

The State of Women Veterans' Health Research: Results of a Systematic Literature Review

Evidence Tables

Caroline L. Goldzweig, MD, MSHS, Talene M. Balekian MPH, DO, Cony Rolón, BA, Elizabeth M. Yano, PhD, Paul G. Shekelle, MD, PhD

From the Southern California Evidence-based Practice Center, which includes: the Greater Los Angeles VA Healthcare System, Los Angeles, CA (CG, TMB, EMY, PGS), and RAND Health, Santa Monica, CA (PGS, CR).

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Table 1a. Evidence Table of Stress of Military Life studies: <i>Gulf War Era</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Pierce, 1997 (1)	Yes	Sample of Gulf War women veterans who either served in the USAF active duty or were active guard or reserve members during the first Gulf War	638 women	Observ. Study- Assess risk or prognosis	Demographics; general physical health status; gender-specific health; measures of mental health including PTSD and depression;	Survey of sample of Gulf War women veterans at two points in time, following the war and 2 years later. Women deployed to the theater had more general as well as gender-specific health problems than women deployed elsewhere. There were no differences on general mental health measures (anxiety, depression) but women deployed to the Gulf were more likely to meet diagnostic criteria for PTSD.
Wolfe, 1998 (2)	No	Sample of Gulf War army veterans from the Ft. Devens ODS Reunion Survey, a longitudinal study of 2949 US Army active, reserve and national guard soldiers deployed to the Gulf 1990-1991	2119 veterans, 184 female veterans	Observ. Study- Assess risk or prognosis	Demographics, PTSD symptomatology, general psychological well-being, war-zone exposure, health status, health symptoms, Combat Exposure Scale	Evaluated subjects 18-24 months after returning from the Persian Gulf for levels and types of health symptoms, associations between symptoms and exposures and association of other characteristics with physical health status. Veterans with >5 health symptoms were more likely to be female, unemployed, have alcohol or drug problems or be reserve or guard members. In regression analysis, symptoms were higher for those reporting exposure to poison gas.

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Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Erickson, 2001 (3)	No	Sample of Gulf War army veterans from the Ft. Devens ODS Reunion Survey, a longitudinal study of 2949 US Army active, reserve and national guard soldiers deployed to the Gulf 1990-1991	Time 1: 2702 men and 240 women Time 2: 2119 men and 194 women	Observ. Study- Assess risk or prognosis	Gulf War combat exposure; PTSD symptoms; Depression	Evaluates the temporal relation between PTSD and depression symptomatology in a sample of Gulf War veterans. Women were more symptomatic for both depression and PTSD than men, with symptoms increasing over time. The relation between PTSD and depression was “bi-directional” with either one potentially preceding the other. However, symptoms of hyperarousal generally preceded depression.
McCarroll, 2001 (4)	No	Gulf War men and women who worked in the mortuary	352 (58 women)	Observ. Study- Assess risk or prognosis	PTSD symptoms; extent of exposure to dead; experience with dealing with the dead	Compared to pre-exposure symptoms, post-exposure intrusion and avoidant symptoms increased for all groups exposed to the dead, even when controlling for demographic variables and experience.

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Table 1a. Evidence Table of Stress of Military Life studies: <i>Gulf War Era</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
King, 2000 (5)	No	Sample of Gulf War army veterans from the Ft. Devens ODS Reunion Survey, a longitudinal study of 2949 US Army active, reserve and national guard soldiers deployed to the Gulf 1990-1991	Time 1: 2702 men and 240 women Time 2: 2119 men and 194 women	Observ. Study- Assess risk or prognosis	Reported war-zone stressor exposure; PTSD symptom severity; demographics	Evaluates the relationship between changes in reported stressor exposure and PTSD symptoms. Shifts over time in reporting stressor exposure were modestly related to PTSD symptom severity.
Wolfe, 1999 (6)	No	Sample of Gulf War army veterans from the Ft. Devens ODS Reunion Survey, a longitudinal study of 2949 US Army active, reserve and national guard soldiers deployed to the Gulf 1990-1991	Time 1: 2702 men and 240 women Time 2: 2119 men and 194 women	Observ. Study- Assess risk or prognosis	Demographic, Gulf War combat exposure, PTSD symptoms	Evaluates rates and predictors of PTSD over time in Gulf War veterans. In logistic regression analysis, female gender, age, prior combat experience, and Gulf War combat exposure were predictive of PTSD. Women were more than six times as likely to meet criteria for PTSD at Time 1 than men. At Time 2, female gender, military status, military rank and Gulf War combat exposure were related to PTSD and females were more than twice as likely to meet criteria for PTSD as men.

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Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Sharkansky, 2000 (7)	No	Sub-sample of Gulf War army veterans from the Ft. Devens ODS Reunion Survey, a longitudinal study of 2949 US Army active, reserve and national guard soldiers deployed to the Gulf 1990-1991; veterans who identified a combat-related experience as the most stressful event during deployment	Time 1: 952 men; 106 women Time 2: 845 total	Observ. Study – Assess risk and prognosis	Combat exposure; coping responses; PTSD symptoms; depression symptoms; intervening life stressors	Evaluated relationships between methods of coping with combat-related stress among Gulf War Army personnel. Individuals using more “approach-based coping strategies” had lower levels of psychological symptoms immediately upon return and 18-24 months later. Women and those reporting higher levels of combat exposure had higher levels of PTSD and depression symptoms.
Southwick, 1993 (8)	No	Sample from two reserve units that served in the Persian Gulf War, interviewed one month and 6 months after returning	84 veterans; 65 men and 19 women	Observ. Study – Assess risk and prognosis	PTSD symptoms and severity; combat exposure; Desert Storm trauma questionnaire	Evaluated prospectively the development of trauma-related symptoms in veterans returning from the Persian Gulf. Scores on a combat-related PTSD scale increased significantly over the 1 to 6 month period, while PTSD symptom severity did not. There were no significant differences in combat exposure and PTSD symptoms between male and female subjects.

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Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Kang, 2003 (9)	No	Population-based stratified sample of Gulf War veterans and non-Gulf War veterans, 1995-1997	11,441 Gulf War and 9,476 non-Gulf War veterans; 2123 Gulf War women and 2076 non-Gulf War women and	Observ. Study – Assess risk and prognosis	Symptom inventory for prevalence of somatic and psychological symptoms; PTSD screen; stressor severity based on combat exposure	Evaluates the prevalence of PTSD and chronic fatigue syndrome (CFS) in Gulf War and non-Gulf War veterans, and evaluates the relations between deployment-related stress and the risk of PTSD or CFS. In bivariate analysis, veterans who were female, older, non-White, enlisted and in the Army and National Guard were more likely to meet criteria for PTSD. Veterans with CFS-like illness were more likely to be younger, single, enlisted, in the Army or Marines and in the reserves. In regression analysis, Gulf veterans were 3 times as likely to have PTSD and 4.8 times as likely to have CFS.
Wagner, 2000 (10)	Yes - compares men and women	Sample of Gulf War army veterans from the Ft. Devens ODS Reunion Survey, a longitudinal study of 2949 US Army active, reserve and national guard soldiers deployed to the Gulf 1990-1991	Time 2: 2108 men and 193 women	Observ. Study – Assess risk and prognosis	Demographics; PTSD symptomatology; combat exposure; psychological symptoms; health symptoms	Evaluates the relationship between PTSD symptoms in men and women veterans immediately upon returning from the Gulf War and 18-24 months later. For both men and women, PTSD symptomatology at initial assessment was predictive of self-reported health problems over time, even after controlling for the effects of combat exposure. Women veterans reported significantly more health problems though gender did not influence the impact of PTSD symptoms on health problems.

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Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Engel, 1999 (11)	No	All Gulf War veterans entering the Comprehensive Clinical Evaluation Program (CCEP), 7/94 – 6/95	13,161 veterans; 1288 women	Observ. Study – Assess risk and prognosis	Demographics; occupational impairment; stressful Gulf War experiences; PTSD symptoms; other psychiatric symptoms	Describes the prevalence of various psychological conditions in veterans enrolled in the CCEP. The most commonly diagnosed conditions were medically unexplained physical-symptom syndromes, depression and anxiety (including PTSD) and alcohol abuse. Males and females had a comparable prevalence of psychological conditions with women being more likely to have mood disorders than men. Men were more likely to have substance use disorder.
McCarroll, 1993 (12)	No	Volunteers from the US Army logistics school and from two military police units	471 men and 112 women	Observ. Study – Assess risk and prognosis	Gender; anticipated stress; experience with handling the dead	Evaluates the effects of gender and experience on anticipated stress of handling the dead. Inexperienced males had lower anticipated stress than inexperienced females; but both inexperienced males and females had higher anticipated stress than their same-sex experienced counterparts.

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Table 1a. Evidence Table of Stress of Military Life studies: <i>Gulf War Era</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
McCarroll, 1995 (13)	No	Mortuary workers during the Persian Gulf War, 1991	343 men and 58 women	Observ. Study – Assess risk and prognosis	Demographics; Impact of Events Scale (IES) to measure intrusion and avoidance; mutilation questionnaire; social desirability response scale; social support	Evaluates the predictors of intrusive and avoidant symptoms in mortuary workers prior to the arrival of remains. In bivariate analyses, women had higher IES, mutilation and social support scores than men. After controlling for volunteer status and gender, the mutilation questionnaire was the best predictor of intrusion, avoidance and total IES scores for both experienced and inexperienced mortuary workers.
McCarroll, 2002 (14)	No	Mortuary workers during the Persian Gulf War (1990-1991) who received the dead	300 men and 58 women	Observ. Study – Assess risk and prognosis	Demographics; experience handling the dead; volunteer status; pre-exposure measures of depression and mutilation fear; somatic symptoms	Evaluates the relationship between exposures to the dead and development of somatic symptoms. Post-exposure somatization symptoms increased significantly over pre-exposure levels for those workers with the most exposure to the dead.

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Table 1a. Evidence Table of Stress of Military Life studies: <i>Gulf War Era</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Gray, 2002 (15)	No	Sample of all regular and reserve Navy personnel who served on active duty in Seabee commands during the Gulf War (8/90 – 8/91)	11,334 men and 534 women	Observ. Study – Assess risk and prognosis	Demographics; medical history; current symptoms and health status; health behaviors; environmental exposures	Evaluates symptoms and medical conditions in Gulf War Seabees, among the most symptomatic of Gulf War veterans. In regression analysis, female, reserve and enlisted personnel from two particular Seabee units were more likely to meet the definition of Gulf War Syndrome. In terms of exposures, exposure to fumes was most associated with Gulf War illness.
Stuart, 2002 (16)	Yes - compares men and women	Persian Gulf War theater veterans receiving clinical evaluations as part of DOD's Gulf War Comprehensive Clinical Evaluation Program (CCEP), 2000	46,633 veterans (4888 females)	Descriptive Study	Health symptoms; wartime exposures; primary and secondary physician-determined medical diagnoses	Examined the health status of male and female Gulf War theater veterans and found that the most frequent diagnoses were musculoskeletal/connective tissue diseases, ill-defined conditions and mental disorders. Female veterans were more frequently diagnosed with mental disorders. Self-reported health of veterans with symptoms was much poorer than that of veterans with no symptoms; and women had poorer health status than men.

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Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Stuart, 2003 (17)	No	Sample of Gulf War veterans in the Comprehensive Clinical Evaluation Program (CCEP), 1994-1998	39548 men; 4620 women	All Other Observational	Belief in exposure to nerve or mustard gas; physical symptoms, clinical diagnoses; health status	Examined risk factors for belief in exposure to potential terrorist agents and found that women, non-whites, and older veterans were more likely to report exposure. They also reported more physical symptoms during the war, were more likely to be diagnosed with a mental disorder and reported poorer health status.
Wolfe, 1993 (18)	Yes	Ft. Devens Operation Desert Storm (ODS) Reunion Survey of Persian Gulf Veterans 5 days after returning from the Gulf, April – July 1991	2136 men and 208 women	Observ. Study- Assess risk or prognosis	War Stressors – traditional wartime activities (troop engagements), nontraditional wartime activities (combat war-zone events, noncombat war-zone occurrences), deployment-related experiences; PTSD and general psychological distress measures; demographic characteristics	Evaluates the relationship between war-zone exposures and psychological readjustment in soldiers. Greater war-zone exposures and stressors were associated with worse psychological outcomes. Female gender, lack of college education, lower rank, and marital separation or dissolution were associated with poorer psychological outcome.

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Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Sutker, 1993 (19)	No	Sample from National Guard and Army Reserve units deployed to the Persian Gulf by the Louisiana Army and Air National Guard and U.S. Army Reserve, surveyed 4-10 months after the war	176 men, 39 women	Observ. Study- Assess risk or prognosis	Psychological measures including depressions, anger, PTSD; health symptoms; stressful exposures; demographic characteristics	Evaluated the relationships between war-zone stress exposure and psychological outcomes. As war-zone stress exposure increased, the frequency and severity of psychological symptoms increased. 16-24% of subjects had symptoms suggestive of clinical depression or PTSD. There were no significant differences between men and women in these findings.
Carney, 2003 (20)	Yes	Population-based sample of lowan men and women veterans who served in the Gulf War, 8/90 – 8/91	1767 men; 129 women	Observ. Study – Assess risk and prognosis	Demographics; wartime exposures; preparedness; health care use and health status	Describes the military experiences and postwar health care use of women who were deployed to the Gulf War and compares them to men and to non-deployed women. Deployed women were more often in the Army, single, without children, and college educated than non-deployed women. Deployed men and women had similar military experiences though men more often participated in combat.
Gilhooly, 2001 (21)	Yes	Sample of northeastern US Persian Gulf women veterans with and without symptoms of Chronic Fatigue Syndrome	22 health subjects and 26 with CFS	Observ. Study- Assess risk or prognosis	Sexual function; genitourinary symptomatology	Evaluates association of sexual dysfunction with chronic fatigue syndrome. Female sexual dysfunction was significantly more likely in women with fatiguing symptoms, as was decreased libido. Vaginal irritation was also more likely in fatigued veterans.

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Table 1b. Evidence Table of Stress of military life studies: <i>Comparing men and women veterans</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Baker, 1998 (22)	Yes	Sample of women veterans registered at the Cincinnati VAMC and male age-matched controls.	154 women and 94 men	Observ. Study- Assess risk or prognosis	Demographic variables; trauma survey; PTSD screen; animal-related experiences	Evaluated the prevalence and impact of trauma events in male and female veterans. 97% of women and 95% of men reported at least one trauma event with females more likely to report sexual or physical abuse by a significant other. Both men and women experienced higher trauma rates in the military. Men and women had similar rates of animal-related experiences. There were no differences in PTSD symptomatology.
King, 1996 (23)	Yes	Sample of theater veterans from NVVRS (1987-88). NVVRS was over sampled for women, African American and Hispanic men and those with service-connected disabilities	432 women; 1200 men	Observ. Study- Assess risk or prognosis	Prewar factors including SE status and family factors; war-zone stressors; PTSD	Evaluates the relationships among prewar factors, war zone stress and current PTSD symptomatology. For women, PTSD was associated primarily with prewar family instability. Additional factors such as war-zone stressor level, younger age of entry into military and family instability or childhood antisocial behavior influenced PTSD in men.

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Table 1b. Evidence Table of Stress of military life studies: <i>Comparing men and women veterans</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Rosenfeld, 1994 (24)	Yes	Sample of active duty navy personnel, 1992	5558 active duty navy personnel of which there were 99 Hispanic female officers and 436 Hispanic enlisted women	All Other Observational	Demographic variables; attitudes	Evaluated differences in attitudes regarding equal opportunity climate between Hispanic Navy women and other groups of active duty Navy personnel. Hispanic women did not perceive themselves to be disadvantaged because of sex and ethnicity. Women's perceptions were overall less positive than men's.
Schnurr, 2004 (25)	No – does included gender as an independent variable	Sample of theater veterans from the NVVRS (1987-88) and from the Hawaiian Vietnam Veterans Project (HVVP) (1994-96)	68 women (NVVRS); 414 men (NVVRS and HVVP)	Observ. Study- Assess risk or prognosis	PTSD symptoms; demographic and pre-military variables including family instability, punishment, relationships; military variables including injury, war-zone exposure and dissociation; post-military variables including social support	Evaluated risk factors for the development and maintenance of PTSD. Perceived life threat and peri-traumatic dissociation were the strongest risk factors for having PTSD. Homecoming emotional sustenance was protective. Maintenance of PTSD was more likely in those who experienced atrocities or abusive violence and less likely in Native Hawaiian and American Japanese males and in those with current emotional sustenance. Being female was not a significant risk factor.

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Table 1b. Evidence Table of Stress of military life studies: <i>Comparing men and women veterans</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
King, 1998 (26)	Yes	Sample of theater veterans from NVVRS (1987-88). NVVRS was over sampled for women, African American and Hispanic men and those with service-connected disabilities	432 women and 1200 men	Observ. Study- Assess risk or prognosis	Demographics, measures of hardiness; postwar social support; additional stressful life events; PTSD	Evaluated the impact of resilience-recovery factors in PTSD. Hardiness, structural social support, functional social support and additional stressful life events accounted for 73% and 75% of the variance in PTSD in women and men, respectively.
King, 1999 (27)	Yes	Sample of theater veterans from NVVRS (1987-88). NVVRS was over sampled for women, African American and Hispanic men and those with service-connected disabilities	432 women and 1200 men	Observ. Study- Assess risk or prognosis	Demographics; prewar risk factors; war-zone stressors; postwar resilience-recovery variables; PTSD	Evaluated the relationships among prewar risk factors, war-zone stressors postwar resilience-recovery variables and PTSD. For men and women, variables related to prewar risk factors, war stressors and postwar factors were associated with PTSD. War-zone stressors were the most important factors in men and post-war resilience-recovery variables were more important for women.
Hourani, 2003 (28)	Yes	Two data sources: 1998 Health Status of Military Women and Men in the Total Force; 1995 Perception of Wellness and Readiness Assessment. Both included random samples of active duty members	6804 women; 8219 men	Observ. Study- Assess risk or prognosis	Demographic variables; exposure to traumatic events; medical history; health care use; perceived physical health status; depressive symptoms; perceived quality of life; life events; suicidality; job stress; habits	Evaluated the psychosocial and health effects of trauma in US military personnel. 23% of women and 30% of men had been victims or survivors of a traumatic event. Victims of any traumatic event had twice the risk of having two or more physical and mental health problems than those without trauma. Women who were victims of trauma were more likely to be smokers or heavy drinkers than those who witnessed events.

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Table 1b. Evidence Table of Stress of military life studies: <i>Comparing men and women veterans</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Pereira, 2002 (29)	Yes	Convenience sample of veterans who had been deployed to a combat zone from one VA Mental Hygiene clinic in South Carolina, 1/96 - 2/98	54 women; 56 men	Observ. Study- Assess risk or prognosis	Gender, level of exposure, level of general life stressors, current level of distress and level of PTSD symptomatology	Evaluated whether PTSD is under diagnosed in women veterans. Women were significantly younger than men; and men were more likely to have served in positions directly related to direct combat. Men and women exposed to similar levels of stress were equally likely to have PTSD symptoms; but, controlling for symptoms and life stress, men are more likely to receive a diagnosis of PTSD
Fontana, 2000 (30)	Yes	Survey of veterans who served in the Somalia peacekeeping forces, 1997	1307 men; 197 women	Observ. Study- Assess risk or prognosis	Demographics, mission goals at time of service, exposure to firing or dangerous duties, witnessed death, sexual harassment or abuse, PTSD symptoms	Evaluated the impact of combat and sexual harassment on the severity of PTSD. Severity of PTSD symptoms was related to similar variables for both men and women - combat, fear and sexual harassment. PTSD severity was also influenced by exposure to Somali people dying for both genders.
King, 1995 (31)	Yes	Sample of theater veterans from NVVRS (1987-88). NVVRS was over sampled for women, African American and Hispanic men and those with service-connected disabilities	1200 men; 432 women	Observ. Study- Assess risk and prognosis	Stressor indexes; atrocities; perceived threat; environment; PTSD	Evaluated the impact of different representations of war-zone stressors on PTSD; and evaluated the effect of war zone stressors on women serving in Vietnam. Men scored higher on the stressor indexes, with greater exposure to atrocities and abusive violence. Malevolent environment is the most potent factor mediating PTSD for both men and women

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Table 1b. Evidence Table of Stress of military life studies: <i>Comparing men and women veterans</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Engel, 1993 (32)	Yes	Sample of patients from a mental health clinic at a military base in Fort Hood, TX	28 women; 269 men	Observ. Study- Assess risk and prognosis	Demographics, pre-combat abuse, PTSD screens, combat exposure scale	Evaluated the association of pre-combat sexual and physical abuse and combat-related PTSD symptoms. Women veterans with pre-combat abuse were more likely to have high PTSD screen scores related to combat exposure than those without pre-combat abuse. No such difference was seen for men with pre-combat abuse compared to those without.
Taft, 1999 (33)	Yes	Sample of theater veterans from NVVRS (1987-88). NVVRS was over sampled for women, African American and Hispanic men and those with service-connected disabilities	1200 male and 432 female Vietnam veterans	Observ. Study- Assess risk and prognosis	Combat exposure; hardiness; social support; PTSD; physical health conditions; functional health status; age and education	Evaluated the association of combat exposure and PTSD with physical health conditions. For male and female Vietnam veterans, combat exposure was associated with PTSD; and PTSD was associated with more physical health conditions and poorer functional status.
Litz, 1997 (34)	No	Cohort of active duty personnel deployed to Somalia, interviewed 5 months after return	3085 male and 225 female soldiers	Observ. Study- Assess risk and prognosis	Demographic variables; exposures including war-zone; attitudes about military service, humanitarian duties, peacekeeping duties; PTSD measures	Evaluates PTSD associated with duty in Somalia. 8% of the study group had PTSD but rates did not differ for men and women. PTSD was negatively predicted by more positive feelings about military duty and positively predicted by frequency of war-zone stressor events.

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Table 1b. Evidence Table of Stress of military life studies: <i>Comparing men and women veterans</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Jordan, 1991 (35)	Yes	Full national sample from the NVVRS (1987-88). NVVRS was over sampled for women, African American and Hispanic men and those with service-connected disabilities	1612 Vietnam men (1200 theater and 412 era); 736 Vietnam women (432 theater and 304 era)	Observ. Study- Assess risk and prognosis	Demographic variables; psychiatric disorders other than PTSD; war zone stress	Evaluated the lifetime and current prevalence of psychiatric disorders between Vietnam theater and era veterans. For men, the most prevalent current disorders were alcohol abuse and generalized anxiety disorder but rates were not different for theater or era veterans. For women, the most prevalent current disorders were depression and generalized anxiety disorder, with rates of depression higher for theater veterans. In men, high war zone stress was associated with more psychiatric disorders; and depression and dysthymia were higher in women exposed to high war zone stress.

