahead, the impact of wartime duty on readjustment and other aspects of psychological functioning.

TABLE 1

Summary of presenting problems of Persian Gulf veterans seen at Readjustment Counseling Service Vet Centers, May-September 1991: (N = 9,090 veterans)

	<u>N</u>	<u>%</u>
PTSD	204	2.2
Sub-Diagnostic PTSD	579	6.4
Psychological, Other	281	3.1
Alcohol/Drug	158	1.7
Medical	240	2.6
Marriage/Family	357	3.9
Employment	1,585	17.4
Benefits questions	4,939	54.3
Basic Needs (homeless, etc)	112	1.2
Legal	48	0.5
Other	587	6.5

*Problems were assigned by staff at Vet Centers. The total adds up

to 100% since only the major problem presented could be indicated on the survey form.

ADDENDUM

Definitions

The definitions of the eleven problem areas are as follow:

1. **PTSD** (per the criteria in DSM-IIIR): This means that all the diagnostic criteria must be met before this column can be checked. A partial or questionable PTSD diagnosis will be recorded elsewhere or will be held off until a more definitive determination is made.
2. **Sub-diagnostic PTSD**: This problem includes those veterans who meet some, but not all, of the diagnostic criteria in DSM-IIIR for PTSD. They will have met the criteria in paragraphs a and e of the DSM-IIIR. For criteria in paragraphs b, c, and d, they will have five or less of the symptoms listed in those three categories.
3. **Psychological Other**: Emotional difficulties are identified. This includes psychosis, affective disorder, personality disorders, suicidal or homicidal ideation, problems of impulse control, low self-esteem or other emotional conditions causing subjective distress or objective discomfort or difficulties not including partial symptoms of PTSD.
4. **Drug and Alcohol**: Alcohol or drugs create problems on an ongoing basis in a significant area of a person's life. This includes problems with family, friends, health, work, finance or the law.
5. **Medical**: This problem will be listed when a physical problem is identified including need for hospitalization, outpatient treatment, or need for Agent Orange examination.
6. **Marital/Family**: Relationships with partners, with children or with significant others are identified as a problem. Legal marriage of the veteran is not required.
7. **Employment**: This problem includes unemployment, under-employment, lack of training, or lack of job seeking motivation.
8. **VA Benefits**: This problem includes a need for discharge upgrade, need to establish VA compensation claims, eligibility for medical benefits, job training programs, or any other potential benefits a veteran may be entitled to receive because of his/her military service.
9. **Basic Needs**: This problem includes financial problems, housing problems, problems obtaining food and/or needing other basic needs that are necessary for physical well being.

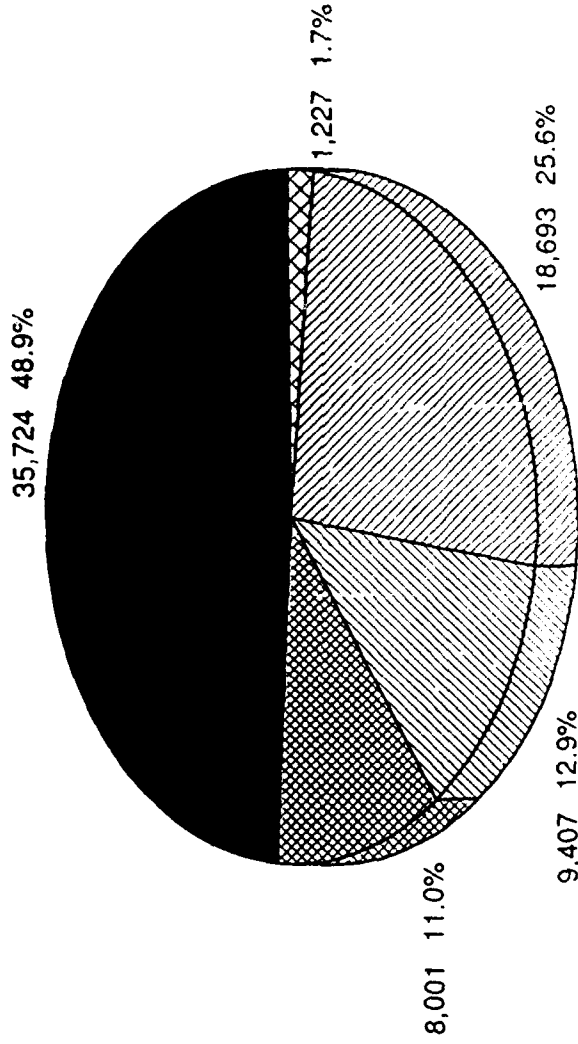
10. **Legal:** This problem will be listed if a veteran has a pending criminal or civil charge, is on probation or parole, is incarcerated, or has any subjective concern about legal issues including child custody or pending divorce action.

11. **Other:** All other problems not appropriately categorized under one of the other eleven categories.

Readjustment Counseling Service

New Veteran Clients by Category

Total Starting May 1991



- Vietnam Theatre
- ▨ Vietnam Non Theatre
- ▩ Persian Gulf Theatre
- ▧ Persian Gulf Reg
- ▦ Persian Gulf NG/R
- ▤ LebGrenPan

May 1991 through
January 1992