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Table 1c. Evidence Table of Stress of military life: <i>Sexual harassment, sexual abuse, sexual assault</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Coyle, 1996 (36)	Yes	Women veterans receiving care at the Baltimore VAMC in the last six months of 1994	429	All Other Observational	Prevalence of different forms of abuse (physical abuse, sexual abuse, rape) time when abuse occurred	68% of veteran users reported at least one form of victimization; and abuse was associated with lower age at the time of the survey, history of separation or divorce, higher education, and being enlisted rather than being an officer. One third of women reported that their abuse occurred on active duty only and 58% reported that at least some occurred while on active duty.
Fontana, 1998 (37)	Yes	Sample of women treated in a VA clinical program for women with stress disorders (4 sites) between 5/94 and 1/97	327	Observ. Study- Assess risk or prognosis	Variables related to social support (education, age entered military, ethnicity, service era, premilitary sexual stress) and exposure to stress - particularly duty-related stress or sexual stress experienced during military service	63% reported physical sexual harassment during military service and 43% reported rape or attempted rape. Duty-related and sexual stress were associated with development of PTSD but sexual stress was 4 times as influential as duty-related stress.

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Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Frayne, 1999 (38)	Yes	National random sample of women veterans using VA outpatient services between 7/94 and 7/95	3632	Observ. Study- Assess risk or prognosis	History of sexual assault while in the military; current physical or medical conditions	23% reported a history of sexual assault while in the military and this was associated with current physical symptoms and medical conditions in every domain assessed (reproductive/gynecological, abnormal menses, urological, neurological/rheumatological, gastrointestinal, pulmonary, cardiovascular, other
Hankin, 1999 (39)	Yes	National sample of women veterans using VA outpatient services between 7/94 and 7/95 (<i>same sample and study as #114</i>)	3632	Observ. Study- Assess risk or prognosis	History of sexual assault while in the military; current symptoms of depression and alcohol abuse	23% reported a history of sexual assault while in the military and prevalence of current depression was 3 times higher and for current alcohol abuse 2 times higher among those reporting military sexual assault versus those without this experience.
Butterfield, 1998 (40)	Yes	Sample of women using the women's health clinic at the Durham VAMC from 7/94-6/97	632 consecutive women	Descriptive Study	Trauma history including childhood sexual trauma, rape and battering; mental disorder symptoms	40% of the sample had at least one type of trauma and half had multiple traumas. 33% of rapes and 22% of battering occurred during military service. Increasing levels of trauma were associated with a higher prevalence of all mental disorder symptoms

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Table 1c. Evidence Table of Stress of military life: <i>Sexual harassment, sexual abuse, sexual assault</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Davis, 1999 (41)	Yes	Sample of female veterans participating in outpatient PTSD and/or substance abuse treatment at one VAMC	28 women	Descriptive Study	Demographic information including age, ethnicity, sexual orientation, military service, past psychiatric/substance treatment, years since assault; General Severity Index of the Brief Symptom Index; Alcohol screening (AUDIT); the Life Stressor Checklist; health status	Most of women included in study had been sexually abused with 63% meeting criteria for PTSD. 89% of women who had abused substances also reported a history of sexual abuse. Most of the sexual abuse occurred during military service.
Wing, 1998 (42)	Yes	Women veterans in northeastern Oklahoma being treated in VA mental health clinics for PTSD resulting from service-related sexual abuse; 8/97 through 4/98	16	Qualitative Research	Open-ended interview to determine factors contributing to participants' trauma, decision to seek assistance and recovery	Sexually abused women veterans gained an identity that was autonomous and free of unexplained fear through the social process of "transforming self", a five-stage process that includes reacting to triggers, seeking validation, sorting through confusion, becoming intentional and affirming self.

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Table 1c. Evidence Table of Stress of military life: <i>Sexual harassment, sexual abuse, sexual assault</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Harned, 2002 (43)	Yes	3 samples: Active-duty military women posted at two US military installations; active-duty military men from the same installations; non-military women involved in a class action sexual harassment lawsuit	472 active-duty military women; 254 active-duty military men; 1853 women in the class action lawsuit	Observ. Study- Assess risk or prognosis	Survey measures evaluating unwanted sex-related experiences in the workplace, eating disorder symptoms, psychological distress, job satisfaction and health status	For both samples of women, sexual harassment was independently associated with eating disorder symptoms, though the effect was small. The effect was mediated by psychological distress, self-esteem and self-blame and persisted when controlling for sexual assault. There was no association between sexual harassment and eating disorder symptoms in men.
Read, 1997 (44)	Yes	Sample of women veterans and service-eligible non-veterans from 2 outpatient women's health clinics between 10/94 and 11/95	100 veterans; 8 non-veterans	Observ. Study – Assess risk and prognosis	Women Veterans' Demographic Inventory – demographic variables, mental health care, medical complaints; Women Veterans Trauma Screen – lifetime traumatic events and whether occurred in military; Lifestyle Questionnaire – substance use, eating, stress and coping	69% of the sample reported some traumatic event with 33% reporting sexual assault. 1/3 of these victims were assaulted in the military. Women with substance use symptoms, eating disturbance symptoms, and more general stress had higher rates of lifetime trauma.

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Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
DeRoma, 2003 (45)	Yes	Sample of women veterans schedule in the gyn clinic at the Biloxi VAMC, 1994	336 women	All Other Observational	Patient demographics, perceived social support, perceived stress, depression, anxiety, history of childhood abuse, history of military or civilian sexual harassment or assault; Impact of Events Scale	75% of the sample had experienced some form of sexual harassment and 38% had experienced rape during their lifetime. 42% had been victims of childhood sexual abuse. Those who had experienced military or civilian and military rape had lower scores for perceived social support, and higher depression and anxiety ratings.
Harned, 2002 (46)	Yes	Stratified random sample of active military women, 1995 DOD Gender Issues Survey	22,372 military women	Observ. Study – Assess risk and prognosis	Sexual harassment in the military, sexual assault in the military, sociocultural power (age, ethnicity, education, marital status), organizational power (pay grade, years of active duty service), organizational climate (perceptions of military efforts related to sexual harassment), job gender context, job satisfaction, psychological well-being, health satisfaction	4.2% reported sexual assault by workplace personnel, 72% reported other types of sexual harassment and 23% reported no sexual harassment or assault. Assaults typically occurred at the military installation but after hours and not at work; sexual harassment typically occurred at the military installation and during duty hours at the workplace. Sexual assault was associated with less sociocultural and organizational power. Sexual assault victims have lower psychological well-being, health satisfaction, work satisfaction and coworker satisfaction.

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Table 1c. Evidence Table of Stress of military life: <i>Sexual harassment, sexual abuse, sexual assault</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Chang, 2001 (47)	Yes	Random sample of women receiving outpatient care at VA facilities from 7/94 – 7/95	3543 women veterans	Observ. Study – Assess risk and prognosis	Military sexual assault history, religiosity, mental health status and current depressive symptoms, social support scale	23% of the sample reported experiencing military sexual assault. Among those with a history of military sexual assault, those who attend religious services more often have better mental health and are less likely to endorse depressive symptoms.
Sadler, 2000 (48)	Yes	National random sample of women veterans from Vietnam and subsequent eras, November 1996 – May 1997	640 women veterans	Observ. Study – Assess risk and prognosis	Demographic information, violence history during military service, current medical and occupational status, military environment, health status (SF-36)	48% of survey respondents reported some type of physical or sexual victimization during military service. 12% reported rape solely during military service and 14% were raped before and during military service. Women who were subjected to violence during military service had significantly worse health status, with scores lowest for those who experienced both physical assault and rape.
Sadler, 2001 (49)	Yes	Sample of women veterans from Vietnam, post-Vietnam and Persian Gulf War era interviewed from 11/96 - 5/97	537 women veterans	Observ. Study – Assess risk and prognosis	Sociodemographic and environmental factors; physical assault, rape, domestic violence, sexual harassment experiences while in the military	79% reported sexual harassment during military service; 54% unwanted sexual contact; 23% experienced nonfatal physical assault. Risk factors for assault included sexual harassment allowed by officers, and unwanted sexual advances while on duty and in sleeping quarters.

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Table 1c. Evidence Table of Stress of military life: <i>Sexual harassment, sexual abuse, sexual assault</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Wolfe, 1998 (50)	Yes	Ft. Devens Operation Desert Storm (ODS) Reunion Survey of Persian Gulf female Veterans 5 days after returning from the Gulf, April – July 1991	160 women who returned the sexual harassment questionnaire	Observ. Study – Assess risk and prognosis	Demographic characteristics; combat exposure and other deployment stressors; coping style; sexual assault or harassment; PTSD symptomatology; intervening life events; support and cohesion;	Evaluated the association between sexual harassment during Gulf War duty and PTSD symptomatology at 18-24 months following return. 7.3% of subjects experienced sexual assault, 33.1% physical sexual harassment, 66.2% verbal sexual harassment and 30.2% no sexual harassment. Women who were sexually assaulted had significantly higher PTSD symptomatology than all other groups of women with differences greatest when compared to women with no harassment. Intervening life events seems to mediate this increased risk.
Wing, 1999 (51)	Yes	Women with PTSD related to military sexual trauma	10 women	Qualitative Research	Understand about addiction in these traumatized patients – when it started, why the women used chemicals, how they recovered from addiction	Chemicals were used to “escape” bad memories and life problems but impaired coping mechanisms.

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Table 1c. Evidence Table of Stress of military life: <i>Sexual harassment, sexual abuse, sexual assault</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Sadler, 2003 (52)	Yes	Sample of women veterans from Vietnam, post-Vietnam and Persian Gulf War era interviewed from 11/96 - 5/97	558 women veterans	Observ. Study – Assess risk and prognosis	Sociodemographic and environmental factors; physical assault, rape, domestic violence, sexual harassment experiences while in the military and prior to military service	Assessed military environmental factors associated with rape occurring in the military. 28% of respondents reported rape and factors associated with increased likelihood of rape were sexual harassment allowed by officers, and unwanted sexual advances while on duty and in sleeping quarters. Victims of rape entered the military at a younger age, were discharged at younger ages, were more likely to be enlisted rank and were less likely to have completed college.
Skinner, 2000 (53)	Yes	VA Women's' Health Project - national sample of women using outpatient VA from 7/94 - 7/95	3632 women veterans	Observ. Study – Assess risk and prognosis	Health status, military experiences, medical conditions, use of health care services, social support, life experiences	Reports the prevalence of military sexual harassment and assault and compares health status between assaulted and non-assaulted women veterans. 55% of veterans reported sexual harassment while in the military and 23% reported sexual assault. Women who were assaulted were more likely to have negative ratings of their military service and scored worse on health status.
Sadler, 2004 (54)	Yes	Historical cohort of women veterans from different war eras derived from the registries of five comprehensive women's health centers, interviewed from 11/96 – 5/97	558 women veterans	Observ. Study – Assess risk and prognosis	Sociodemographic characteristics, military experiences, current medical and mental health conditions, outpatient utilization, health status	Evaluated health status and healthcare utilization in women with and without histories of sexual assault. 41% of the women had experienced either rape or physical assault in their lifetimes. Women who had multiple traumas during military service had greater numbers of physician visits than singly victimized or non-victimized women. Multiply traumatized women also had the poorest health status compared to the other groups.

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Table 1c. Evidence Table of Stress of military life: <i>Sexual harassment, sexual abuse, sexual assault</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Suris, 2004 (55)	Yes	Women veterans using a medical and/or mental health clinic in the VA North Texas Health Care System, interviewed between 1997 and 2000	270 women veterans	Observ. Study – Assess risk and prognosis	Sexual harassment, sexual assault experiences; PTSD symptoms, utilization of VA care, health care costs	Evaluates the impact of military, civilian adult and childhood sexual assault on the likelihood of developing PTSD; and the association of military sexual assault to service utilization and health care costs. Women with a history of sexual assault were 5 times more likely to have PTSD and military sexual assault was associated with a >9-times increased risk of PTSD. A history of sexual assault was associated with higher utilization and cost of care, but this was primarily because of higher utilization by women with histories of civilian sexual trauma.
Skinner, 2000 (56)	Yes	National sample of female veterans with at least one ambulatory visit between 7/94 and 7/95.	3632 women veterans	Observ. Study- Assess risk or prognosis	Military sexual harassment and sexual assault, sociodemographic characteristics, military experiences, health status (SF-36)	Evaluates the prevalence of military sexual harassment or assault and finds that 55% of the sample had experienced sexual harassment and 23% military sexual assault. Women with a history of harassment or assault scored worse on every scale of the SF-36.

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Table 1d. Evidence Table of Stress of military life: <i>Vietnam Era</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Thomas, 1991 (57)	Yes	Comparison of women Vietnam veterans and women veterans who never served in Vietnam	4600 Vietnam veterans; 5300 non-Vietnam veterans	Observ. Study- Assess risk or prognosis	Cause-specific mortality, comparing women Vietnam veterans to non-Vietnam veterans and women Vietnam veterans to US women	Mortality rates of all causes of death combined and for all cancers were similar. Vietnam veterans were slightly more likely to die from "external causes" because of a threefold increased risk of dying from motor vehicle accidents. Vietnam veterans had twofold increases in mortality from cancers of the pancreas and uterus. Women veterans had lower mortality than US women because of fewer deaths from circulatory disease.
Wolfe, 1992 (58)	Yes	Cohort of female Vietnam veterans not seeking treatment for PTSD	76 Vietnam veterans	Descriptive Study	PTSD symptomatology; SCL-90-R (psychological symptoms); change in symptoms of PTSD	Evaluated the status of PTSD symptoms in female Vietnam veterans after the start of Operation Desert Storm. Women with PTSD symptoms prior to the start of the Gulf War had greater increases in reexperiencing, avoidance/numbing and hyperarousal. They also had higher levels of somatization, obsessive-compulsive activities and hostility.

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Table 1d. Evidence Table of Stress of military life: <i>Vietnam Era</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Fontana, 1997 (59)	Yes	National Vietnam Veterans Readjustment study (NVVRS) – national samples of Vietnam theater and era veterans	433 theater and 300 Vietnam era veterans	Observ. Study- Assess risk or prognosis	Premilitary risk factors and traumas including family stability, antisocial behaviors, marital status and education; role or traumatic exposure while in military (including sexual and war trauma); homecoming reception; post-military trauma; PTSD	Evaluated roles of war and sexual trauma in the development of chronic PTSD in female Vietnam veterans. For both theater and era veterans, war trauma and sexual trauma made approximately equal contributions to the likelihood of developing PTSD and were responsible for approximately 25% of the PTSD risk. Low support at homecoming was even more important in the development of PTSD.
Carson, 2000 (60)	Yes	Sample of medication-free female Vietnam nurse veterans with and without a diagnosis of PTSD related to military service.	17 with current PTSD; 21 without a history of PTSD	Observ. Study- Assess risk or prognosis	PTSD scale and psychiatric assessment; demographics; physiologic measures	Evaluated the effect of exposure to death and injury in women with and without PTSD. Women listened to scripts describing traumatic exposures. Both groups experienced physiologic responses but the response was significantly greater in the PTSD group. Emotional responses were not different between the two groups.
Wolfe, 2000 (61)	Yes	Vietnam era women veterans who had experienced Vietnam war-zone trauma	30 military veterans and 6 service organization volunteers	Descriptive Study	Demographics, psychometric tests (Women's Wartime Exposure Scale-Revised; PTSD symptomatology; physiologic measures	Evaluated responses of women veterans to audiovisual material representative of women's wartime experiences. Women with current PTSD demonstrated more psychological symptoms and greater psychophysiological responses to the audiovisual materials than women without PTSD.

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Table 1d. Evidence Table of Stress of military life: <i>Vietnam Era</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Tichenor, 1996 (62)	Yes	Subsample from the NVVRS who had undergone more thorough diagnostic assessments for PTSD and other disorders.	77 female Vietnam theater veterans	Observ. Study – Assess risk and prognosis	War zone tress exposure; traumatic stress response measures; measures of dissociation	Evaluated the relationship between dissociation at the time of trauma and PTSD. High ratings of peri-traumatic dissociation were strongly associated with PTSD symptomatology, level of stress exposure and general dissociative tendencies. Dissociation was not associated with general psychiatric symptomatology.
Ouimette, 1996 (63)	Yes	Sample of women who served overseas during the Vietnam era from the New England area	52 women veterans	Observ. Study- Assess risk or prognosis	PTSD measures; lifetime substance abuse disorders; psychiatric symptoms both Axis I and II; life stressors; traumatic events and their impact; war-time exposures; dissociative experiences; alcohol screening	Evaluated trauma characteristics and symptoms in women with PTSD and alcohol abuse, with PTSD or without PTSD. Women with PTSD and alcohol abuse had more childhood sexual abuse and wartime sexual victimization, and had more PTSD, dissociation and borderline personality traits. The groups did not differ on other childhood trauma variables, adult physical assault or traditional wartime stressor exposure.
Baker, 1989 (64)	Yes	Two studies: Vietnam era Army nurses Vietnam era Air Force and Navy nurses	60 Army nurses 40 Air Force/Navy nurses	Descriptive Study	Demographic measures; health and psychosocial symptoms; Vietnam experiences	Describes the experiences of Vietnam nurses from different branches of the military. Less experienced Army nurses were at greater risk for subsequent difficulty in personal relationships and coping with stress. The paper describes stress experiences of the veterans as well as satisfaction with career.

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Table 1d. Evidence Table of Stress of military life: <i>Vietnam Era</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Ravella, 1995 (65)	Yes	Voluntary sample of Air Force nurses in the San Antonio, TX area who had served in the Vietnam theater	20 Air Force nurses	Qualitative Research	Wartime assignments; current military status; Vietnam war experiences	Describes responses of these Vietnam nurses to open-ended interviews related to their wartime experiences, focusing on individual perceptions, coping skills used and significant events remembered.
Norman, 1988 (66)	Yes	Sample of Vietnam nurses, interviewed between 11/83 and 12/85	50 Vietnam nurse veterans	Descriptive Study	Clinical jobs; off-duty experiences; social networks in Vietnam and post-Vietnam; PTSD symptoms	Describes responses to interviews evaluating the intensity of nurses' experiences and its relation to PTSD. Women with more intense Vietnam experiences had more intrusive thoughts after returning; and women with more poorly defined social networks after Vietnam had higher incidences of PTSD.
Norman, 1992 (67)	Yes	Sample of Vietnam nurses serving at some time between 1965 and 1973	50 Vietnam nurses; 23 active military, 27 civilian	Qualitative Research	Vietnam service and professional identity; effect of war on choice of clinical work; altered professional perspectives	Description of results of interviews with 50 Vietnam nurses evaluating how their Vietnam experiences influenced their identities as nurses and their career decisions.

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Table 1d. Evidence Table of Stress of military life: <i>Vietnam Era</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Kimerling, 2000 (68)	Yes	Convenience sample of Vietnam era women veterans from the New England area	52 women veterans	Observ. Study – Assess risk and prognosis	PTSD and other psychiatric assessment; wartime stress; life stress; demographic questionnaire; medical history	Evaluated the impact of PTSD symptoms on the relationship between traumatic exposure and subsequent health problems. 86.8% of women reported at least one traumatic event during active military duty; 12 met full criteria for current PTSD. PTSD symptoms were associated with reports of greater physical health impairment.
Gurvits, 2002 (69)	Yes	Sample of Vietnam theater nurses, unmedicated, with and without PTSD	32 Vietnam nurses with current PTSD; 50 without PTSD	Observ. Study – Assess risk and prognosis	PTSD scales; demographics; alcohol history; neurological soft signs	Compared PTSD and non-PTSD nurses on the presence of eight neurological soft signs but found no differences between the groups.
Leon, 1990 (70)	Yes	Sample of Vietnam theater and era nurses recruited from various sources, most from the Midwest	36 Vietnam theater and 32 Vietnam era nurses	All Other Observational	Professional preparation and nursing duties in Vietnam; cognitive or behavioral coping strategies; traumatic experiences; pre and post-Vietnam adjustment; personality inventory; coping inventory; impact of event scale	Evaluated coping patterns of Vietnam nurses and their effect on their psychological functioning. Coping patterns that included expressing feelings, seeking emotional support and trying to find meaning in traumatic events were associated with good current psychological functioning. Self-blame, anxious thoughts and withdrawal at the time of stressful encounters were associated with poorer current functioning. There were no significant differences between the two groups.

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Table 1d. Evidence Table of Stress of military life: <i>Vietnam Era</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Wolfe, 1993 (71)	Yes	Sample of women serving during Vietnam: theater veterans, era veterans and theater civilians, contacted in 1990	202 women: 147 Vietnam theater veterans; 32 era veterans; 23 theater civilians	All Other Observational	Wartime stressor scale; PTSD symptomatology; personality inventory; psychological symptoms	Evaluated the test characteristics of the Women's Wartime Stressor Scale (WWSS). Found that the WWSS had good discriminant qualities with significant differences among the three groups on various items in the scale, correlating with their exposures to wartime stress.
Wolfe, 1994 (72)	Yes	Sample of Vietnam theater women veterans, non-treatment seeking	109 women veterans	Observ. Study – Assess risk and prognosis	Wartime stress, PTSD symptoms; demographic information; medical history and status	Evaluated the association of PTSD and wartime exposure to current perceived health. Higher PTSD scores were associated with poorer health on all measures of health status. War-zone exposure predicted poorer current health and decline in health during the Vietnam War.
Paul, 1985 (73)	Yes	Sample of volunteer Vietnam theater nurses, responding to advertisements for subjects	137 Vietnam theater nurse veterans; 123 women	Qualitative Research	Stressors and after-effects experienced by nurses	Nurses experienced severe stressors including large numbers of casualties, lack of supplies, sexual harassment, survivor guilt and threat to life among others. 39% of the sample experienced or were currently experiencing at least six of 14 adverse after-effects, including some symptoms of PTSD.

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Table 1e. Evidence Table. Stress of military life: <i>Miscellaneous</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Kirstein, 1978 (74)	Yes	All female active duty psychiatric inpatients at hospital at Travis AFB from 1975-1976 with male matched controls; random sample of active duty women from dining halls with male controls - Jan and Feb 1977	34 female inpatients with matched male controls; 30 dining hall women with male matched controls	Descriptive Study	Chart review of inpatients for demographics, clinical and outcome (return to duty vs. medical separation) variables; survey of volunteers on reasons for joining the Air Force, job satisfaction and outside interests.	Evaluates how successfully female soldiers and psychiatric patients are adjusting to military life. Inpatient women were more likely to report depression while there was no difference in diagnosis, medications, length of stay or outcome. Male and female soldiers had similar reasons for joining the Air Force, similar job satisfaction and work attitude.
Whitlock, 1995 (75)	Yes	Women veterans receiving care from the Pettis VAMC Preventive Medicine Women's Clinic in the 3 years prior to the study (5/91)	409 women veterans	Observ. Study- Assess risk and prognosis	Demographic variables; cardiovascular risk factors; depressive symptoms; smoking variables;	Evaluated the smoking characteristics of female veterans. 32.5% of the sample were current smokers. More than 1/3 of ever-smokers started smoking in the military. Current smokers had higher depression scores than former or never smokers. Predictors of cessation included increasing age and number of quit attempts. Older age at initiation and number of years of regular tobacco use were inversely associated with cessation.

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Table 1e. Evidence Table. Stress of military life: <i>Miscellaneous</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Skelton, 1995 (76)	Yes	Female prisoners of war from WWII – incarcerated by the Japanese in the Philippines	41 female ex-POWs	Descriptive Study	Details related to service connected disability;	Rates of service connection (50%) were similar for these women as compared to male ex-POWs of the Pacific Theater. Average degrees of disability were also similar (37%). Reasons for disability are very similar to those for male ex-POWs with the exception that no women were service-connected for tuberculosis or peptic ulcer disease.

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Table 2a. Evidence Table of Health and Performance of Military/VA Women: <i>Sexual Assault and PTSD</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Coyle, 1996 (36)	Yes	Women veterans receiving care in the Baltimore VAMC during the last 6 months of 1994	429 women veterans	Descriptive Study	Demographic characteristics; prevalence of different forms of abuse (physical abuse, sexual abuse, rape); time when abuse occurred	Evaluated the prevalence of physical and sexual abuse experiences in a sample of veteran women. 68% of veteran users reported at least one form of victimization; and abuse was associated with lower age at the time of the survey, history of separation or divorce, higher education, and being enlisted rather than being an officer. One third of women reported that their abuse occurred on active duty only and 58% reported that at least some occurred while on active duty.
Hourani, 2003 (28)	Yes	1998 Health Status of Military Women and Men in the Total Force; 1995 Perception of Wellness and Readiness Assessment	15,000 active military personnel; 6800 women	Observ. Study- Assess risk or prognosis	Exposure to trauma; medical conditions; health care use; perceived physical health status; depressive symptomatology; perceived quality of life;	Evaluated the prevalence of lifetime exposure to violence, natural disaster or major accidents in US military personnel. There were high levels of lifetime exposure to traumatic events (65% of sample). Men were more likely to have witnessed or survived violence or a major accident. The most prevalent trauma for women was witnessing a natural disaster. Male survivors were more than twice as likely to have two or more physical health problems and women were more than twice as likely to have two or more mental health problems.

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Table 2a. Evidence Table of Health and Performance of Military/VA Women: <i>Sexual Assault and PTSD</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Zatzick, 1997 (77)	Yes	Nationally representative sample from the National Vietnam Veterans Readjustment Study (NVVRS), late 1980s	432 Vietnam theater veterans (most nurses)	Observ. Study- Assess risk or prognosis	PTSD diagnosis; current medical or psychiatric co-morbidity; bed days; role functioning; subjective well-being; self-reported physical health status; current physical functioning; perpetration of violent acts	Evaluated the effect of current PTSD on functioning. Veterans with PTSD were more likely to have poorer functioning in all domains except perpetration of violence. After adjusting for demographics and co-morbidities, PTSD was associated with increased odds of bed days, poorer physical health and currently not working.
Read, 1997 (44)	Yes	Sample of women veterans who visited a women's health clinic at one VA Medical Center or outpatient clinic between 10/94 and 11/95	108 veterans or eligible non-veterans	Observ. Study- Assess risk or prognosis	Demographic characteristics included psychiatric and medical treatment reports; trauma screen; lifestyle questionnaire	Evaluated the utility of a brief screening measure to detect victimization and psychological factors and the relationship between these factors and medical care use. Did not report specific characteristics of the screening instruments. Found that 69% of the subjects had at least one lifetime trauma experience with 40% reporting a history of sexual harassment. Psychological symptoms were prevalent in this sample and women with gynecological problems were more likely to be victims of sexual assault and childhood assault. Women with substance use symptoms and eating disorders reported more traumatic experiences.

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Table 2a. Evidence Table of Health and Performance of Military/VA Women: <i>Sexual Assault and PTSD</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Ouimette, 1996 (63)	Yes	Sample of women who served overseas during the Vietnam era from the New England area	52 women veterans	Observ. Study- Assess risk or prognosis	PTSD measures; lifetime substance abuse disorders; psychiatric symptoms both Axis I and II; life stressors; traumatic events and their impact; war-time exposures; dissociative experiences; alcohol screening	Evaluated trauma characteristics and symptoms in women with alcohol abuse, with PTSD or without PTSD. Women with PTSD and alcohol abuse had more childhood sexual abuse and war-time sexual victimization, and had more PTSD, dissociation and borderline personality traits. The groups did not differ on other childhood trauma variables, adult physical assault or traditional wartime stressor exposure.
Kang, 2003 (9)	No	Population-based stratified sample of Gulf War veterans and non-Gulf War veterans, 1995-1997	11,441 Gulf War and 9,476 non-Gulf War veterans; 2123 Gulf War women and 2076 non-Gulf War women and	Observ. Study – Assess risk and prognosis	Symptom inventory for prevalence of somatic and psychological symptoms; PTSD screen; stressor severity based on combat exposure	Evaluates the prevalence of PTSD and chronic fatigue syndrome (CFS) in Gulf War and non-Gulf War veterans, and evaluates the relations between deployment-related stress and the risk of PTSD or CFS. In bivariate analysis, veterans who were female, older, non-White, enlisted and in the Army and National Guard were more likely to meet criteria for PTSD. Veterans with CFS-like illness were more likely to be younger, single, enlisted, in the Army or Marines and in the reserves. In regression analysis, Gulf veterans were 3 times as likely to have PTSD and 4.8 times as likely to have CFS.

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Table 2a. Evidence Table of Health and Performance of Military/VA Women: <i>Sexual Assault and PTSD</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Ouimette, 2004 (78)	Yes	Single VA	134 male (52) and female (82) veterans	Observ. Study- Assess risk or prognosis	PTSD symptoms severity and diagnoses; other psychopathology; health conditions; HRQOL; health risk behaviors; demographics	Evaluated a sample of male and female patients from the general medical and women's health clinics at Palo Alto. Found that patients with PTSD were more likely to have circulatory and musculoskeletal disorders and had poorer health-related quality of life.
Wagner, 2000 (10)	Yes - compares men and women	Sample of Gulf War army veterans from the Ft. Devens ODS Reunion Survey, a longitudinal study of 2949 US Army active, reserve and national guard soldiers deployed to the Gulf 1990-1991	Time 2: 2108 men and 193 women	Observ. Study – Assess risk and prognosis	Demographics; PTSD symptomatology; combat exposure; psychological symptoms; health symptoms	Evaluates the relationship between PTSD symptoms in men and women veterans immediately upon returning from the Gulf War and 18-24 months later. For both men and women, PTSD symptomatology at initial assessment was predictive of self-reported health problems over time, even after controlling for the effects of combat exposure. Women veterans reported significantly more health problems though gender did not influence the impact of PTSD symptoms on health problems.

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Table 2a. Evidence Table of Health and Performance of Military/VA Women: <i>Sexual Assault and PTSD</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Kimerling, 2000 (68)	Yes	Convenience sample of Vietnam era women veterans from the New England area	52 women veterans	Observ. Study – Assess risk and prognosis	PTSD and other psychiatric assessment; wartime stress; life stress; demographic questionnaire; medical history	Evaluated the impact of PTSD symptoms on the relationship between traumatic exposure and subsequent health problems. 86.8% of women reported at least one traumatic event during active military duty; 12 met full criteria for current PTSD. PTSD symptoms were associated with reports of greater physical health impairment.
Taft, 1999 (33)	Yes	Sample from the National Vietnam Veterans Readjustment Study (NVVRS), late 1980s	1200 male and 432 female Vietnam theater veterans	Observ. Study- Assess risk or prognosis	Combat exposure; hardiness; social support; PTSD; physical health conditions; functional health status; age and education	Evaluated the associations of combat exposure and PTSD with physical health conditions, hardiness, social support and functional health status. For male and female Vietnam veterans, combat exposure was associated with PTSD; and PTSD was associated with more physical health conditions and poorer functional status.
Butterfield, 2000 (79)	Yes	Sample of women referred for outpatient mental health services at one VA Medical Center's Women's Health Clinic	90 women veterans	Observ. Study- Assess risk or prognosis	Trauma questionnaires; PTSD symptomatology; hostility; depression; health status (SF-36)	Evaluated the relationship between hostility and functional health status in patients with and without PTSD. Women with PTSD had higher hostility, cynicism, hostile affect and depression. Minority status was significantly related to increased total hostility, cynicism and aggressive responding. In regression analyses, hostility was significantly associated with poorer health functioning in women with PTSD.

**The State of Women Veterans' Health Research: Results of a Systematic Literature Review
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Table 2a. Evidence Table of Health and Performance of Military/VA Women: <i>Sexual Assault and PTSD</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
DeRoma, 2003 (45)	Yes	Sample of women veterans scheduled in the gynecological clinic at the Biloxi VA Hospital, 1994	336 women veterans	All Other Observational	Demographic characteristics; perceived social support; perceived stress; depression; anxiety; history of childhood, military or civilian assault or harassment	Evaluated the prevalence of sexual victimization and its relationship to psychological variables. 74% of the cohort reported lifetime sexual harassment and 39% lifetime sexual assault. 8.7% and 9.3%, respectively, experienced military or military and civilian sexual assault. Those who experienced civilian or military and civilian assault had lower scores for perceived social support, and higher depression and anxiety scores.
Sadler, 2000 (48)	Yes	National sample of women veterans, contacted via telephone survey	537 Vietnam and subsequent eras	Observ. Study- Assess risk or prognosis	Physical or sexual assault history; Health status (SF-36); demographic characteristics	Telephone survey of women veterans that found that women who had been sexually or physically assaulted in the military had more chronic health problems, lower health-related quality of life, took more medications for emotional problems, were less likely to complete college and were poorer than women who had not been assaulted.

**The State of Women Veterans' Health Research: Results of a Systematic Literature Review
Evidence Tables**

Table 2a. Evidence Table of Health and Performance of Military/VA Women: <i>Sexual Assault and PTSD</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Fontana, 2002 (80)	Yes	Convenience sample of women veterans admitted to the Women's Stress Disorder Treatment Teams at four VA medical centers between 7/98 and 6/00; comparison sample of male veterans admitted for specialized outpatient treatment from 1/00 through 8/01	224 women veterans; 195 male veterans	All Other Observational	Demographic characteristics; exposure to military trauma; personality orientation; PTSD symptoms; clinical status including workdays, quality of life, functioning; therapeutic alliance; comfort with VA; satisfaction with treatment	Evaluated outcomes for women entering specialized stress disorder treatment teams. Women in the program demonstrated significant improvement in PTSD, violence, medical conditions, overall adjustment, quality of life and social functioning. Women with a history of recent substance abuse improved more as did those who were more highly committed to the program. Participation in the program did not increase women's comfort with VA. Clinical outcomes were similar when compared to the male control group, though women were more satisfied with their treatment.
Frayne, 2004 (81)	Yes	National sample	30, 865 women veterans enrollees	Observ. Study- Assess risk or prognosis	PTSD or depression diagnosis; medical conditions; physical health status	Women with PTSD had more medical conditions and worse physical health status than women with depression alone or neither diagnosis.

**The State of Women Veterans' Health Research: Results of a Systematic Literature Review
Evidence Tables**

Table 2a. Evidence Table of Health and Performance of Military/VA Women: <i>Sexual Assault and PTSD</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Asmundson, 2004 (82)	Yes	National sample of women veterans who used general medical clinics in the VA Healthcare System between 1998 and 1999	221 women veterans	Observ. Study- Assess risk or prognosis	Demographic characteristics; current pain assessment; military combat and sexual assault; physical and mental health (SF-36); childhood trauma; PTSD symptomatology	Evaluated the association between pain and PTSD symptoms. Subjects meeting criteria for PTSD were significantly more likely to have bodily pain compared to those without PTSD. PTSD was predicted by higher bodily pain scores, other pain questions, military and non-military sexual assault and childhood trauma.
Dobie, 2004 (83)	Yes	Sample of women who received care at the VA Puget Sound Health Care System between 10/96 and 1/98	266 women veterans	Observ. Study- Assess risk or prognosis	Demographic and clinical characteristics; PTSD symptoms; other psychiatric disorders; alcohol and drug abuse; health-related quality of life	Evaluated the health problems and functional impairment associated with screening positive for PTSD. 21% of subjects screened positive for current PTSD and they reported more psychiatric problems, substance abuse, lifetime exposure to domestic violence and physical health problems. In regression analyses, higher PTSD symptomatology was associated with lower health functioning and health-related quality of life.

**The State of Women Veterans' Health Research: Results of a Systematic Literature Review
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Table 2a. Evidence Table of Health and Performance of Military/VA Women: <i>Sexual Assault and PTSD</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Stein, 2004 (84)	Yes	Sample of women seen in the VA San Diego Healthcare System primary care clinic in 1998	221 women veterans	Observ. Study- Assess risk or prognosis	Traumatic exposure; somatization measures; health anxiety and illness attitudes	Evaluated the association between sexual assault history and measures of somatic symptoms and illness attitudes. 44.3% of the subjects reported experiencing sexual assault. Regression analyses demonstrated a significant difference in physical symptoms between women with and without a history of sexual assault and women with a history of sexual assault were more bothered by 9 of 10 symptoms. Their somatization scores were also significantly higher as were their health anxiety. Both somatization and anxiety were predictors of sick days and healthcare use.
Wolfe, 1994 (72)	Yes	Sample of Vietnam theater women veterans, non-treatment seeking	109 women veterans	Observ. Study – Assess risk and prognosis	Wartime stress, PTSD symptoms; demographic information; medical history and status	Evaluated the association of PTSD and wartime exposure to current perceived health. Higher PTSD scores were associated with poorer health on all measures of health status. War-zone exposure predicted poorer current health and decline in health during the Vietnam War.

**The State of Women Veterans' Health Research: Results of a Systematic Literature Review
Evidence Tables**

Table 2a. Evidence Table of Health and Performance of Military/VA Women: <i>Sexual Assault and PTSD</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Suris, 2004 (55)	Yes	Women veterans using a medical and/or mental health clinic in the VA North Texas Health Care System, interviewed between 1997 and 2000	270 women veterans	Observ. Study – Assess risk and prognosis	Sexual harassment, sexual assault experiences; PTSD symptoms, utilization of VA care, health care costs	Evaluates the impact of military, civilian adult and childhood sexual assault on the likelihood of developing PTSD; and the association of military sexual assault to service utilization and health care costs. Women with a history of sexual assault were 5 times more likely to have PTSD and military sexual assault was associated with a >9-times increased risk of PTSD. A history of sexual assault was associated with higher utilization and cost of care, but this was primarily because of higher utilization by women with histories of civilian sexual trauma.
Forneris, 2004 (85)	Yes	Convenience sample of women veterans seen for outpatient primary health care or specialty service in gynecology or psychiatry at the Women Veterans Comprehensive Health Center in Durham, NC	92 women veterans	Observ. Study- Assess risk or prognosis	Demographic characteristics; prescribed medications; mental disorders; health status; history of trauma; trauma questionnaire; PTSD symptoms; physiological measures included height, weight blood pressure, heart rate and temperature.	Evaluated baseline physiological arousal in women veterans with PTSD. Women with PTSD had significantly higher heart rates than women without PTSD, even when controlling for use of psychotropic medications.

**The State of Women Veterans' Health Research: Results of a Systematic Literature Review
Evidence Tables**

Table 2a. Evidence Table of Health and Performance of Military/VA Women: <i>Sexual Assault and PTSD</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Skinner, 2000 (56)	Yes	National sample of female veterans with at least one ambulatory visit between 7/94 and 7/95.	3632 women veterans	Observ. Study- Assess risk or prognosis	Military sexual harassment and sexual assault, sociodemographic characteristics, military experiences, health status (SF-36)	Evaluates the prevalence of military sexual harassment or assault and finds that 55% of the sample had experienced sexual harassment and 23% military sexual assault. Women with a history of harassment or assault scored worse on every scale of the SF-36.

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Evidence Tables**

Table 2b. Evidence Table of Health & Performance: <i>Health Needs and Utilization</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Murphy, 1997 (86)	Yes	Sample from the Persian Gulf War health registry, established 1992	5483 women and 47335 men	Non-systematic review	Health symptoms or issues and mortality	Evaluated the health of Gulf War women to better understand their medical needs. Women's health care needs during the Gulf War were similar to those of men with the exception of gynecologic problems. At 5 years from the end of the war, no unique health problems had been identified among women veterans.
Pierce, 1999 (87)	Yes	Sample of Gulf War women veterans from the Department of Defense Manpower Data Center of all records for women who served in the military during the Gulf War	525 Persian Gulf women veterans	Observ. Study- Assess risk or prognosis	Prevalence of gender-specific problems; health care utilization rates for gender-specific problems; satisfaction with military and civilian life	Describes health care utilization rates for gender-specific problems. 79% of women had at least one gender-specific condition for which they sought care. The number of reported gender-specific health problems was highest for the group aged 30-39 as compared to those 19-29 or those 40 and older. For most health conditions, satisfaction ratings were higher for civilian care.
Skinner, 1999 (88)	Yes	Single VA	719 women	All Other Observational	Health status as measured by SF-36	Surveyed women veteran users of outpatient services in the Boston area. Compared results to data on male veterans from the Veterans' Health Study. Found that women veterans had lower scores than comparison groups, particularly in the areas of mental functioning.

**The State of Women Veterans' Health Research: Results of a Systematic Literature Review
Evidence Tables**

Table 2b. Evidence Table of Health & Performance: <i>Health Needs and Utilization</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Stern, 2000 (89)	Yes	Sample of women veterans from the National Registry of Women Veterans	1500 women veterans	All Other Observational	Sociodemographics, military factors, self-reported health status, utilization of health services	Describes characteristics of the female veteran population surveyed, comparing younger to older women. More than half of each age group reported their current health as being good or excellent. Functional status was related to age with older women having the worst functional status. Older women were more likely to report physical service-connected disabilities.
Stuart, 2002 (16)	Yes - compares men and women	Persian Gulf War theater veterans receiving clinical evaluations as part of DOD's Gulf War Comprehensive Clinical Evaluation Program (CCEP), 2000	46,633 veterans (4888 females)	Descriptive Study	Health symptoms; wartime exposures; primary and secondary physician-determined medical diagnoses	Examined health status of male and female Gulf War theater veterans. Found that the most frequent diagnoses were musculoskeletal/connective tissue diseases, ill-defined conditions and mental disorders. Female veterans were more frequently diagnosed with mental disorders. Self-reported health of veterans with symptoms was much poorer than that of veterans with no symptoms; and women had poorer health status than men.

**The State of Women Veterans' Health Research: Results of a Systematic Literature Review
Evidence Tables**

Table 2b. Evidence Table of Health & Performance: <i>Health Needs and Utilization</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Sadler, 2004 (54)	Yes	Historical cohort of women veterans from different war eras derived from the registries of five comprehensive women's health centers, interviewed from 11/96 – 5/97	558 women veterans	Observ. Study – Assess risk and prognosis	Sociodemographic characteristics, military experiences, current medical and mental health conditions, outpatient utilization, health status	Evaluated health status and healthcare utilization in women with and without histories of sexual assault. 41% of the women had experienced either rape or physical assault in their lifetimes. Women who had multiple traumas during military service had greater numbers of physician visits than singly victimized or non-victimized women. Multiply traumatized women also had the poorest health status compared to the other groups.
Bradley, 2001 (90)	Yes	Sample of all female veterans who received care from the VA Puget Sound Health Care System between 10/1/96 and 1/1/98	1243 women veterans	Observ. Study – Assess risk and prognosis	Alcohol use including binge drinking and alcohol-related problems; psychiatric symptoms	Evaluated the prevalence and associated risk of binge drinking in a population of women veterans. 25% of respondents reported binge drinking and these women tended to be younger, unmarried, and with less education. In regression analyses, binge drinkers were significantly more likely to screen positive for panic disorder. Binge drinkers also had higher rates of health problems including STDs, hepatitis or cirrhosis, injuries and domestic violence. Smoking, drug use and having multiple sexual partners increased with the frequency of binge drinking

**The State of Women Veterans' Health Research: Results of a Systematic Literature Review
Evidence Tables**

Table 2b. Evidence Table of Health & Performance: <i>Health Needs and Utilization</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Carney, 2003 (20)	Yes, compares men and women	Population-based sample of lowan men and women veterans who served in the Gulf War, 8/90 – 8/91	1767 men; 129 women	Observ. Study – Assess risk and prognosis	Demographics; wartime exposures; preparedness; health care use and health status	Describes the military experiences and postwar health care use of women who were deployed to the Gulf War and compares them to men and to non-deployed women. Deployed women were more often in the Army, single, without children, and college educated than non-deployed women. Deployed men and women had similar military experiences though men more often participated in combat.
Skelton, 1995 (76)	Yes	Female prisoners of war from WWII – incarcerated by the Japanese in the Philippines	41 female ex-POWs	Descriptive Study	Details related to service connected disability;	Rates of service connection (50%) were similar for these women as compared to male ex-POWs of the Pacific Theater. Average degrees of disability were also similar (37%). Reasons for disability are very similar to those for male ex-POWs with the exception that no women were service-connected for tuberculosis or peptic ulcer disease.

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Evidence Tables**

Table 2c. Evidence Table of Health and Performance of Military/VA Women: <i>Mental Health and Homelessness</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Leda, 1992 (91)	Yes	Database of homeless veterans in the VA Homeless Chronically Mentally Ill (HCMI) Veterans Program, 1988-1991	19283 male veterans; 310 women veterans	Observ. Study- Assess risk or prognosis	Psychiatric and substance abuse disorders	Evaluated characteristics of a homeless veteran population. 1.6% of the population was female which was consistent with expected numbers. Women homeless veterans were younger, less likely to be employed and more likely to be homeless for less than one month. More women veterans were diagnosed with major psychiatric disorders but fewer had substance use disorders.
Willer, 1995 (92)	Yes	All female veterans in treatment at the Mental Hygiene Clinic of the West Side VA in Chicago, during 3 months in 1993; random sample of male veterans from the same clinic	51 women veterans; 46 male veterans	Observ. Study- Assess risk or prognosis	Demographic characteristics; psychiatric diagnoses; trauma history; functional level	Evaluated for gender differences in psychiatric diagnoses. Women were significantly more likely to have affective disorders and less likely to have anxiety disorders. Men were more likely to be diagnosed with PTSD while women were more likely to report at least one type of traumatic experience. Women experienced more of all types of traumatic experiences except combat trauma. Women were more likely to have completed college or high school but functional levels were similar between men and women.

**The State of Women Veterans' Health Research: Results of a Systematic Literature Review
Evidence Tables**

Table 2c. Evidence Table of Health and Performance of Military/VA Women: <i>Mental Health and Homelessness</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Leon, 1990 (70)	Yes	Sample of Vietnam theater and era nurses recruited from various sources, most from the Midwest	36 Vietnam theater and 32 Vietnam era nurses	All Other Observational	Professional preparation and nursing duties in Vietnam; cognitive or behavioral coping strategies; traumatic experiences; pre and post-Vietnam adjustment; personality inventory; coping inventory; impact of event scale	Evaluated coping patterns of Vietnam nurses and their effect on their psychological functioning. Coping patterns that included expressing feelings, seeking emotional support and trying to find meaning in traumatic events were associated with good current psychological functioning. Self-blame, anxious thoughts and withdrawal at the time of stressful encounters were associated with poorer current functioning. There were no significant differences between the two groups.
Butterfield, 1996 (93)	Yes	Convenience sample of women veterans visiting the Durham VA Medical Center's women's health center between 7/1/94 and 12/30/95	500 women veterans	Observ. Study – Assess risk and prognosis	PRIME-MD-PQ – screen for mental disorder symptoms; trauma questionnaire	Evaluated the prevalence of mental disorder and trauma and their relationship. 37% of the sample endorsed depression and 55.8% anxiety. 41% reported some sort of trauma exposure. In regression analyses, women with any history of trauma were significantly more likely to endorse symptoms of depression, anxiety or panic disorder. Rape and battering were associated with alcohol abuse symptoms.

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Table 2c. Evidence Table of Health and Performance of Military/VA Women: <i>Mental Health and Homelessness</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Bader, 2001 (94)	Yes	Convenience sample of patients from a VA women's health clinic in 1999	209 women veterans	Observ. Study – Assess risk and prognosis	PRIME-MD-PHQ – screen for mental disorders	Evaluated the prevalence of mental illness and impairments in social and occupational functioning. 45% of women screened positive for at least one mental health disorder and 46% for 2 or more co-existing disorders. Women younger than 50 years and those with a service-connected disability were more likely to have a psychiatric disorder.

**The State of Women Veterans' Health Research: Results of a Systematic Literature Review
Evidence Tables**

Table 2c. Evidence Table of Health and Performance of Military/VA Women: <i>Mental Health and Homelessness</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Gamache, 2003 (95)	Yes	Samples of homeless women from the Access to Community Care and Effective Services and Supports program (ACCESS, 1994-1998) and from the National Survey of Homeless Assistance Providers and Clients (NSHAPC, 1996); the Current Population Survey (national survey of domiciled women)	ACCESS: 2658 women – 117 veteran and 2548 non-veteran; NSHAPC: 832 women – 26 veteran, and 806 non-veteran	Observ. Study – Assess risk and prognosis	Sociodemographic characteristics; clinical characteristics including addiction severity, childhood abuse, diagnostic data for psychiatric disorders, conduct disorder and family instability	Estimated the proportion of veterans among homeless women and their risk of homelessness relative to that of non-veterans. The proportion of veterans among homeless women (4.4% and 3.1%) was greater than the proportion among domiciled women (1.3%). Homelessness was 3.6 times more likely for veterans than for non-veterans with the highest risk of homelessness in the 45-55 year age cohort.

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Table 2d. Evidence Table of Health and Performance of Military/VA Women: <i>Miscellaneous</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Kirstein, 1978 (74)	Yes	All female active duty psychiatric inpatients at hospital at Travis AFB from 1975-1976 with male matched controls; random sample of active duty women from dining halls with male controls - Jan and Feb 1977	34 female inpatients with matched male controls; 30 dining hall women with male matched controls	Descriptive Study	Chart review of inpatients for demographics, clinical and outcome (return to duty vs. medical separation) variables; survey of volunteers on reasons for joining the Air Force, job satisfaction and outside interests.	Evaluates how successfully female soldiers and psychiatric patients are adjusting to military life. Inpatient women were more likely to report depression while there was no difference in diagnosis, medications, length of stay or outcome. Male and female soldiers had similar reasons for joining the Air Force, similar job satisfaction and work attitude.
David, 2004 (96)	Yes	Sample of female outpatient veterans with physical or sexual assault histories receiving mental health services at a VA hospital in the northwestern US	67 women veterans	Descriptive Study	Feelings of vulnerability, agoraphobic behaviors, desire for personal safety/self defense training	Evaluated perceptions of vulnerability and desire for self-defense training among traumatized women veterans. All subjects had been victims of physical or sexual attack and 86.6% had been assaulted while on active duty. More than ¾ of the sample were concerned about future assaults and 85% believed that formal training in personal safety/self defense would be moderately or very helpful in increasing their feeling of safety.

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Table 2d. Evidence Table of Health and Performance of Military/VA Women: <i>Miscellaneous</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Gilhooly, 2001 (21)	Yes	Sample of northeastern US Persian Gulf women veterans with and without symptoms of Chronic Fatigue Syndrome	22 health subjects and 26 with CFS	Observ. Study- Assess risk or prognosis	Sexual function; genitourinary symptomatology	Evaluates association of sexual dysfunction with chronic fatigue syndrome. Female sexual dysfunction was significantly more likely in women with fatiguing symptoms, as was decreased libido. Vaginal irritation was also more likely in fatigued veterans.

**The State of Women Veterans' Health Research: Results of a Systematic Literature Review
Evidence Tables**

Table 3a. Evidence Table of Health Services Research: <i>Quality of Care</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Bean-Mayberry, 2003 (97)	Yes	Random sample of women veterans from 10 sites, stratified by site and enrollment in a women's clinic or a traditional primary care clinic	971 women veterans	All Other Observational	Satisfaction ratings; health care use; demographics and health	Evaluated satisfaction in women veterans using women's health clinics versus traditional primary care and found that receipt of care in women's clinics was a positive predictor for all satisfaction domains. Women using women's clinics were more likely to report excellent overall satisfaction.
Goldzweig, 2004 (98)	Yes	144 VA Medical Centers, 1997	144 VAMCs	Observ. Study- Assess risk or prognosis	Breast and cervical cancer screening rates; primary care delivery characteristics; facility quality orientation	Evaluated organizational predictors of higher breast and cervical cancer screening rates for 1996. Found that greater primary care-specialist coordination, greater organizational commitment to quality and anticipated reward and recognition for better performance resulted in higher screening rates.

**The State of Women Veterans' Health Research: Results of a Systematic Literature Review
Evidence Tables**

Table 3a. Evidence Table of Health Services Research: <i>Quality of Care</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Hoff, 1998 (99)	Yes	Subsample of veterans with a primary psychiatric or substance abuse diagnosis from the VA National Customer Feedback Center Survey, 1994	270 women and 4793 men	All Other observational	Questions regarding recent hospitalization related to coordination, sharing of information, accessibility, courtesy, emotional support, preferences, quality of family involvement, physical comfort, transition, overall quality; satisfaction with mental health care; length of stay; readmission; days to outpatient visit	Evaluated differences in perceptions of quality of care between men and women. Women were less satisfied with men about timeliness of appointments, staff courtesy and help with transition from inpatient to outpatient. Women were less satisfied with the practical orientation of their mental health program but more satisfied with the relationship with their primary mental health clinician. In terms of objective measures, there were no differences between men and women in length of stay or readmission rates. Women had higher numbers of outpatient visits in the 6 months after discharge and earlier visits after discharge.
Hynes, 1998 (100)	Yes	National sample of women veterans discharged from 1971-1994	297	Observ. Study- Assess risk or prognosis	Lifetime mammography rates and last mammogram; advice from health care professionals regarding mammography; VA health care utilization	Evaluated mammography use patterns of women veterans and identified predictors of mammography use. Women veterans told to have a mammogram were >5 times more likely to have ever had one and twice as likely to have had one in the past 2 years. Regular VA users were more likely to have mammograms.

**The State of Women Veterans' Health Research: Results of a Systematic Literature Review
Evidence Tables**

Table 3a. Evidence Table of Health Services Research: <i>Quality of Care</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Kressin, 1999 (101)	Yes	National cross-sectional samples of women and men veterans from the Women's Health Project and the Veterans Health Study	719 women; 600 men	All Other Observational	Satisfaction as measured by location of health facility, access to health care and prescription services; sociodemographic factors; military experience; health characteristics	Compared patient satisfaction for female and male veterans. Found that after adjusting for age and recent physician visit, women were less satisfied with location but more satisfied with prescription services. Older veterans were more satisfied than younger.
Rabiner, 1998 (102)	No	Veteran men and women using primary care at 6 VA facilities	300 men; 150 women	Observ. Study- Assess risk or prognosis	Health promotion/disease prevention service receipt; percent use of VA for health care	Surveyed primary care users to determine their receipt of prevention services and their use of the VA for care. Patients receiving 90% or more of their care at the VA obtained more preventive services than those using non-VA providers for 90% or more of their care.
Turpin, 1992 (103)	Yes	All women veteran inpatients discharged from a large VA hospital between 11/1/88 and 4/30/89; 1% sample of male veteran inpatients discharged over the same time period	66 female veterans; 48 male veterans	All Other Observational	Demographic variables; quality of documentation for history and physical and female-specific items; telephone interview regarding care at the VA hospital	Evaluated differences in quality of care for hospitalized male and female veterans. General patient history was more often present on a male veteran's chart. Chest exam was twice as likely to be documented for a male as a female. Breast exams were documented on 34% of female and 6% of male charts. Gender-specific exams were poorly documented for both sexes. There were no differences in reasons for using the VA by gender, utilization rates or health problems.

**The State of Women Veterans' Health Research: Results of a Systematic Literature Review
Evidence Tables**

Table 3a. Evidence Table of Health Services Research: <i>Quality of Care</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Rothman, 1984 (104)	Yes	All female veterans receiving psychiatric inpatient and outpatient care during April 1978 at one VA Medical Center	122 women veterans	All Other Observational	Demographic variables; experiences with the hospital; safety; medical care; trauma experiences; satisfaction	Evaluated the satisfaction of female veterans with their health and mental care services and identified unmet needs. 73% indicated that they were somewhat or very satisfied with the care received. However, veterans identified various unmet needs in the areas of privacy, gender-specific medical care and the hospital environment.

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Table 3b. Evidence Table of Health Services Research: <i>Tools</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main Measures	Description
McIntyre, 1999 (105)	Yes	Convenience sample of women with an appointment in the Women's Health Center at the Durham VA from 9/15/97 through 10/31/97	127 women veterans	All Other Observational	The Trauma Questionnaire; results of clinician interview	Assessed the validity of the Trauma Questionnaire compared with clinician interview. There was good agreement in trauma history items between the questionnaire and the interview with sensitivities and specificities >0.8. There was increased reporting of desire for mental health referral at the clinician interview with sensitivities <0.5 and specificities >0.9.
Lang, 2003 (106)	Yes	Sample of all women seen in the VA San Diego Healthcare System primary care clinic in 1998	221 women veterans	All Other Observational	Demographic variables; traumatic exposure; PTSD symptomatology; health-related quality of life; PTSD interview	Evaluated the validity of using the PTSD Checklist – Civilian Version (PCL-C) as a screening instrument for PTSD in female veterans in primary care. The accuracy of the PCL-C was 0.89. Based on sensitivity and specificity analyses, the authors recommend a cutoff in the range of 28-30 (sensitivity=0.94, specificity=0.68), which is lower than normally used.
Dobie, 2002 (107)	Yes	Sample of all women who received care at the VA Puget Sound Health Care System between 10/1/96 and 1/1/99	282 women veterans	All Other Observational	PTSD checklist; clinician administered PTSD scale; demographic characteristics	Evaluated the validity of the self-administered PTSD checklist in screening for PTSD. The area under the ROC Was 0.86. A PCL score of 38 optimized the performance as a screening test with sensitivity of 0.79 and specificity of 0.79.

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Table 3b. Evidence Table of Health Services Research: <i>Tools</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main Measures	Description
Salgado, 2002 (108)	Yes	Stratified random samples of Veterans Health Administration employees from 2 large VA medical centers in the Northeast	Part 1: 374 employees (60% women, 40% men); Part 2: 307 employees (59% women, 41% men) Part 3: 114 employees (59% women, 41% men) Part 4: 147 employees (62% women, 38% men) Part 5: 481 employees (63% women, 37% men)	All Other Observational	Gender Awareness Inventory – demographic characteristics, employment information, sensitivity and ideology items; reliability estimates	Evaluated the psychometric properties of the “Gender Awareness Inventory – VA” which is intended to measure the ideology, sensitivity and knowledge of VA employees related to women veterans’ health care. Part 1 was designed to assess the correlations and reliability of questions. Part 2 involved sending out a revised version of the questionnaire to reassess reliability estimates and other scale and item properties. The internal consistency reliability estimate for ideology was 0.87, for sensitivity 0.83 and for knowledge 0.67. Part 3 evaluated the convergent and discriminant validity and Part 4 the criterion validity of the questionnaire. Both types of validity were established. Part 5 evaluated the factor structure and found preliminary evidence for its factor structure.

**The State of Women Veterans' Health Research: Results of a Systematic Literature Review
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Table 3b. Evidence Table of Health Services Research: Tools						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main Measures	Description
Wolfe, 1993 (71)	Yes	Sample of women serving during Vietnam: theater veterans, era veterans and theater civilians, contacted in 1990	202 women: 147 Vietnam theater veterans; 32 era veterans; 23 theater civilians	All Other Observational	Wartime stressor scale; PTSD symptomatology; personality inventory; psychological symptoms	Evaluated the test characteristics of the Women's Wartime Stressor Scale (WWSS). Found that the WWSS had good discriminant qualities with significant differences among the three groups on various items in the scale, correlating with their exposures to wartime stress.
Bradley, 2003 (109)	Yes	Sample of women receiving care at the VA Puget Sound Health Care System between 10/1/96 and 1/1/99	393 women veterans	All Other Observational	Health questionnaire including alcohol screening (standard and sex-specific AUDIT screens), health status, mental health, eating habits, breast pain and physical activity; clinical interview	Evaluated the validity of the AUDIT alcohol screen in women veterans. 22.6% of the women met interview criteria for past-year hazardous drinking and/or active alcohol abuse or dependence. Standard and sex-specific AUDIT-Cs had a sensitivity of 0.81 and 0.84, respectively, and a specificity of 0.91 and 0.92, respectively.
Bush, 2003 (110)	Yes	Sample of women receiving care at the VA Puget Sound Health Care System between 10/1/96 and 1/1/99	393 women veterans	All Other Observational	Clinical interview about alcohol and associated mental health disorders; AUDIT screen; TWEAK Questionnaire	Evaluated the performance of the TWEAK, an alcohol screening instrument, in women veterans. After interview, 9.9% of women met criteria for active DSM-IV alcohol abuse or dependence and 22.7% for hazardous drinking and/or alcohol abuse or dependence. The TWEAK had low sensitivities in the range of 0.44. The AUDI-C had higher sensitivities than the TWEAK at most specificities.

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Table 3c. Evidence Table of Health Services Research: <i>Medical Treatment</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Hynes, 2004 (111)	Yes	National sample of breast cancer operations 1991-1997	1333 operations	Observ. Study- Assess risk or prognosis	30-day morbidity rates; 1-year hospital readmission rates; mortality; postoperative length of stay; income; age; operation times; functional status; annual volume of procedures	Evaluated trends and outcomes for breast cancer surgery performed at the VA. 30-day morbidity rates, 1-year hospital readmission rates and mortality were low. Average LOS was 6.8 days. Lower income, longer operation times and older age increased the odds of 30-day morbidity. Lower functional status, older age, longer operation time and lower average annual volume of procedures increased postoperative LOS.
Roumie, 2004 (112)	Yes	Women veterans age 50-79 with a hormone replacement therapy prescription filled at the VA Tennessee Valley Healthcare System between 1/1/02 and 7/1/02	91 women veterans	All Other Observational	Rates of discontinuation of HRT; demographic variables; comorbid medical conditions; provider characteristics	Evaluated the impact of an educational intervention aimed at patients and providers on continued use of hormone replacement therapy. The rate of discontinuation of combined HRT in 2002 was 70.3% with 43% occurring after the initiation of the intervention. The discontinuation rate per day was 4.9 times higher after the intervention than after the media release regarding the dangers of HRT.

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Table 3c. Evidence Table of Health Services Research: <i>Medical Treatment</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Weaver, 2001 (113)	Yes	All women who had hysterectomies in VA from 10/91 through 9/97	1722 women with hysterectomies	Descriptive Study	Demographic characteristics; indications for surgery; surgical characteristics; complications; length of stay	Describes the indications and surgical morbidity for women veterans undergoing hysterectomies in VA. 74% of operations were abdominal, 22% vaginal and 4% laparoscopic. The most common indications were leiomyomas, bleeding and endometriosis. Length of stay was about 2 days longer for abdominal surgeries. The overall complication rate within 30 days was 9%.
Ross, 1998 (114)	Yes	National sample of all women diagnosed with alcohol dependence in VA during FY 1993	854 women veterans	Observ. Study- Assess risk or prognosis	Sociodemographic characteristics; treatment patterns; comorbid conditions	Evaluated association of demographic characteristics with treatment for alcohol dependence. Only 47% of women received treatment for alcohol dependence. Compared with women <30, women 60 and older were significantly less likely to receive direct alcohol services, to enter formal treatment and to complete treatment after entry. Native-American women were 4 times more likely to receive direct alcohol services. The number of mental health diagnoses was a predictor of receipt of direct alcohol services, of entering formal treatment and of completing formal treatment.

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Table 3d. Evidence Table of Health Services Research: <i>Utilization and Health Care Organization</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Ashton, 1998 (115)	No	National sample from VA hospital discharge database, outpatient clinic files and veteran population files, 1994	2.7 million veteran users - 283,500 women veterans	Descriptive Study	1994 hospital and clinic utilization statistics	Evaluated characteristics of VA users including age and gender as well as statistics related to outpatient use, hospital admissions and types of DRGs. Women were less likely to use VA hospital care than men
Guihan, 1999 (116)	Yes	National sample of all VA nursing home residents from VA administrative files, 1990-1995	1990: 18,824 men and 562 women; 1995: 28244 men and 965 women	Descriptive Study	Long-term care utilization and characteristics of male and female LTC users	Compared LTC utilization by male and female veterans. Women in long-term care were less likely to be married, were older and poorer and had longer lengths of stay.

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Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Hoff, 1998 (117)	Yes	National sample of Vietnam veterans - NVVRS	736 female and 1612 male Vietnam veterans	Observ. Study- Assess risk or prognosis	Demographic variables; psychiatric disorders; availability of mental health services; utilization of mental health services, both VA and non-VA	Compared the use of VA and non-VA mental health services for men and women Vietnam veterans. Female and male veterans had equal use of VA mental health services but female veterans had greater use of non-VA mental health services indicating possible underutilization of VA services for women.
Hoff, 1988 (118)	Yes	National cohort of veterans utilizing VA specialty mental health services during a two-week period in 1991	70,979 veterans	Observ. Study- Assess risk or prognosis	Psychiatric diagnoses and status; use of inpatient and outpatient mental health services;	Compared the use of mental health services by male and female veterans. The study found no difference in the use of general psychiatric services or the intensity of services used. Women were less likely to receive substance abuse care.
Pierce, 1999 (87)	Yes	Sample of Gulf War women veterans stratified for component, deployment location and parental status	525 active duty, reserve, guard or veteran women	Observ. Study- Assess risk or prognosis	Demographic variables; gender-specific problems; health care utilization rates; satisfaction with military and civilian life	Evaluated the prevalence of various health problems and health care utilization rates for a sample of Gulf War military women. 79% of women had at least one gender-specific condition for which they sought care. 76% used military health care for treatment of at least one gender-specific condition during their military career and 41% used civilian health care. Active duty military were more likely to use military health care. Symptoms were more common in enlisted women as compared to officers. Satisfaction ratings were higher for civilian care.

**The State of Women Veterans' Health Research: Results of a Systematic Literature Review
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Table 3d. Evidence Table of Health Services Research: <i>Utilization and Health Care Organization</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Romeis, 1988 (119)	Yes	National random probability sample of women veterans	3003 female veterans	All Other Observational	Demographic variables; health status; use of VA benefits; distance to nearest VA facility; outpatient and inpatient use	Analyzed the 1985 Survey of Female Veterans to understand utilization of overall and VA health care services. Predictors of VA care use differ from predictors of overall care. VA outpatient use is associated with low income, nonwhite, poor health status, SC-disability, proximity, past use, lack of private insurance. Non-VA outpatient use is associated with poorer health status, more medical conditions and private insurance. The biggest predictor of outpatient and hospital use is pregnancy.
Romeis, 1991 (120)	Yes	National sample of female veterans from the National Center for Health Statistics 1982 and 1984 Health Interview Surveys	2181 female veterans compared to 77,900 non-veterans	Descriptive Study	Demographic variables; physician/hospital contact and hospital nights	Evaluated the predictors of outpatient visits and hospital stays for veteran and non-veteran females. With the exception of veterans having slightly higher physician contact rates, being a veteran did not predict utilization. Similar factors predicted use for veterans and non-veterans.

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Table 3d. Evidence Table of Health Services Research: <i>Utilization and Health Care Organization</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Sajatovic, 1997 (121)	Yes	All women hospitalized on the psychiatry service at the Brecksville VAMC, 10/93 – 10/95; age and diagnosis matched-male veterans	57 women; 114 men	Observ. Study- Assess risk or prognosis	Demographic variables; psychiatric diagnoses; length of stay; medication prescription	Compared the clinical characteristics and health care utilization of men and women veterans hospitalized with schizophrenia, schizoaffective or BAD. Men and women had similar lengths of stay and similar numbers of psychiatric hospitalizations during the study period. The only significant gender difference was in prescription of medications with women being more likely to receive atypical anti-psychotics.
Schuler, 1986 (122)	Yes	Survey of Chiefs of Psychology at VA medical centers	91 Chiefs of Psychology	Observ. Study- Assess risk or prognosis	Types of female-oriented psychological services that are offered; VAMC classifying characteristics	The number of female-oriented services offered routinely was related to the state population of female veterans, the income of veterans, the total number of psychologists on staff and the annual number of clients.
Weiss, 1994 (123)	Yes	VA discharge database and population database, 1987	20,753 discharges for women	Descriptive Study	Discharge rates, hospital user rate, average number of stays	Over the course of the 1980s, discharge rates increased substantially for women, increasing by 9.7%. Over the same time period, discharges for men decreased by 6.3%. These data demonstrate increased utilization of VA hospitals by women veterans.

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Table 3d. Evidence Table of Health Services Research: <i>Utilization and Health Care Organization</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Bean-Mayberry, 2004 (124)	Yes	Sample of women from 10 VAMCs who used outpatient care between 3/99 and 3/00 and who had both a VA primary care provider and had used a non-VA physician in the preceding year	1051 women veterans	Observ. Study- Assess risk or prognosis	Characteristics of women's experiences with VA health care including provider and clinic characteristics; patient satisfaction with care; demographic data	Evaluated indicators of dual use of VA and non-VA providers by women. Lower likelihood of dual use was associated with provision of routine gynecological care by VA providers and use of VA women's clinics. Increased likelihood of dual use was associated with dissatisfaction with care and higher income. Having a female provider was not associated with dual use.
Murdoch, 2003 (125)	No	Random sample of all veterans filing PTSD disability claims between 1/1/94 and 12/31/98	2700 men and 2700 women veterans	Observ. Study- Assess risk or prognosis	Race/ethnicity; service connection for PTSD; PTSD symptomatology; work/role/social functioning; physical functioning; combat exposure; military sexual trauma; other trauma	Evaluated whether there are racial discrepancies in the granting of service connection for PTSD. 55% of black respondents were female compared with 49% of all other respondents. Blacks were significantly less likely to be service connected for PTSD (46% vs 65.2% for all others) but about as likely to be service connected for other disorders. Controlling for gender, blacks had similar combat exposure scores but were less likely to have had a combat injury or in-service sexual assault. They did not differ in terms of PTSD symptomatology. There appears to be a disparity in service-connection for PTSD for blacks.

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Table 3d. Evidence Table of Health Services Research: <i>Utilization and Health Care Organization</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Westermeyer, 2002 (126)	No	Upper midwest Indians	543 Native Americans; 13% female	All Other Observational	Perceived barriers to using VA mental health care; demographic variables; Brief Symptom Checklist; alcohol-drug screening; PTSD checklist; current/lifetime psychiatric diagnoses; use of mental health resources	Evaluated perceived barriers to use of VA mental health services by Midwest American Indian veterans. 121 of the subjects reported at least one barrier to seeking VA mental health care with a mean of 3.9 barriers/subject. Perceived barriers were not related to age, gender, symptom rating scales or psychiatric diagnoses. Veterans who had used traditional-alternative-complementary healing in the last year reported significantly more barriers to VA mental health care.
Cradock-O'Leary, 2002 (127)	No	Sample of patients who received outpatient treatment and medical centers or clinics in VISN 22, FY 2000	9,019 women; 166,634 men	Observ. Study- Assess risk or prognosis	Demographic variables; global assessment of functioning scale; service-connection; psychiatric diagnoses; co-morbid medical diagnoses; visits to primary or specialty care clinics	Evaluated medical service use by veterans in VISN 22. Those with mental health diagnoses, particularly severe mental illness, had fewer medical visits than those without mental health diagnoses. Female had fewer visits and older patients had more visits. Those with comorbid diagnoses of chronic obstructive pulmonary disease, hypertension or diabetes also had more visits.

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Table 3d. Evidence Table of Health Services Research: *Utilization and Health Care Organization*

Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Murdoch, 2003 (128)	Yes	All veterans who filed PTSD disability claims between 1980 and 1988	174,991 men and 5043 women	All Other Observational	Demographic and service characteristics; PTSD claim results; service-connection information	Evaluated trends in PTSD disability application and approval rates. Claim approval rates for PTSD were twice as high for combat-injured men and women than for uninjured men and women. Rates of PTSD service connection for uninjured men ranged from 18-63% and for uninjured women from 0-57%. Post-Vietnam era women were more likely to be service-connected for PTSD than Vietnam era women. There were also regional differences in PTSD claim approval rates.
Murdoch, 2003 (129)	Yes	Random selection of men and women veterans applying for PTSD disability benefits between 1/94 and 1/98	2700 men & 2700 women surveyed with responses from 1654 and 1683	All Other Observational	Service connection for PTSD, current PTSD severity, combat exposure, in-service sexual trauma, level of functional impairment, demographics and other factors	Women's odds of being service connected for PTSD were lower than men's until combat exposure is accounted for; indicating that women may be less likely to receive service connection for PTSD since they are less likely to have combat exposure.
Huynh-Hohnbaum, 2003 (130)	Yes	Sample of women recruited in Los Angeles	24 women veterans	Qualitative Research	Demographic variables; veteran identity; ethnic/racial identity; gender identity; use of VA health services	Used focus groups consisting of WWII/Korean women veterans and Vietnam/Gulf War women veterans to evaluate their veteran identity and how this influences use of VA health care services. A significant proportion of veterans had experienced some form of gender discrimination in the military, through segregation or sexual harassment and their perceptions of the VA health care system were framed by their military, ethnic/racial and gender experiences.

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Table 3d. Evidence Table of Health Services Research: <i>Utilization and Health Care Organization</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Bosworth, 2000 (131)	Yes	Convenience sample of women veterans with appointments at the Durham VAMC Women's Health Center, 9/15/97 – 11/6/97; VA outpatient file	139 women veterans	All Other Observational	Demographic variables; self-reported health (PRIME-MD); depressive symptoms; somatic symptoms; VA outpatient health service use	Evaluated whether self-rated health was associated with health service use among women veterans. Women with self-rated poor or fair health were significantly more likely to have >12 outpatient visits than women reporting excellent or very good health.
Yano, 2003 (132)	Yes	All VA Medical Centers and Community-Based Outpatient Clinics with >400 women, 2001	136 VAMCs and CBOCs	Descriptive Study	Organization of women's health care delivery in the VA	Describes how care is organized for women veterans and what types of services are provided. At 56% of VAs, the majority of women uses general primary care but are typically referred to specialized women's clinics for gender-specific care. 56% of VAs have separate women's health clinics for the delivery of primary care and gender-specific care. 58% have gynecology clinics. Mental health is generally integrated but 43% of VAs have one or more designated women's mental health providers.
Hoff, 1998 (133)	Yes	National sample of veterans as part of the National Survey of Veterans, 1992	305 women; 7004 men	All Other Observational	Sociodemographic variables; military service variables; physical health and disability; health services utilization	Compared utilization of VA care by female and male veterans in 1992. Overall, women veterans were less likely to use VA health services primarily because of lower utilization of outpatient services, specifically for women with mental health disorders. Use of inpatient services was similar for men and women. Women with physical conditions did not differ from men with similar conditions in their outpatient utilization. There were no differences in reasons for choosing VA or non-VA facilities for care.

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Table 3d. Evidence Table of Health Services Research: <i>Utilization and Health Care Organization</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Quimette, 2003 (134)	Yes	Stratified random sample of women veterans from the National Registry of Women Veterans	1500 female veterans	All Other Observational	Sociodemographic variables; military trauma exposure; health variables including health status; depressive symptoms; type of use of VA – current, former or nonusers	Evaluated predictors of whether women veterans are current, former or non-users of the VA health care system. VA use was associated with older age, more education, not being married, lower private insurance and poorer physical and mental health. Former users were more likely to be ethnic minorities, have children, have served less time in the military and have higher rates of insurance and better physical and psychological health than current users. Military experiences such as serving in a war-zone or being exposed to trauma were associated with former use and never using the VA.
Fornieris, 2002 (135)	Yes	Convenience sample of women veterans with appointments at the Durham VAMC Women's Health Center, 9/15/97 – 11/6/97	139 women veterans	Observ. Study- Assess risk or prognosis	Mental disorders and somatoform symptoms; outpatient health service use;	Evaluated differences in VA outpatient care use among female veterans who use or do not use mental health services. Women who used outpatient mental health services were significantly more likely to have greater non-mental health service use as well, compared to those without mental health service use.

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Table 3d. Evidence Table of Health Services Research: <i>Utilization and Health Care Organization</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Greenberg, 2004 (136)	Yes	Sample of women veterans receiving treatment in one of four specialized PTSD treatment programs, 7/98 – 6/00; national outpatient treatment files	224 women veterans; 149 women veterans at 1 st follow-up; 131 at 2 nd follow-up	All Other Observational	Sociodemographic characteristics; treatment process measures; clinical measures including PTSD symptoms, substance abuse, general psychiatric/physical health, violent behavior and employment; continuity of care and intensity of care	Evaluated the relationship of changes in health status to continuity of care in women entering a PTSD treatment program. There were few consistently significant associations between continuity of care and outcome measures in the full regression models thereby providing weak and inconsistent evidence of the benefits of continuity of care.
Suris, 2004 (55)	Yes	Sample of women veterans enrolled in a clinic within the VA North Texas Health Care System with at least one outpatient appointment in the previous 5 years, 1997-2000	270 women veterans	Observ. Study- Assess risk or prognosis	Sexual assault experiences; PTSD symptomatology; utilization of inpatient and outpatient VA care; costs of care	Evaluated the differential impact of military, civilian adult and childhood sexual assault on the likelihood of developing PTSD; and, evaluated the relationship of military sexual assault to use of VA services and health care costs. Compared to women without a history of assault, women with military sexual assault, childhood sexual assault and civilian sexual assault were 9, 7 and 5 times more likely, respectively, to have PTSD. PTSD is more likely to be diagnosed in women with military sexual assault than childhood sexual assault, and only childhood sexual assault was associated with a significant increase in health care utilization and cost for services.

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Table 3d. Evidence Table of Health Services Research: <i>Utilization and Health Care Organization</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Washington, 2003 (137)	Yes	All VA Medical Centers and Community-Based Outpatient Clinics with >400 women, 2001	136 VAMCs and CBOCs	Observ. Study- Assess risk or prognosis	Service availability for comprehensive women's health care in VA	Describes types of services available for women and finds that virtually all sites have availability of comprehensive women's health care, either on-site or off-site. On-site care is primarily restricted to basic services.

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Table 3e. Evidence Table of Health Services Research: <i>Health Status</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Grossman, 1997 (138)	Yes	Sample of female patients admitted to psych units of one VAMC from 4/92-4/93; compared to sample of male patients admitted over the same period	31 female patients; 31 male patients	Observ. Study- Assess risk or prognosis	Demographic characteristics; discharge diagnoses; results of urine toxicology screens	Evaluated differences in being diagnosed with PTSD or substance abuse disorders for inpatient men and women veterans. Women were significantly less likely to be diagnosed with PTSD than men. There were no gender differences in the diagnosis of psychotic disorders or personality disorders. Women were less likely to receive diagnoses of substance use disorders despite a suggestion of greater prevalence of substance use among women
Skinner, 1999 (88)	Yes	Random sample of women with an ambulatory visit between 7/1/94 and 6/30/95 at a large VA facility in the Boston area	719 women	All Other Observational	Health status as measured by SF-36; sociodemographic characteristics; military history; availability of social support; service-connected disability	Surveyed women veteran users of outpatient services in the Boston area. Compared results to data on male veterans from the Veterans' Health Study. Found that women veterans had lower scores than comparison groups, particularly in the areas of mental functioning.

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Table 3e. Evidence Table of Health Services Research: <i>Health Status</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Zatzick, 1997 (77)	Yes	Nationally representative sample of Vietnam veterans (NVVRS)	432 Vietnam theater veterans (mostly nurses)	Observ. Study- Assess risk or prognosis	PTSD diagnosis; current medical or psychiatric co-morbidity; bed days; role functioning; subjective well-being; self-reported physical health status; current physical functioning; perpetration of violent acts	Evaluated the functioning and quality of life in women Vietnam veterans with and without PTSD. Veterans with PTSD were more likely to have poorer functioning in all domains except perpetration of violence. After adjusting for demographics and co-morbidities, PTSD was associated with an increased odds of bed days, poorer physical health and currently not working.
Ouimette, 2004 (78)	Yes	Sample of veterans from general medical and women's health clinics at the VA Palo Alto and Menlo Park facilities	52 male and 82 female veterans	Observ. Study- Assess risk or prognosis	PTSD symptoms, severity and diagnoses; other psychopathology; health conditions; HRQOL; health risk behaviors; demographics	Evaluated a sample of male and female patients from the general medical and women's health clinics at Palo Alto. Found that patients with PTSD were more likely to have circulatory and musculoskeletal disorders and had poorer health-related quality of life.

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Table 3e. Evidence Table of Health Services Research: <i>Health Status</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Frayne, 2004 (81)	Yes	Random national sample of VA health enrollees, 1999-2000	30, 865 women veterans enrollees	Observ. Study- Assess risk or prognosis	Demographic variables; PTSD or depression diagnosis; medical conditions; physical health status	Evaluated the prevalence of medical conditions among women with a reported history of depression or PTSD and evaluated whether women with PTSD have more medical conditions and worse physical health status than those with or without depression. 90% of women with a history of PTSD reported at least one serious medical condition. Women with PTSD had more medical conditions and worse physical health status than women with depression alone or neither diagnosis.
Sadler, 2004 (54)	Yes	Random sample of women veterans from VA Comprehensive Women's Healthcare Center registries in Boston, Durham, Tampa, Minneapolis, Chicago and Los Angeles, stratified by region and era of service, 9/96 – 3/97	640 women veterans	Observ. Study- Assess risk or prognosis	Sociodemographic characteristics; military experiences particularly assault or other traumas; pre-military violence; current medical and mental health conditions; outpatient utilization; health status	Evaluated the relationship between outpatient utilization and health status in women with different types of military trauma. Women reporting repeated violence exposures during military service and significantly more outpatient visits than comparison groups as well as poorer health status and more reported childhood violence and post-military violence. In regression analysis, the type of violence was not a significant predictor of utilization and the greatest predictor was health status.

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Table 3e. Evidence Table of Health Services Research: <i>Health Status</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Stein, 2004 (84)	Yes	All women seen in the VA San Diego Healthcare System primary care clinic in 1998	394 women veterans	Observ. Study- Assess risk or prognosis	Demographic variables; traumatic exposure; physical complaints; self-reported healthcare utilization; somatization; health anxiety	Evaluated the relationship between self-reported sexual assault and physical symptoms, somatization, health worries, health perception and healthcare utilization. 44.3% of subjects reported experiencing sexual assault. Women with a history of sexual assault were more likely to have physical symptoms and were more likely to have higher somatization scores. Women with a history of sexual assault were nearly twice as likely to have six or more outpatient visits.

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Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Lang, 2003 (139)	Yes	Sample of women veterans from a San Diego VAMC primary care clinic in 1998	221 women veterans	Observ. Study- Assess risk or prognosis	Demographics, psychological and medical symptoms, exposure to traumatic stressors, health behaviors and health-related quality of life	Evaluated the association of health behavior and sexual assault and the role of PTSD as a mediator. 72% reported some type of sexual trauma and 44% reported sexual assault. Sexual assault history was associated with increased substance use, risky sexual behaviors, less vigorous exercise and increased preventive healthcare. PTSD mediated the history of sexual assault and health behaviors.
Schwartz, 1997 (140)	Yes	Random sample of women veterans from the White River Junction VA Medical Center registry	305 women veterans	All Other Observational	Assessment of numeracy; assessment of perceived risk and benefit from mammography	Evaluated how numeracy affects women's ability to gauge the benefit of mammography after receiving quantitative information. Accuracy in applying risk reduction information and numeracy was poor. Accurately gauging the benefit of mammography was strongly related to numeracy.
Woloshin, 1999 (141)	Yes	Random sample of women veterans from the White River Junction VA Medical Center registry, excluding those with a personal history of breast cancer; 12/95	201 women veterans	All Other Observational	Reported estimates of personal risk of breast cancer; risk-factor data for breast cancer	Evaluated how women estimate the risk of getting breast cancer. 98% of women overestimated their risk for breast cancer but only 10% thought their risk was higher than that of the average woman. Perceived “___ in 1,000” risk was not related to actual risks but women’s comparative perceptions of being at low, average or high risk were related to actual risks.

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Table 3f. Evidence Table of Health Services Research: <i>Preventive Care</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Biswas, 2002 (142)	Yes	"The Women Veteran Cohort" – sample of women aged 35 and over at the VA Medical Center in Durham, NC, excluding women with self-reported heart disease, angina or chest pain; 11/97	328 women veterans	All Other Observational	Sociodemographic data; height and weight; past medical history; history of bilateral oophorectomy or past use of hormone replacement therapy; physical activity; family history of heart disease; worry about heart disease	Evaluated women's worry about coronary artery disease. Older women and married women were less than half as likely to worry about CAD. Obese women, those with a family history of CAD and those with hyperlipidemia were 1.6, 3.6 and 2.7 times as likely to worry about CAD. Women became more concerned about heart disease the more risk factors they had, though only 50% of those with 4 or more risk factors were worried.
Osborn, 1999 (143)		"The Women Veteran Cohort" – sample of women aged 35 and over at the VA Medical Center in Durham, NC, limited to those who were post-menopausal; 11/97	230 post-menopausal women veterans	All Other Observational	Demographic characteristics; menopause-related characteristics; medications and supplements; hormone use; worry about osteoporosis	Evaluated factors associated with worry about osteoporosis. Married women, white women, those with a hysterectomy and those with worries about osteoporosis were more likely to have used hormone replacement therapy. Older women (60 or older) were 75% less likely to worry about osteoporosis while those with the condition or with a family history of osteoporosis were 9.5 and 2.6 times, respectively, as likely to worry about it.

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Table 3g. Evidence Table of Health Services Research: <i>Miscellaneous</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Schumm, 1999 (144)	Yes	Sample of state of Ohio Reserve Component personnel	694 female personnel	All Other Observational	Demographic characteristics; service in Persian Gulf War; survey response rates	Evaluated characteristics of those who responded to a mail survey. Higher response rates were seen in women who were older, had more years of military service, had participated in the Gulf War, were Euro-Americans, were or had been married and who were higher rank.
Gamache, 2003 (95)	Yes	Samples of homeless women from the Access to Community Care and Effective Services and Supports program (ACCESS, 1994-1998) and from the National Survey of Homeless Assistance Providers and Clients (NSHAPC, 1996); the Current Population Survey (national survey of domiciled women)	ACCESS: 2658 women – 117 veteran and 2548 non-veteran; NSHAPC: 832 women – 26 veteran, and 806 non-veteran	Observ. Study- Assess risk or prognosis	Sociodemographic characteristics; clinical characteristics including addiction severity, childhood abuse, diagnostic data for psychiatric disorders, conduct disorder and family instability	Estimated the proportion of veterans among homeless women and their risk of homelessness relative to that of non-veterans. The proportion of veterans among homeless women (4.4% and 3.1%) was greater than the proportion among domiciled women (1.3%). Homelessness was 3.6 times more likely for veterans than for non-veterans with the highest risk of homelessness in the 45-55 year age cohort.

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Table 4a. Evidence Table of Psychiatric: PTSD						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Fontana, 1998 (37)	Yes	Sample of women treated in a VA clinical program for women with stress disorders (4 sites) between 5/94 and 1/97	327	Observ. Study- Asses risk or prognosis	Variables related to social support (education, age entered military, ethnicity, service era, premilitary sexual stress) and exposure to stress - particularly duty-related stress or sexual stress experienced during military service	63% reported physical sexual harassment during military service and 43% reported rape or attempted rape. Duty-related and sexual stress were associated with development of PTSD but sexual stress was 4 times as influential as duty-related stress.
Wolfe, 1992 (58)	Yes	Cohort of female Vietnam veterans not seeking treatment for PTSD	76 Vietnam veterans	Descriptive Study	PTSD symptomatology; SCL-90-R (psychological symptoms); change in symptoms of PTSD	Evaluated the status of PTSD symptoms in female Vietnam veterans after the start of Operation Desert Storm. Women with PTSD symptoms prior to the start of the Gulf War had greater increases in reexperiencing, avoidance/numbing and hyperarousal. They also had higher levels of somatization, obsessive-compulsive activities and hostility.

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Table 4a. Evidence Table of Psychiatric: PTSD						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Fontana, 1997 (59)	Yes	National Vietnam Veterans Readjustment study (NVVRS) – national samples of Vietnam theater and era veterans	433 theater and 300 Vietnam era veterans	Observ. Study- Asses risk or prognosis	Premilitary risk factors and traumas including family stability, antisocial behaviors, marital status and education; role or traumatic exposure while in military (including sexual and war trauma); homecoming reception; post-military trauma; PTSD	Evaluated roles of war and sexual trauma in the development of chronic PTSD in female Vietnam veterans. For both theater and era veterans, war trauma and sexual trauma made approximately equal contributions to the likelihood of developing PTSD and were responsible for approximately 25% of the PTSD risk. Low support at homecoming was even more important in the development of PTSD.
Wing, 1998 (42)	Yes	Women veterans in northeastern Oklahoma being treated in VA mental health clinics for PTSD resulting from service-related sexual abuse; 8/97 through 4/98	16	Qualitative Research	Open-ended interview to determine factors contributing to participants' trauma, decision to seek assistance and recovery	Sexually abused women veterans gained an identity that was autonomous and free of unexplained fear through the social process of "transforming self", a five-stage process that includes reacting to triggers, seeking validation, sorting through confusion, becoming intentional and affirming self.

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Table 4a. Evidence Table of Psychiatric: <i>PTSD</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Murdoch, 2003 (125)	No	Random sample of all veterans filing PTSD disability claims between 1/1/94 and 12/31/98	2700 men and 2700 women veterans	Observ. Study- Asses risk or prognosis	Race/ethnicity; service connection for PTSD; PTSD symptomatology; work/role/social functioning; physical functioning; combat exposure; military sexual trauma; other trauma	Evaluated whether there are racial discrepancies in the granting of service connection for PTSD. 55% of black respondents were female compared with 49% of all other respondents. Blacks were significantly less likely to be service connected for PTSD (46% vs 65.2% for all others) but about as likely to be service connected for other disorders. Controlling for gender, blacks had similar combat exposure scores but were less likely to have had a combat injury or in-service sexual assault. They did not differ in terms of PTSD symptomatology. There appears to be a disparity in service-connection for PTSD for blacks.
Mohanakrishnan, 2003 (145)	No	Sample of men and women veterans with PTSD and control group without PTSD	12 male veterans and 2 female veterans with PTSD; 6 male controls and 1 non-veteran female control	Observ. Study- Asses risk or prognosis	Single-voxel proton MR spectra from the hippocampal region bilaterally	Evaluated whether there is laterality of hippocampal dysfunction in PTSD. PTSD subjects demonstrated a decrease in hippocampal NAA/creatine ratio significantly higher on the left than the right for the entire study group.

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Table 4a. Evidence Table of Psychiatric: PTSD						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Zatzick, 1997 (77)	Yes	Women from a nationally representative sample of Vietnam veterans - the National Vietnam Veterans Readjustment Survey (NVVRS, 1988)	432 Vietnam theater veterans (most nurses)	Observ. Study- Asses risk or prognosis	PTSD diagnosis; current medical or psychiatric comorbidity; bed days; role functioning; subjective well-being; self-reported physical health status; current physical functioning; perpetration of violent acts	Veterans with PTSD were more likely to have poorer functioning in all domains except perpetration of violence. After adjusting for demographics and comorbidities, PTSD was associated with increased odds of bed days, poorer physical health and currently not working.
Metzger, 2002 (146)	Yes	Paid volunteers from the Women's Vietnam War Memorial database who met criteria for PTSD and control group without PTSD but with similar stress exposures	29 Vietnam nurses with PTSD; 38 without PTSD	All Other Observational	Structure Clinical Interview for DSM-IV (SCID) for mental disorders; symptoms; Impact of Event Scale; event-related brain potentials	Evaluated whether nurses with PTSD had event-related brain potential abnormalities to auditory stimuli. Findings were not consistent with previous studies in PTSD. Women Vietnam nurse veterans had significantly greater target P3b amplitudes and P2 amplitude/intensity slopes. It was not clear whether these findings represent gender-specific, trauma-specific or sample-specific differences when compared with previous research.

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Table 4a. Evidence Table of Psychiatric: <i>PTSD</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Carson, 2000 (60)	Yes	Sample of medication-free female Vietnam nurse veterans with and without a diagnosis of PTSD related to military service.	17 with current PTSD; 21 without a history of PTSD	Observ. Study- Asses risk or prognosis	PTSD scale and psychiatric assessment; demographics; physiologic measures	Evaluated the effect of exposure to death and injury in women with and without PTSD. Women listened to scripts describing traumatic exposures. Both groups experienced physiologic responses but the response was significantly greater in the PTSD group. Emotional responses were not different between the two groups.
Wolfe, 2000 (61)	Yes	Vietnam era women veterans who had experienced Vietnam war-zone trauma	30 military veterans and 6 service organization volunteers	Descriptive Study	Demographics, psychometric tests (Women's Wartime Exposure Scale-Revised); PTSD symptomatology; physiologic measures	Evaluated responses of women veterans to audiovisual material representative of women's wartime experiences. Women with current PTSD demonstrated more psychological symptoms and greater psychophysiological responses to the AV materials than women without PTSD.
Wing, 2000 (147)	Yes	Two student nurse groups, 1998	N/A	Qualitative Research	N/A	Describes nursing student projects to create guides for patients and primary care clinicians caring for women with PTSD.

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Table 4a. Evidence Table of Psychiatric: PTSD						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Ouimette, 1996 (63)	Yes	Sample of women who served overseas during the Vietnam era from the New England area	52 women veterans	Observ. Study- Assess risk and prognosis	PTSD measures; lifetime substance abuse disorders; psychiatric symptoms both Axis I and II; life stressors; traumatic events and their impact; war-time exposures; dissociative experiences; alcohol screening	Evaluated trauma characteristics and symptoms in women with PTSD and alcohol abuse, with PTSD or without PTSD. Women with PTSD and alcohol abuse had more childhood sexual abuse and war-time sexual victimization, and had more PTSD, dissociation and borderline personality traits. The groups did not differ on other childhood trauma variables, adult physical assault or traditional wartime stressor exposure.
Schnurr, 2003 (148)	No, but includes some male-female comparisons	Samples of patients included in the National Vietnam Veterans Readjustment Survey (NVVRS) and the Hawaii Vietnam Veterans Project	530 male and female Vietnam veterans (small number of women but data not provided on total)	Observ. Study- Assess risk and prognosis	PTSD diagnosis, age, PTSD chronicity	Described the chronicity of PTSD. Women did not differ from men in terms of lifetime prevalence of PTSD. There was a trend toward women being more likely to have late onset of PTSD

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Table 4a. Evidence Table of Psychiatric: PTSD						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Butterfield, 2000 (79)	Yes	Sample of women referred for outpatient mental health services at a one VA Medical Center's Women's Health Clinic	90 women veterans	Observ. Study - Assess risk and prognosis	Trauma questionnaires; PTSD symptomatology; hostility; depression; health status (SF-36)	Evaluated the relationship between hostility and functional health status in patients with and without PTSD. Women with PTSD had higher hostility, cynicism, hostile affect and depression. Minority status was significantly related to increased total hostility, cynicism and aggressive responding. In regression analyses, hostility was significantly associated with poorer health functioning in women with PTSD.
Gurvits, 2002 (69)	Yes	Sample of Vietnam theater nurses, unmedicated, with and without PTSD	32 Vietnam nurses with current PTSD; 50 without PTSD	Observ. Study - Assess risk and prognosis	PTSD scales; demographics; alcohol history; neurological soft signs	Compared PTSD and non-PTSD nurses on the presence of eight neurological soft signs but found no differences between the groups.
Dobie, 2002 (107)	Yes	Sample of all women who received care at the VA Puget Sound Health Care System between 10/1/96 and 1/1/99	282 women veterans	All Other Observational	PTSD checklist; clinician administered PTSD scale; demographic characteristics	Evaluated the validity of the self-administered PTSD checklist in screening for PTSD. The area under the ROC Was 0.86. A PCL score of 38 optimized the performance as a screening test with sensitivity of 0.79 and specificity of 0.79.

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Table 4a. Evidence Table of Psychiatric: PTSD						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Rauch, 2003 (149)	Yes	Sample of women veterans exposed to emotional trauma while in service as combat nurses during the Vietnam War	18 women	Observ. Study- Assess risk and prognosis	Current PTSD; MRI data	Evaluated whether patients with PTSD had reduced volumes of the pregenual anterior cingulate cortex or reduced or increased volume of the subcallosal cortex and found that the PTSD group had selectively decreased pregenual ACC and SC volumes, suggesting specific regional cortical pathology in PTSD.
Wolfe, 1998 (50)	Yes	Cohort of women deployed from Ft. Devens to serve in the Persian Gulf War, interviewed within 5 days of return to US (1991) and again from 1993-1994	160 women, Persian Gulf veterans	Observ. Study – Assess risk and prognosis	Persian Gulf combat exposure, other deployment stressors, coping style, demographics, sexual harassment or assault, PTSD symptomatology	Evaluate impact of sexual harassment and assault on PTSD symptoms and compare to impact of other stressors. 7.3% experienced sexual assault, 33% physical sexual harassment, 66% verbal sexual harassment and 30% no sexual harassment. Women who were sexually assaulted were at increased risk for greater PTSD symptomatology than women who were harassed.
Wing, 1999 (51)	Yes	Women with PTSD related to military sexual trauma	10 women	Qualitative Research	Understand about addiction in these traumatized patients – when it started, why the women used chemicals, how they recovered from addiction	Chemicals were used to “escape” bad memories and life problems but impaired coping mechanisms.

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Table 4a. Evidence Table of Psychiatric: PTSD						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Fontana, 2002 (80)	Yes	Convenience sample of women veterans admitted to the Women's Stress Disorder Treatment Teams at four VA medical centers between 7/98 and 6/00; comparison sample of male veterans admitted for specialized outpatient treatment from 1/00 through 8/01	224 women veterans; 195 male veterans	All Other Observational	Demographic characteristics; exposure to military trauma; personality orientation; PTSD symptoms; clinical status including workdays, quality of life, functioning; therapeutic alliance; comfort with VA; satisfaction with treatment	Evaluated outcomes for women entering specialized stress disorder treatment teams. Women in the program demonstrated significant improvement in PTSD, violence, medical conditions, overall adjustment, quality of life and social functioning. Women with a history of recent substance abuse improved more as did those who were more highly committed to the program. Participation in the program did not increase women's comfort with VA. Clinical outcomes were similar when compared to the male control group, though women were more satisfied with their treatment.
Lang, 2003 (139)	Yes	Sample of women veterans from a San Diego VAMC primary care clinic in 1998	221 women veterans	Observ. Study- Assess risk and prognosis	Demographics, psychological and medical symptoms, exposure to traumatic stressors, health behaviors and health-related quality of life	72% reported some type of sexual trauma and 44% reported sexual assault. Sexual assault history was associated with increased substance use, risky sexual behaviors, less vigorous exercise and increased preventive healthcare. PTSD mediated the history of sexual assault and health behaviors.

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Table 4a. Evidence Table of Psychiatric: <i>PTSD</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Frayne, 2004 (81)	Yes	National sample	30, 865 women veterans enrollees	Observ. Study- Assess risk and prognosis	PTSD or depression diagnosis; medical conditions; physical health status	Women with PTSD had more medical conditions and worse physical health status than women with depression alone or neither diagnosis.
Asmundson, 2004 (82)	Yes	National sample of women veterans who used general medical clinics in the VA Healthcare System between 1998 and 1999	221 women veterans	Observ. Study- Assess risk and prognosis	Demographic characteristics; current pain assessment; military combat and sexual assault; physical and mental health (SF-36); childhood trauma; PTSD symptomatology	Evaluated the association between pain and PTSD symptoms. Subjects meeting criteria for PTSD were significantly more likely to have bodily pain compared to those without PTSD. PTSD was predicted by higher bodily pain scores, other pain questions, military and non-military sexual assault and childhood trauma.
David, 2004 (96)	Yes	Sample of female outpatient veterans with physical or sexual assault histories receiving mental health services at a VA hospital in the northwestern US	67 women veterans	Descriptive Study	Feelings of vulnerability, agoraphobic behaviors, desire for personal safety/self defense training	Evaluated perceptions of vulnerability and desire for self-defense training among traumatized women veterans. All subjects had been victims of physical or sexual attack and 86.6% had been assaulted while on active duty. More than ¾ of the sample were concerned about future assaults and 85% believed that formal training in personal safety/self defense would be moderately or very helpful in increasing their feeling of safety.

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Table 4a. Evidence Table of Psychiatric: PTSD						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Greenberg, 2004 (136)	Yes	Sample of women veterans receiving treatment in one of four specialized PTSD treatment programs, 7/98 – 6/00; national outpatient treatment files	224 women veterans; 149 women veterans at 1 st follow-up; 131 at 2 nd follow-up	All Other Observational	Sociodemographic characteristics; treatment process measures; clinical measures including PTSD symptoms, substance abuse, general psychiatric/physical health, violent behavior and employment; continuity of care and intensity of care	Evaluated the relationship of changes in health status to continuity of care in women entering a PTSD treatment program. There were few consistently significant associations between continuity of care and outcome measures in the full regression models thereby providing weak and inconsistent evidence of the benefits of continuity of care.
Wolfe, 1994 (72)	Yes	Sample of Vietnam theater women veterans, non-treatment seeking	109 women veterans	Observ. Study – Assess risk and prognosis	Wartime stress, PTSD symptoms; demographic information; medical history and status	Evaluated the association of PTSD and wartime exposure to current perceived health. Higher PTSD scores were associated with poorer health on all measures of health status. War-zone exposure predicted poorer current health and decline in health during the Vietnam War.

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Table 4a. Evidence Table of Psychiatric: PTSD						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Dobie, 2004 (83)	Yes	Sample of women who received care at the VA Puget Sound Health Care System between 10/96 and 1/98	266 women veterans	Observ. Study- Assess risk and prognosis	Demographic and clinical characteristics; PTSD symptoms; other psychiatric disorders; alcohol and drug abuse; health-related quality of life	Evaluated the health problems and functional impairment associated with screening positive for PTSD. 21% of subjects screened positive for current PTSD and they reported more psychiatric problems, substance abuse, lifetime exposure to domestic violence and physical health problems. In regression analyses, higher PTSD symptomatology was associated with lower health functioning and health-related quality of life.
Forneris, 2004 (85)	Yes	Convenience sample of women veterans seen for outpatient primary health care or specialty service in gynecology or psychiatry at the Women Veterans Comprehensive Health Center in Durham, NC	92 women veterans	Observ. Study- Assess risk and prognosis	Demographic characteristics; prescribed medications; mental disorders; health status; history of trauma; trauma questionnaire; PTSD symptoms; physiological measures included height, weight blood pressure, heart rate and temperature.	Evaluated baseline physiological arousal in women veterans with PTSD. Women with PTSD had significantly higher heart rates than women without PTSD, even when controlling for use of psychotropic medications.

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Table 4a. Evidence Table of Psychiatric: PTSD						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Escalona, 2004 (150)	Yes	Sample of veteran and non-veteran women from a VA-based primary care women's clinic	264 women – 134 veterans, 130 non-veterans	Observ. Study – Assess risk and prognosis	Demographic characteristics; trauma history; PTSD symptoms; somatization; other psychiatric disorders	Evaluated the association of trauma, PTSD and somatization. 73.9% of subjects reported a self-experienced trauma. The lifetime prevalence rate of PTSD was 27.3% and of somatization was 19.3%. In regression analysis, PTSD was the only significant predictor of somatization with an OR of 3.09.
Norman, 1992 (66)	Yes	Sample of Vietnam nurses, interviewed between 11/83 and 12/85	50 Vietnam nurse veterans	Descriptive Study	Clinical jobs; off-duty experiences; social networks in Vietnam and post-Vietnam; PTSD symptoms	Describes responses to interviews evaluating the intensity of nurses' experiences and its relation to PTSD. Women with more intense Vietnam experiences had more intrusive thoughts after returning; and women with more poorly defined social networks after Vietnam had higher incidences of PTSD.
Kang, 2003 (9)	No	Population-based stratified sample of Gulf War veterans and non-Gulf War veterans, 1995-1997	11,441 Gulf War and 9,476 non-Gulf War veterans; 2123 Gulf War women and 2076 non-Gulf War women and	Observ. Study – Assess risk and prognosis	Symptom inventory for prevalence of somatic and psychological symptoms; PTSD screen; stressor severity based on combat exposure	Evaluates the prevalence of PTSD and chronic fatigue syndrome (CFS) in Gulf War and non-Gulf War veterans, and evaluates the relations between deployment-related stress and the risk of PTSD or CFS. IN bivariate analysis, veterans who were female, older, non-White, enlisted and in the Army and National Guard were more likely to meet criteria for PTSD. Veterans with CFS-like illness were more likely to be younger, single, enlisted, in the Army or Marines and in the reserves. In regression analysis, Gulf veterans were 3 times as likely to have PTSD and 4.8 times as likely to have CFS.

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Table 4a. Evidence Table of Psychiatric: <i>PTSD</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Kimerling, 2000 (68)	Yes	Convenience sample of Vietnam era women veterans from the New England area	52 women veterans	Observ. Study – Assess risk and prognosis	PTSD and other psychiatric assessment; wartime stress; life stress; demographic questionnaire; medical history	Evaluated the impact of PTSD symptoms on the relationship between traumatic exposure and subsequent health problems. 86.8% of women reported at least one traumatic event during active military duty; 12 met full criteria for current PTSD. PTSD symptoms were associated with reports of greater physical health impairment.

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Table 4b. Evidence Table of Psychiatric: <i>Prevalence and Characteristics</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Levitte, 1995 (151)	Yes	Convenience sample of patients seen in a psychiatric consultation in the emergency room from a single VA between 1987 and 1991	150 women; two control groups of men with 150 each	Observ. Study- Asses risk or prognosis	Demographics, chief complaints, psychotic symptoms, recent substance use, psychiatric diagnoses	Compared characteristics of male and female veterans using the psychiatric emergency room at the Portland VA. Women were younger, more likely to be divorced, had more anxiety or psychotic symptoms, and were more likely to be diagnosed with depression or borderline personality.
Davis, 2003 (152)	Yes	Sample of women veterans who had received care from the VA Puget Sound Health Care System between 10/1/96 and 1/1/98	1257 women veterans	Observ. Study- Assess risk and prognosis	Demographic characteristics; substance abuse; cigarette smoking; drinking patterns; mental health symptoms including PTSD	Evaluated the prevalence of substance abuse and psychiatric disorders in the sample of women veterans. 29.1% reported past year cigarette use and 31.1% reported drinking problems. 59% of women under 35 screened positive for smoking, problem drinking or drug abuse. Screening positive for a psychiatric condition was associated with substance use.

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Table 4b. Evidence Table of Psychiatric: <i>Prevalence and Characteristics</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Bader, 2001 (94)	Yes	Convenience sample of patients from a VA women's health clinic in 1999	209 women veterans	Observ. Study – Assess risk and prognosis	PRIME-MD-PHQ – screen for mental disorders	Evaluated the prevalence of mental illness and impairments in social and occupational functioning. 45% of women screened positive for at least one mental health disorder and 46% for 2 or more co-existing disorders. Women younger than 50 years and those with a service-connected disability were more likely to have a psychiatric disorder.

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Table 4c. Evidence Table of Psychiatric: <i>Services and Use</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Schuler, 1986 (122)	Yes	Survey of Chiefs of Psychology at VA medical centers	91 Chiefs of Psychology	Observ. Study- Asses risk or prognosis	Types of female-oriented psychological services that are offered; VAMC classifying characteristics	The number of female-oriented services offered routinely was related to the state population of female veterans, the income of veterans, the total number of psychologists on staff and the annual number of clients.
Hoff, 1998 (133)	Yes	National sample of veterans as part of the National Survey of Veterans, 1992	305 women; 7004 men	All Other Observational	Sociodemographic variables; military service variables; physical health and disability; health services utilization	Compared utilization of VA care by female and male veterans in 1992. Overall, women veterans were less likely to use VA health services primarily because of lower utilization of outpatient services, specifically for women with mental health disorders. Use of inpatient services was similar for men and women. Women with physical conditions did not differ from men with similar conditions in their outpatient utilization There were no differences in reasons for choosing VA or non-VA facilities for care.
Cradock-O'Leary, 2002 (127)	No	Sample of patients who received outpatient treatment and medical centers or clinics in VISN 22, FY 2000	9,019 women; 166,634 men	Observ. Study- Assess risk and prognosis	Demographic variables; global assessment of functioning scale; service-connection; psychiatric diagnoses; co-morbid medical diagnoses; visits to primary or specialty care clinics	Evaluated medical service use by veterans in VISN 22. Those with mental health diagnoses, particularly severe mental illness, had fewer medical visits than those without mental health diagnoses. Female had fewer visits and older patients had more visits. Those with comorbid diagnoses of chronic obstructive pulmonary disease, hypertension or diabetes also had more visits.

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Table 4d. Evidence Table of Psychiatric: <i>Sexual harassment, sexual abuse, sexual assault</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Hankin, 1999 (39)	Yes	National sample of women veterans using VA outpatient services between 7/94 and 7/95 (<i>same sample and study as (138)</i>)	3632	Observ. Study- Assess risk or prognosis	History of sexual assault while in the military; current symptoms of depression and alcohol abuse	23% reported a history of sexual assault while in the military and prevalence of current depression was 3 times higher and for current alcohol abuse 2 times higher among those reporting military sexual assault versus those without this experience.
Butterfield, 1998 (40)	Yes	Sample of women using the women's health clinic at the Durham VAMC from 7/94-6/97	632 consecutive women	Descriptive Study	Trauma history including childhood sexual trauma, rape and battering; mental disorder symptoms	40% of the sample had at least one type of trauma and half had multiple traumas. 33% of rapes and 22% of battering occurred during military service. Increasing levels of trauma were associated with a higher prevalence of all mental disorder symptoms.
Davis, 1999 (41)	Yes	Sample of female veterans participating in outpatient PTSD and/or substance abuse treatment at one VAMC	28 women	Descriptive Study	Demographic information including age, ethnicity, sexual orientation, military service, past psychiatric/substance treatment, years since assault; General Severity Index of the Brief Symptom Index; Alcohol screening (AUDIT); the Life Stressor Checklist; health status	Most of women included in study had been sexually abused with 63% meeting criteria for PTSD. 89% of women who had abused substances also reported a history of sexual abuse. Most of the sexual abuse occurred during military service.

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Table 4d. Evidence Table of Psychiatric: <i>Sexual harassment, sexual abuse, sexual assault</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Read, 1997 (44)	Yes	Sample of women veterans and service-eligible non-veterans from 2 outpatient women's health clinics between 10/94 and 11/95	100 veterans; 8 non-veterans	Observ. Study – Assess risk and prognosis	Women Veterans' Demographic Inventory – demographic variables, mental health care, medical complaints; Women Veterans Trauma Screen – lifetime traumatic events and whether occurred in military; Lifestyle Questionnaire – substance use, eating, stress and coping	69% of the sample reported some traumatic event with 33% reporting sexual assault. 1/3 of these victims were assaulted in the military. Women with substance use symptoms, eating disturbance symptoms, and more general stress had higher rates of lifetime trauma.
DeRoma, 2003 (45)	Yes	Sample of women veterans schedule in the gyn clinic at the Biloxi VAMC, 1994	336 women	All Other Observational	Patient demographics, perceived social support, perceived stress, depression, anxiety, history of childhood abuse, history of military or civilian sexual harassment or assault; Impact of Events Scale	75% of the sample had experienced some form of sexual harassment and 38% had experienced rape during their lifetime. 42% had been victims of childhood sexual abuse. Those who had experienced military or civilian and military rape had lower scores for perceived social support, and higher depression and anxiety ratings.

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Table 4d. Evidence Table of Psychiatric: <i>Sexual harassment, sexual abuse, sexual assault</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Chang, 2001 (47)	Yes	Random sample of women receiving outpatient care at VA facilities from 7/94 – 7/95	3543 women veterans	Observ. Study – Assess risk and prognosis	Military sexual assault history, religiosity, mental health status and current depressive symptoms, social support scale	23% of the sample reported experiencing military sexual assault. Among those with a history of military sexual assault, those who attend religious services more often have better mental health and are less likely to endorse depressive symptoms.
Butterfield, 1996 (93)	Yes	Convenience sample of women veterans visiting the women's health center at the Durham VA Medical Center between 7/1/94 and 12/30/95	500 women veterans	Observ. Study – Assess risk and prognosis	PRIME-MD-PQ – screen for mental disorders; trauma questionnaire	Evaluated the prevalence and relationship of mental disorder symptoms and trauma history. 37% of subjects endorsed symptoms of depression and 55.8% symptoms of anxiety. 41% reported at least one trauma experience. In regression analysis, women with any history of trauma were significantly more likely than women without trauma to endorse symptoms of depression, anxiety or panic disorder. Rape and battering were associated with alcohol abuse symptoms.

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Table 4d. Evidence Table of Psychiatric: <i>Sexual harassment, sexual abuse, sexual assault</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Stein, 2004 (84)	Yes	Sample of women seen in the VA San Diego Healthcare System primary care clinic in 1998	221 women veterans	Observ. Study – Assess risk and prognosis	Traumatic exposure; somatization measures; health anxiety and illness attitudes	Evaluated the association between sexual assault history and measures of somatic symptoms and illness attitudes. 44.3% of the subjects reported experiencing sexual assault. Regression analyses demonstrated a significant difference in physical symptoms between women with and without a history of sexual assault and women with a history of sexual assault were more bothered by 9 of 10 symptoms. Their somatization scores were also significantly higher as were their health anxiety. Both somatization and anxiety were predictors of sick days and healthcare use.
Suris, 2004 (55)	Yes	Women veterans using a medical and/or mental health clinic in the VA North Texas Health Care System, interviewed between 1997 and 2000	270 women veterans	Observ. Study – Assess risk and prognosis	Sexual harassment, sexual assault experiences; PTSD symptoms, utilization of VA care, health care costs	Evaluates the impact of military, civilian adult and childhood sexual assault on the likelihood of developing PTSD; and the association of military sexual assault to service utilization and health care costs. Women with a history of sexual assault were 5 times more likely to have PTSD and military sexual assault was associated with a >9-times increased risk of PTSD. A history of sexual assault was associated with higher utilization and cost of care, but this was primarily because of higher utilization by women with histories of civilian sexual trauma.

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Table 4e. Evidence Table of Psychiatric: <i>Miscellaneous</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Koons, 2001 (153)	Yes	Sample of women meeting criteria for borderline personality disorder (BPD) from the Women Veterans Comprehensive Health Center at the Durham VA Medical Center or from other veterans' centers or medical sites in NC	20 women with borderline personality disorder	Experimental Study	BPD and anxiety disorder sections of the Structured Clinical Interview – DSM-III-R; other psychiatric symptoms; parasuicidal behavior; suicidal ideation and hopelessness; mood and emotion measures; dissociation; health care utilization	Evaluated outcomes for patients with borderline personality disorder randomized to dialectical behavior therapy compared to those with treatment as usual. Patients enrolled in dialectical behavior therapy demonstrated significant decreases in number of para-suicidal acts, anger experienced and dissociation. There was a trend to decreased hospitalizations but this was not statistically significant. Both groups experienced decreases in depressive symptoms and borderline behavior patterns.
Leon, 1990 (70)	Yes	Sample of Vietnam theater and era nurses recruited from various sources, most from the Midwest	36 Vietnam theater and 32 Vietnam era nurses	All Other Observational	Professional preparation and nursing duties in Vietnam; cognitive or behavioral coping strategies; traumatic experiences; pre and post-Vietnam adjustment; personality inventory; coping inventory; impact of event scale	Evaluated coping patterns of Vietnam nurses and their effect on their psychological functioning. Coping patterns that included expressing feelings, seeking emotional support and trying to find meaning in traumatic events were associated with good current psychological functioning. Self-blame, anxious thoughts and withdrawal at the tie of stressful encounters were associated with poorer current functioning. There were no significant differences between the two groups.

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Table 4e. Evidence Table of Psychiatric: <i>Miscellaneous</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Wolfe, 1993 (71)	Yes	Sample of women serving during Vietnam: theater veterans, era veterans and theater civilians, contacted in 1990	202 women: 147 Vietnam theater veterans; 32 era veterans; 23 theater civilians	All Other Observational	Wartime stressor scale; PTSD symptomatology; personality inventory; psychological symptoms	Evaluated the test characteristics of the Women's Wartime Stressor Scale (WWSS). Found that the WWSS had good discriminant qualities with significant differences among the three groups on various items in the scale, correlating with their exposures to wartime stress.

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Table 5a. Different Gender Manifestations of Emotional Disorders: <i>Trauma and Eating Disorders</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Grossman, 1997 (138)	Yes	Sample of female patients admitted to psych units of one VAMC from 4/92-4/93; compared to sample of male patients admitted over the same period	31 female patients; 31 male patients	Observ. Study- Assess risk or prognosis	Demographic characteristics; discharge diagnoses; results of urine toxicology screens	Evaluated differences in being diagnosed with PTSD or substance abuse disorders for inpatient men and women veterans. Women were significantly less likely to be diagnosed with PTSD than men. There were no gender differences in the diagnosis of psychotic disorders or personality disorders. Women were less likely to receive diagnoses of substance use disorders despite a suggestion of greater prevalence of substance use among women
Hoff, 1988 (118)	Yes	National cohort of veterans utilizing VA specialty mental health services during a two-week period in 1991	70,979 veterans	Observ. Study- Assess risk or prognosis	Psychiatric diagnoses and status; use of inpatient and outpatient mental health services;	Compared the use of mental health services by male and female veterans. The study found no difference in the use of general psychiatric services or the intensity of services used. Women were less likely to receive substance abuse care.

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Table 5a. Different Gender Manifestations of Emotional Disorders: <i>Trauma and Eating Disorders</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Leda, 1992 (91)	Yes	Database of homeless veterans in the VA Homeless Chronically Mentally Ill (HCMI) Veterans Program, 1988-1991	19283 male veterans; 310 women veterans	Observ. Study- Assess risk or prognosis	Psychiatric and substance abuse disorders	Evaluated characteristics of a homeless veteran population. 1.6% of the population was female which was consistent with expected numbers. Women homeless veterans were younger, less likely to be employed and more likely to be homeless for less than one month. More women veterans were diagnosed with major psychiatric disorders but fewer had substance use disorders.
Levitte, 1995 (151)	Yes	Convenience sample of patients seen in a psychiatric consultation in the emergency room from a single VA between 1987 and 1991	150 women; two control groups of men with 150 each	Observ. Study- Asses risk or prognosis	Demographics, chief complaints, psychotic symptoms, recent substance use, psychiatric diagnoses	Compared characteristics of male and female veterans using the psychiatric emergency room at the Portland VA. Women were younger, more likely to be divorced, had more anxiety or psychotic symptoms, and were more likely to have a diagnosis of depression or borderline personality.
Sajatovic, 1997 (121)	Yes	All women hospitalized on the psychiatry service at the Brecksville VAMC, 10/93 – 10/95; age and diagnosis matched-male veterans	57 women; 114 men	Observ. Study- Assess risk or prognosis	Demographic variables; psychiatric diagnoses; length of stay; medication prescription	Compared the clinical characteristics and health care utilization of men and women veterans hospitalized with schizophrenia, schizoaffective or BAD. Men and women had similar lengths of stay and similar numbers of psychiatric hospitalizations during the study period. The only significant gender difference was in prescription of medications with women being more

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Table 5a. Different Gender Manifestations of Emotional Disorders: <i>Trauma and Eating Disorders</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
						likely to receive atypical anti-psychotics.
Kirstein, 1978 (74)	Yes	All female active duty psychiatric inpatients at hospital at Travis AFB from 1975-1976 with male matched controls; random sample of active duty women from dining halls with male controls - Jan and Feb 1977	34 female inpatients with matched male controls; 30 dining hall women with male matched controls	Descriptive Study	Chart review of inpatients for demographics, clinical and outcome (return to duty vs. medical separation) variables; survey of volunteers on reasons for joining the Air Force, job satisfaction and outside interests.	Evaluates how successfully female soldiers and psychiatric patients are adjusting to military life. Inpatient women were more likely to report depression while there was no difference in diagnosis, medications, length of stay or outcome. Male and female soldiers had similar reasons for joining the Air Force, similar job satisfaction and work attitude.
Willer, 1995 (92)	Yes	All female veterans in treatment at the Mental Hygiene Clinic of the West Side VA in Chicago, during 3 months in 1993; random sample of male veterans from the same clinic	51 women veterans; 46 male veterans	Observ. Study- Assess risk or prognosis	Demographic characteristics; psychiatric diagnoses; trauma history; functional level	Evaluated for gender differences in psychiatric diagnoses. Women were significantly more likely to have affective disorders and less likely to have anxiety disorders. Men were more likely to be diagnosed with PTSD while women were more likely to report at least one type of traumatic experience. Women experienced more of all types of traumatic experiences except combat trauma. Women were more likely to have completed college or high school but functional levels were similar between men and women.

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Table 5a. Different Gender Manifestations of Emotional Disorders: <i>Trauma and Eating Disorders</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Baker, 1998 (22)	Yes	Sample of women veterans registered at the Cincinnati VAMC and male age-matched controls.	154 women and 94 men	Observ. Study- Assess risk or prognosis	Demographic variables; trauma survey; PTSD screen; animal-related experiences	Evaluated the prevalence and impact of trauma events in male and female veterans. 97% of women and 95% of men reported at least one trauma event with females more likely to report sexual or physical abuse by a significant other. Both men and women experienced higher trauma rates in the military. Men and women had similar rates of animal-related experiences. There were no differences in PTSD symptomatology.
Hourani, 2003 (28)	Yes	Two data sources: 1998 Health Status of Military Women and Men in the Total Force; 1995 Perception of Wellness and Readiness Assessment. Both included random samples of active duty members	6804 women; 8219 men	Observ. Study- Assess risk or prognosis	Demographic variables; exposure to traumatic events; medical history; health care use; perceived physical health status; depressive symptoms; perceived quality of life; life events; suicidality; job stress; habits	Evaluated the psychosocial and health effects of trauma in US military personnel. 23% of women and 30% of men had been victims or survivors of a traumatic event. Victims of any traumatic event had twice the risk of having two or more physical and mental health problems than those without trauma. Women who were victims of trauma were more likely to be smokers or heavy drinkers than those who witnessed events.

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Table 5a. Different Gender Manifestations of Emotional Disorders: <i>Trauma and Eating Disorders</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
McCarroll, 1993 (12)	No	Volunteers from the US Army logistics school and from two military police units	471 men and 112 women	Observ. Study – Assess risk and prognosis	Gender; anticipated stress; experience with handling the dead	Evaluates the effects of gender and experience on anticipated stress of handling the dead. Inexperienced males had lower anticipated stress than inexperienced females; but both inexperienced males and females had higher anticipated stress than their same-sex experienced counterparts.
Harned, 2002 (43)	Yes	3 samples: Active-duty military women posted at two US military installations; active-duty military men from the same installations; non-military women involved in a class action sexual harassment lawsuit	472 active-duty military women; 254 active-duty military men; 1853 women in the class action lawsuit	Observ. Study- Assess risk or prognosis	Survey measures evaluating unwanted sex-related experiences in the workplace, eating disorder symptoms, psychological distress, job satisfaction and health status	For both samples of women, sexual harassment was independently associated with eating disorder symptoms, though the effect was small. The effect was mediated by psychological distress, self-esteem and self-blame and persisted when controlling for sexual assault. There was no association between sexual harassment and eating disorder symptoms in men.

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Table 5a. Different Gender Manifestations of Emotional Disorders: <i>Trauma and Eating Disorders</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
(154)	Yes	National sample of hospital discharges from VA in FY 1996, with diagnosis of an eating disorder	63 women; 98 men; 161 age/race/sex-matched controls	Observ. Study- Assesses risk or prognosis	Demographic characteristics; psychiatric comorbidity	Evaluated the prevalence of eating disorders in this hospitalized population and degree of psychiatric comorbidity. 0.3% of female and 0.02% of male veterans had a diagnosis of eating disorder. Women with eating disorders had significantly elevated rates of comorbid substance, mood, anxiety, adjustment and personality disorders. Men had high rates of organic mental, schizophrenic/psychotic, substance and mood disorders. Eating disorders were more likely to be the primary diagnosis in women.

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Table 5b. Different Gender Manifestations of Emotional Disorders: <i>PTSD not associated with military era</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Pereira, 2002 (29)	Yes	Convenience sample of veterans who had been deployed to a combat zone from one VA Mental Hygiene clinic in South Carolina, 1/96 - 2/98	54 women; 56 men	Observ. Study- Assess risk or prognosis	Gender, level of exposure, level of general life stressors, current level of distress and level of PTSD symptomatology	Evaluated whether PTSD is under diagnosed in women veterans. Women were significantly younger than men; and men were more likely to have served in positions directly related to direct combat. Men and women exposed to similar levels of stress were equally likely to have PTSD symptoms; but, controlling for symptoms and life stress, men are more likely to receive a diagnosis of PTSD
Ouimette, 2004 (78)	Yes	Single VA	134 male (52) and female (82) veterans	Observ. Study- Assess risk or prognosis	PTSD symptoms severity and diagnoses; other psychopathology; health conditions; HRQOL; health risk behaviors; demographics	Evaluated a sample of male and female patients from the general medical and women's health clinics at Palo Alto. Found that patients with PTSD were more likely to have circulatory and musculoskeletal disorders and had poorer health-related quality of life.

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Table 5b. Different Gender Manifestations of Emotional Disorders: <i>PTSD not associated with military era</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Murdoch, 2003 (128)	Yes	All veterans who filed PTSD disability claims between 1980 and 1988	174,991 men and 5043 women	All Other Observational	Demographic and service characteristics; PTSD claim results; service-connection information	Evaluated trends in PTSD disability application and approval rates. Claim approval rates for PTSD were twice as high for combat-injured men and women than for uninjured men and women. Rates of PTSD service connection for uninjured men ranged from 18-63% and for uninjured women from 0-57%. Post-Vietnam era women were more likely to be service-connected for PTSD than Vietnam era women. There were also regional differences in PTSD claim approval rates.
Murdoch, 2003 (129)	Yes	Random selection of men and women veterans applying for PTSD disability benefits between 1/94 and 1/98	2700 men & 2700 women surveyed with responses from 1654 and 1683	All Other Observational	Service connection for PTSD, current PTSD severity, combat exposure, in-service sexual trauma, level of functional impairment, demographics and other factors	Women's odds of being service connected for PTSD were lower than men's until combat exposure is accounted for; indicating that women may be less likely to receive service connection for PTSD since they are less likely to have combat exposure.

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Table 5c. Different Gender Manifestations of Emotional Disorders: <i>Somalia</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Fontana, 2000 (30)	Yes	Survey of veterans who served in the Somalia peacekeeping forces, 1997	1307 men; 197 women	Observ. Study- Assess risk or prognosis	Demographics, mission goals at time of service, exposure to firing or dangerous duties, witnessed death, sexual harassment or abuse, PTSD symptoms	Evaluated the impact of combat and sexual harassment on the severity of PTSD. Severity of PTSD symptoms was related to similar variables for both men and women - combat, fear and sexual harassment. PTSD severity was also influenced by exposure to dying of Somali people for both genders.
Litz, 1997(34)	Yes	Survey of active duty military personnel involved in peacekeeping in Somalia, 1997	3085 men; 225 women	Observ. Study- Assess risk or prognosis	Demographic characteristics; Exposure measures including: positive military and humanitarian subscales; stressor subscale; negative peacekeeping subscale; war zone exposure subscale; PTSD measures	Evaluated the prevalence of PTSD associated with the peacekeeping mission in Somalia. The prevalence rate of PTSD was 8% and did not differ for men and women. Women were more likely to feel positive about the humanitarian aspects of their duty. Negative predictors of PTSD included higher education and a more positive attitude about military service. Positive predictors included the frequency of war zone stressor exposure and the amount of frustration associated with peacekeeping operations.

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Table 5d. Different Gender Manifestations of Emotional Disorders: <i>Vietnam Era</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
King 1996(23)	Yes	Sample of theater veterans from NVVRS (1987-88). NVVRS was oversampled for women, African American and Hispanic men and those with service-connected disabilities	432 women; 1200 men	Observ. Study- Assess risk or prognosis	Prewar factors including SE status and family factors; war-zone stressors; PTSD	Evaluates the relationships among prewar factors, war zone stress and current PTSD symptomatology. For women, PTSD was associated primarily with prewar family instability. Additional factors such as war-zone stressor level, younger age of entry into military and family instability or childhood antisocial behavior influenced PTSD in men.
Schnurr, 2004(25)	No – does included gender as an independent variable	Sample of theater veterans from the NVVRS (1987-88) and from the Hawaiian Vietnam Veterans Project (HVVP) (1994-96)	68 women (NVVRS); 414 men (NVVRS and HVVP)	Observ. Study- Assess risk or prognosis	PTSD symptoms; demographic and pre-military variables including family instability, punishment, relationships; military variables including injury, war-zone exposure and dissociation; post-military variables including social support	Evaluated risk factors for the development and maintenance of PTSD. Perceived life threat and peri-traumatic dissociation were the strongest risk factors for having PTSD. Homecoming emotional sustenance was protective. Maintenance of PTSD was more likely in those who experienced atrocities or abusive violence and less likely in Native Hawaiian and American Japanese males and in those with current emotional sustenance. Being female was not a significant risk factor.

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Table 5d. Different Gender Manifestations of Emotional Disorders: <i>Vietnam Era</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
King, 1998(26)	Yes	Sample of theater veterans from NVVRS (1987-88). NVVRS was oversampled for women, African American and Hispanic men and those with service-connected disabilities	432 women and 1200 men	Observ. Study- Assess risk or prognosis	Demographics, measures of hardiness; postwar social support; additional stressful life events; PTSD	Evaluated the impact of resilience-recovery factors in PTSD. Hardiness, structural social support, functional social support and additional stressful life events accounted for 73% and 75% of the variance in PTSD in women and men, respectively.
King, 1999(27)	Yes	Sample of theater veterans from NVVRS (1987-88). NVVRS was oversampled for women, African American and Hispanic men and those with service-connected disabilities	432 women and 1200 men	Observ. Study- Assess risk or prognosis	Demographics; prewar risk factors; war-zone stressors; postwar resilience-recovery variables; PTSD	Evaluated the relationships among prewar risk factors, war-zone stressors postwar resilience-recovery variables and PTSD. For men and women, variables related to prewar risk factors, war stressors and postwar factors were associated with PTSD. War-zone stressors were the most important factors in men and post-war resilience-recovery variables were more important for women.
King, 1995(31)	Yes	Sample of theater veterans from NVVRS (1987-88). NVVRS was oversampled for women, African American and Hispanic men and those with service-connected disabilities	1200 men; 432 women	Observ. Study- Assess risk or prognosis	Stressor indexes; atrocities; perceived threat; environment; PTSD	Evaluate the impact of different representations of war-zone stressors on PTSD; and evaluate the effect of war zone stressors on women serving in Vietnam. Men scored higher on the stressor indexes, with greater exposure to atrocities and abusive violence. Malevolent environment is the most potent factor mediating PTSD for both men and women

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Table 5d. Different Gender Manifestations of Emotional Disorders: <i>Vietnam Era</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Schnurr, 2003 (148)	No, but includes some male-female comparisons	Samples of patients included in the National Vietnam Veterans Readjustment Survey (NVVRS) and the Hawaii Vietnam Veterans Project	530 male and female Vietnam veterans (small number of women but data not provided on total)	Observ. Study- Assess risk and prognosis	PTSD diagnosis, age, PTSD chronicity	Described the chronicity of PTSD. Women did not differ from men in terms of lifetime prevalence of PTSD. There was a trend toward women being more likely to have late onset of PTSD
Taft, 1999(33)	Yes	Sample of theater veterans from NVVRS (1987-88). NVVRS was oversampled for women, African American and Hispanic men and those with service-connected disabilities	1200 male and 432 female Vietnam veterans	Observational	Combat exposure; hardiness; social support; PTSD; physical health conditions; functional health status; age and education	Evaluated the association of combat exposure and PTSD with physical health conditions. For male and female Vietnam veterans, combat exposure was associated with PTSD; and PTSD was associated with more physical health conditions and poorer functional status.

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Table 5d. Different Gender Manifestations of Emotional Disorders: <i>Vietnam Era</i>						
Author	Women veteran specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Jordan, 1991(35)	Yes	Full national sample from the NVVRS (1987-88). NVVRS was oversampled for women, African American and Hispanic men and those with service-connected disabilities	1612 Vietnam men (1200 theater and 412 era); 736 Vietnam women (432 theater and 304 era)	Observ. Study- Assess risk or prognosis	Demographic variables; psychiatric disorders other than PTSD; war zone stress	Evaluated the lifetime and current prevalence of psychiatric disorders between Vietnam theater and era veterans. For men, the most prevalent current disorders were alcohol abuse and generalized anxiety disorder but rates were not differences for theater or era veterans. For women, the most prevalent current disorders were depression and generalized anxiety disorder, with rates of depression higher for theater veterans. In men, high war zone stress was associated with more psychiatric disorders; and depression and dysthymia were higher in women exposed to high war zone stress.

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Table 5e. Different Gender Manifestations of Emotional Disorders: <i>Gulf War Era</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Erickson, 2001(3)	No	Sample of Gulf War army veterans from the Ft. Devens ODS Reunion Survey, a longitudinal study of 2949 US Army active, reserve and national guard soldiers deployed to the Gulf 1990-1991	Time 1: 2702 men and 240 women Time 2: 2119 men and 194 women	Observ. Study- Assess risk or prognosis	Gulf War combat exposure; PTSD symptoms; Depression	Evaluates the temporal relation between PTSD and depression symptomatology in a sample of Gulf War veterans. Women were more symptomatic for both depression and PTSD than men, with symptoms increasing over time. The relation between PTSD and depression was “bi-directional” with either one potentially preceding the other. However, symptoms of hyperarousal generally preceded depression.
King, 2000 (5)	No	Sample of Gulf War army veterans from the Ft. Devens ODS Reunion Survey, a longitudinal study of 2949 US Army active, reserve and national guard soldiers deployed to the Gulf 1990-1991	Time 1: 2702 men and 240 women Time 2: 2119 men and 194 women	Observ. Study- Assess risk or prognosis	Reported war-zone stressor exposure; PTSD symptom severity; demographics	Evaluates the relationship between changes in reported stressor exposure and PTSD symptoms. Shifts over time in reporting stressor exposure were modestly related to PTSD symptom severity.

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Table 5e. Different Gender Manifestations of Emotional Disorders: <i>Gulf War Era</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Wolfe, 1999(6)	No	Sample of Gulf War army veterans from the Ft. Devens ODS Reunion Survey, a longitudinal study of 2949 US Army active, reserve and national guard soldiers deployed to the Gulf 1990-1991	Time 1: 2702 men and 240 women Time 2: 2119 men and 194 women	Observ. Study- Assess risk or prognosis	Demographic, Gulf War combat exposure, PTSD symptoms	Evaluates rates and predictors of PTSD over time in Gulf War veterans. In logistic regression analysis, female gender, age, prior combat experience, and Gulf War combat exposure were predictive of PTSD. Women were more than six times more likely to meet criteria for PTSD at Time 1 than men. At Time 2, female gender, military status, military rank and Gulf War combat exposure were related to PTSD. Females were more than twice as likely to meet criteria for PTSD as men.
Sharkansky, 2000 (7)	No	Sub-sample of Gulf War army veterans from the Ft. Devens ODS Reunion Survey, a longitudinal study of 2949 US Army active, reserve and national guard soldiers deployed to the Gulf 1990-1991; veterans who identified a combat-related experience as the most stressful event during deployment	Time 1: 952 men; 106 women Time 2: 845 total	Observ. Study- Assess risk or prognosis	Combat exposure; coping responses; PTSD symptoms; depression symptoms; intervening life stressors	Evaluated relationships between methods of coping with combat-related stress among Gulf War Army personnel. Individuals using more "approach-based coping strategies" had lower levels of psychological symptoms immediately upon return and 18-24 months later. Women and those reporting higher levels of combat exposure had higher levels of PTSD and depression symptoms.

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Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Southwick, 1993(8)	No	Sample from two reserve units that served in the Persian Gulf War, interviewed one month and 6 months after returning	84 veterans; 65 men and 19 women	Observ. Study- Assess risk or prognosis	PTSD symptoms and severity; combat exposure; Desert Storm trauma questionnaire	Evaluated prospectively the development of trauma-related symptoms in veterans returning from the Persian Gulf. Scores on a combat-related PTSD scale increased significantly over the 1 to 6 month period, while PTSD symptom severity did not. There were no significant differences in combat exposure and PTSD symptoms between male and female subjects.
Engel, 1993 (32)	Yes	Sample of patients from a mental health clinic at a military base in Fort Hood, TX	28 women; 269 men	Observ. Study- Assess risk or prognosis	Demographics, pre-combat abuse, PTSD screens, combat exposure scale	Evaluated the association of pre-combat sexual and physical abuse and combat-related PTSD symptoms. Women veterans with pre-combat abuse were more likely to have high PTSD screen scores related to combat exposure than those without pre-combat abuse. No such difference was seen for men with pre-combat abuse compared to those without.

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Table 5e. Different Gender Manifestations of Emotional Disorders: <i>Gulf War Era</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Wanger, 2000 (10)	Yes - compares men and women	Sample of Gulf War army veterans from the Ft. Devens ODS Reunion Survey, a longitudinal study of 2949 US Army active, reserve and national guard soldiers deployed to the Gulf 1990-1991	Time 2: 2108 men and 193 women	Observational	Demographics; PTSD symptomatology; combat exposure; psychological symptoms; health symptoms	Evaluates the relationship between PTSD symptoms in men and women veterans immediately upon returning from the Gulf War and 18-24 months later. For both men and women, PTSD symptomatology at initial assessment was predictive of self-reported health problems over time, even after controlling for the effects of combat exposure. Women veterans reported significantly more health problems though gender did not influence the impact of PTSD symptoms on health problems.
Engel, 1999 (11)	No	All Gulf War veterans entering the Comprehensive Clinical Evaluation Program (CCEP), 7/94 – 6/95	13,161 veterans; 1288 women	Descriptive	Demographics; occupational impairment; stressful Gulf War experiences; PTSD symptoms; other psychiatric symptoms	Describes the prevalence of various psychological conditions in veterans enrolled in the CCEP. The most commonly diagnosed conditions were medically unexplained physical-symptom syndromes, depression and anxiety (including PTSD) and alcohol abuse. Males and females had a comparable prevalence of psychological conditions with women being more likely to have mood disorders than men. Men were more likely to have substance use disorder.

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Table 5e. Different Gender Manifestations of Emotional Disorders: <i>Gulf War Era</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
McCarrol, 1995 (13)	No	Mortuary workers during the Persian Gulf War, 1991	343 men and 58 women	Observ. Study- Assess risk or prognosis	Demographics; Impact of Events Scale (IES) to measure intrusion and avoidance; mutilation questionnaire; social desirability response scale; social support	Evaluates the predictors of intrusive and avoidant symptoms in mortuary workers prior to the arrival of remains. In bivariate analyses, women had higher IES, mutilation and social support scores than men After controlling for volunteer status and gender, the mutilation questionnaire was the best predictor of intrusion, avoidance and total IES scores for both experienced and inexperienced mortuary workers.
Wolfe, 1993 (18)	Yes	Sample of Gulf War army veterans from the Ft. Devens ODS Reunion Survey, a longitudinal study of 2949 US Army active, reserve and national guard soldiers deployed to the Gulf 1990-1991	2136 male veterans; 208 female veterans	Observ. Study- Assess risk or prognosis	War-time stressors, PTSD measures; general psychological distress; demographic characteristics	Evaluated the relationship of war-zone exposures and psychological outcomes in a group of Gulf War veterans. Greater combat exposure and war-time stress was related to poorer psychological outcomes as were female gender, lack of college education, lower (non-officer) rank and marital separation or dissolution. Stressor scores did not differ between men and women.

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Table 6a. Health Behaviors, Prevention and Epidemiology: <i>Epidemiology</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Frayne, 1999 (38)	Yes	National random sample of women veterans using VA outpatient services between 7/94 and 7/95	3632	Observ. Study- Assess risk or prognosis	History of sexual assault while in the military; current physical or medical conditions	23% reported a history of sexual assault while in the military and this was associated with current physical symptoms and medical conditions in every domain assessed (reproductive/gynecological, abnormal menses, urological, neurological/rheumatological, gastrointestinal, pulmonary, cardiovascular, other
Romeis, 1991 (120)	Yes	National sample of female veterans from the National Center for Health Statistics 1982 and 1984 Health Interview Surveys	2181 female veterans compared to 77,900 non-veterans	Descriptive Study	Demographic variables; physician/hospital contact and hospital nights	Evaluated the predictors of outpatient visits and hospital stays for veteran and non-veteran females. With the exception of veterans having slightly higher physician contact rates, being a veteran did not predict utilization. Similar factors predicted use for veterans and non-veterans.
Kang, 1996 (155)	Yes - women included as subset analysis	Comparison of cause-specific mortality for veterans serving in the Persian Gulf and military personnel not serving in the Gulf	695,516 Gulf War veterans (7.2% female); 746,291 military personnel (13.3% female)	Observ. Study- Assess risk and prognosis	Cause-specific mortality after controlling for age, sex, race and military variables	Gulf War veterans had significantly higher all-cause mortality because of excess deaths related to external causes, including accidents and motor vehicle accidents, specifically. This was true for the subset of women veterans as well.

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Table 6a. Health Behaviors, Prevention and Epidemiology: <i>Epidemiology</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Murdoch, 1995 (156)	Yes	Sample of hospitalized women at one VAMC from 3/92-3/93 and randomly selected sample of women outpatients	191 hospitalized women; 411 female outpatients	All Other Observational	Demographic characteristics; health care utilizations; history of domestic violence both recent and remote; history of sexual harassment in the military	Younger veterans (<50) were more likely to report domestic violence in the past year (24%) and sexual harassment in the military (90%). Those who reported a history of domestic violence or sexual harassment were more than twice as likely to report a history of anxiety or depression; and domestic violence was associated with more lifetime surgical procedures.
Thomas, 1991 (57)	Yes	Comparison of women Vietnam veterans and women veterans who never served in Vietnam	4600 Vietnam veterans; 5300 non-Vietnam veterans	Observ. Study-Assess risk or prognosis	Cause-specific mortality, comparing women Vietnam veterans to non-Vietnam veterans and women Vietnam veterans to US women	Mortality rates of all causes of death combined and for all cancers were similar. Vietnam veterans were slightly more likely to die from "external causes" because of a threefold increased risk of dying from motor vehicle accidents. Vietnam veterans had twofold increases in mortality from cancers of the pancreas and uterus. Women veterans had lower mortality than US women because of fewer deaths from circulatory disease.
Stern, 2000 (89)	Yes	Sample of women veterans from the National Registry of Women Veterans	1500 women veterans	All Other Observational	Sociodemographics, military factors, self-reported health status, utilization of health services	Describes characteristics of the female veteran population surveyed, comparing younger to older women. More than half of each age group reported their current health as being good or excellent. Functional status was related to age with older women having the worst functional status. Older women were more likely to report physical service-connected disabilities.

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Table 6a. Health Behaviors, Prevention and Epidemiology: <i>Epidemiology</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Kang, 2003 (9)	No	Population-based stratified sample of Gulf War veterans and non-Gulf War veterans, 1995-1997	11,441 Gulf War and 9,476 non-Gulf War veterans; 2123 Gulf War women and 2076 non-Gulf War women and	Observ. Study – Assess risk and prognosis	Symptom inventory for prevalence of somatic and psychological symptoms; PTSD screen; stressor severity based on combat exposure	Evaluates the prevalence of PTSD and chronic fatigue syndrome (CFS) in Gulf War and non-Gulf War veterans, and evaluates the relations between deployment-related stress and the risk of PTSD or CFS. In bivariate analysis, veterans who were female, older, non-White, enlisted and in the Army and National Guard were more likely to meet criteria for PTSD. Veterans with CFS-like illness were more likely to be younger, single, enlisted, in the Army or Marines and in the reserves. In regression analysis, Gulf veterans were 3 times as likely to have PTSD and 4.8 times as likely to have CFS.
Engel, 1999 (11)	No	All Gulf War veterans entering the Comprehensive Clinical Evaluation Program (CCEP), 7/94 – 6/95	13,161 veterans; 1288 women	Observ. Study – Assess risk and prognosis	Demographics; occupational impairment; stressful Gulf War experiences; PTSD symptoms; other psychiatric symptoms	Describes the prevalence of various psychological conditions in veterans enrolled in the CCEP. The most commonly diagnosed conditions were medically unexplained physical-symptom syndromes, depression and anxiety (including PTSD) and alcohol abuse. Males and females had a comparable prevalence of psychological conditions with women being more likely to have mood disorders than men. Men were more likely to have substance use disorder.

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Table 6a. Health Behaviors, Prevention and Epidemiology: <i>Epidemiology</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Gray, 2002 (15)	No	Sample of all regular and reserve Navy personnel who served on active duty in Seabee commands during the Gulf War (8/90 – 8/91)	11,334 men and 534 women	Observ. Study – Assess risk and prognosis	Demographics; medical history; current symptoms and health status; health behaviors; environmental exposures	Evaluates symptoms and medical conditions in Gulf War Seabees, among the most symptomatic of Gulf War veterans. In regression analysis, female, reserve and enlisted personnel from two particular Seabee units were more likely to meet the definition of Gulf War Syndrome. In terms of exposures, exposure to fumes was most associated with Gulf War illness
Delco, 1998 (157)	No	All patients with a primary or secondary diagnosis of Crohn's disease or ulcerative colitis in the VA Patient Treatment File from 1986-1996; a sample of all other patients included in this file were controls	10,544 with Crohn's or UC; 42,026 controls	Observ. Study- Assess risk or prognosis	Demographic characteristics; time period of military service; military duty in Vietnam; POW status; Agent Orange exposure	Evaluated the epidemiology of inflammatory bowel disease in veterans with an emphasis on military history. For Crohn's disease, increasing age, male gender, status as a prisoner of war and active duty Vietnam military service were protective against the disease. For ulcerative colitis, increasing age and being white were associated with an increased risk of the disease. Neither disease was associated with Agent Orange exposure.

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Evidence Tables**

Table 6a. Health Behaviors, Prevention and Epidemiology: <i>Epidemiology</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Harris, 1988 (158)	Yes	All malignancies diagnosed in female veterans from 1970-1982 from the VA Patient Treatment File	1432 malignancies in women veterans	Observ. Study- Assess risk or prognosis	Proportionate morbidity rates for malignancies	Evaluated the proportionate morbidity rates for known alcohol and tobacco-related malignancies in veteran women; as well as rates for breast cancer. Found that proportionate morbidity rates for cancers of the oral cavity, esophagus, larynx and lung exceeded 1.0, as would be expected in a "heavy drinking, heavy smoking population." Proportionate morbidity rates for breast cancer were <1.0, indicating a lack of association between alcohol and breast cancer
Jordan, 1991(35)	Yes	National sample of Vietnam veterans from the National Vietnam Veterans Readjustment Study (NVVRS), 11/86 – 2/88	1612 male Vietnam veterans; 736 female Vietnam veterans	Observ. Study- Assess risk or prognosis	Psychiatric disorders (the Diagnostic Interview Schedule); war zone stress; demographic characteristics and military service details	Evaluated the lifetime and current prevalence of psychiatric disorders in Vietnam veterans. Generalized anxiety disorder, depression and alcohol abuse or dependence were the most frequently occurring disorders for Vietnam theater veteran women and rates were significantly higher than for Vietnam era veterans or civilians. The most prevalent current disorders were depression and GAD with depression rates significantly higher for theater veterans. High war zone stress was not as influential in women as in men; but was significantly associated with greater risk of depression and panic disorder.

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Evidence Tables**

Table 6a. Health Behaviors, Prevention and Epidemiology: <i>Epidemiology</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Schumm, 2002 (159)	No	Sample of Gulf War veterans from Ohio and surrounding sites and controls identified from the Defense Management Data Center	969 veterans	Observ. Study- Assess risk or prognosis	Receipt of anthrax vaccination; reactions to vaccination; health status before, during and after Operation Desert Storm; demographic characteristics	Evaluated the change in subjective health status of veterans who received anthrax vaccination. In regression analysis, significant predictors of post-Desert Storm health in deployed veterans were prior health, reactions to all vaccines and anthrax vaccine (though the effect of anthrax vaccine was small). In bivariate analyses, female veterans were more likely to report severe reactions to vaccines.
Dalager, 1995 (160)	Yes	National sample of women who served in Vietnam between 1964 and 1972; with control sample of military women serving elsewhere during the same time period	4586 Vietnam women veterans; 5325 controls	Observ. Study- Assess risk or prognosis	Mortality; cause of death; demographic characteristics	Evaluated mortality statistics for women veterans who served in Vietnam and who served elsewhere during the same era. Crude mortality rates were lower for the Vietnam than the non-Vietnam group though adjusted relative risk for all causes of death was not significantly different. There was a trend toward an increased risk of death from pancreatic cancer in Vietnam women veterans but this was not statistically significant. Compared to the general US population, cancer and circulatory system related mortality was lower in Vietnam and non-Vietnam veterans.

**The State of Women Veterans' Health Research: Results of a Systematic Literature Review
Evidence Tables**

Table 6b. Health behaviors, promotion and epidemiology: <i>Health Behaviors</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Hankin, 1999 (39)	Yes	National sample of women veterans using VA outpatient services between 7/94 and 7/95 – VA Women's Health Project (<i>same sample and study as #114</i>)	3632	Observ. Study- Assess risk or prognosis	History of sexual assault while in the military; current symptoms of depression and alcohol abuse (TWEAK); use of current mental health care	Evaluated the prevalence of military sexual assault history in women veterans and its association with depression and alcohol abuse. 23% of women reported a history of sexual assault while in the military. The prevalence of current depression was 3 times higher and the prevalence of current alcohol abuse was 2 times higher among those reporting military sexual assault versus those without this experience.
McKinney, 1997 (161)	Yes	1987 National Medical Expenditure Survey (NMES)	133 female veterans and 12,063 female non-veterans; 3239 male veterans and 6543 male non-veterans	Observ. Study- Assess risk or prognosis	Smoking behavior; military era; demographic characteristics	Compared smoking behaviors between veterans and non-veterans. All veterans were 29% more likely to have smoked five or more packs of cigarettes in their lifetime and 26% more likely to be current smokers than non-veterans. Women veterans were 37% more likely to have smoked five or more packs in their lifetime but were not significantly more likely to be current smokers than women non-veterans.

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Evidence Tables**

Table 6b. Health behaviors, promotion and epidemiology: <i>Health Behaviors</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Striegel, 1999 (154)	Yes	National sample of hospitalized female and male veterans, FY 1996	24,041 women and 466,590 men	Observ. Study- Assess risk or prognosis	Discharge diagnoses for eating disorders as well as other comorbidities; demographic characteristics	Evaluated prevalence rates of eating disorders and associated psychiatric comorbidity. 0.3% of female veterans discharged in FY '96 and 0.02% of male veterans discharged in FY '96 were diagnosed with a current eating disorder. Women with eating disorders were significantly more likely to have comorbid substance, mood, anxiety, adjustment and personality disorders. Men with eating disorders were significantly more likely to have organic mental, substance, schizophrenia/psychotic and mood disorders. Women had a greater mean number of comorbid disorders.
Davis, 2003 (152)	Yes	Sample of women veterans who had received care from the VA Puget Sound Health Care System between 10/1/96 and 1/1/98	1257 women veterans	Observ. Study- Assess risk and prognosis	Demographic characteristics; substance abuse; cigarette smoking; drinking patterns; mental health symptoms including PTSD	Evaluated the prevalence of substance abuse and psychiatric disorders in the sample of women veterans. 29.1% reported past year cigarette use and 31.1% reported drinking problems. 59% of women under 35 screened positive for smoking, problem drinking or drug abuse. Screening positive for a psychiatric condition was associated with substance use.

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Table 6b. Health behaviors, promotion and epidemiology: <i>Health Behaviors</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Calhoun, 2001 (162)	Yes	Sample of women veterans receiving care at the Durham VA Medical Center Women Veteran Comprehensive Medical Center – the “Women Veteran Cohort”; surveys mailed in 11/97	409 women veterans	Observ. Study- Assess risk or prognosis	Sociodemographic characteristics; health risk behaviors including lack of exercise, tobacco/alcohol/caffeine use, BMI; hostility scale	Evaluated the relationship between hostility and health risk behaviors in women. After adjusting for demographic factors, self-reported hostility was significantly associated with current tobacco use and high levels of caffeine use. Among women who drink, hostility was significantly associated with the number of drinks consumed in the past week.
Davis, 2002 (163)	Yes	Women receiving addiction treatment at a VA outpatient treatment program (1997-2000) or at a community residential outpatient treatment program (1999-2000)	76 women veterans; 308 community participants	Observ. Study- Assess risk or prognosis	Demographic characteristics; comorbid issues and patients' perceived treatment needs	Evaluated differences in comorbid issues and perceived treatment needs for women in two outpatient substance abuse treatment programs. Women in both programs had high rates of psychiatric and medical comorbidity. Women in the VA treatment program had higher rates of medical problems, while women in the community sample had higher rates of alcohol and family problems.

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Evidence Tables**

Table 6b. Health behaviors, promotion and epidemiology: <i>Health Behaviors</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Lang, 2003 (139)	Yes	Sample of all women seen in the VA San Diego Healthcare System primary care clinic in 1998	221 women veterans	All Other Observational	Demographic variables; traumatic exposure; PTSD symptomatology; alcohol use screening (CAGE); other health behavior questions	Evaluated the association of sexual traumatization with health behaviors. Women who had been assaulted were more likely than those who had not been assaulted to be smokers and to screen positive on the CAGE though there were no differences in alcohol use during pregnancy, driving while intoxicated or seatbelt use. Sexually assaulted women were more likely to have risky sexual behaviors though they were also more likely have had had a pap smear in the past 5 years and to perform monthly self-breast exams. Assaulted women were more likely to have had an abnormal pap smear.
Bradley, 2003 (109)	Yes	Sample of women receiving care at the VA Puget Sound Health Care System between 10/1/96 and 1/1/99	393 women veterans	All Other Observational	Health questionnaire including alcohol screening (standard and sex-specific AUDIT screens), health status, mental health, eating habits, breast pain and physical activity; clinical interview	Evaluated the validity of the AUDIT alcohol screen in women veterans. 22.6% of the women met interview criteria for past-year hazardous drinking and/or active alcohol abuse or dependence. Standard and sex-specific AUDIT-Cs had a sensitivity of 0.81 and 0.84, respectively, and a specificity of 0.91 and 0.92, respectively.

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Evidence Tables**

Table 6b. Health behaviors, promotion and epidemiology: <i>Health Behaviors</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Bradley, 2001 (90)	Yes	Sample of all female veterans who received care from the VA Puget Sound Health Care System between 10/1/96 and 1/1/98	1243 women veterans	Observ. Study – Assess risk and prognosis	Alcohol use including binge drinking and alcohol-related problems; psychiatric symptoms	Evaluated the prevalence and associated risk of binge drinking in a population of women veterans. 25% of respondents reported binge drinking and these women tended to be younger, unmarried, and with less education. In regression analyses, binge drinkers were significantly more likely to screen positive for panic disorder. Binge drinkers also had higher rates of health problems including STDs, hepatitis or cirrhosis, injuries and domestic violence. Smoking, drug use and having multiple sexual partners increased with the frequency of binge drinking.
Bush, 2003 (110)	Yes	Sample of women receiving care at the VA Puget Sound Health Care System between 10/1/96 and 1/1/99	393 women veterans	All Other Observational	Clinical interview about alcohol and associated mental health disorders; AUDIT screen; TWEAK Questionnaire	Evaluated the performance of the TWEAK, an alcohol screening instrument, in women veterans. After interview, 9.9% of women met criteria for active DSM-IV alcohol abuse or dependence and 22.7% for hazardous drinking and/or alcohol abuse or dependence. The TWEAK had low sensitivities in the range of 0.44. The AUDI-C had higher sensitivities than the TWEAK at most specificities.

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Table 6b. Health behaviors, promotion and epidemiology: <i>Health Behaviors</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Walker, 1995 (164)	Yes	All women veterans discharged from VA medical centers in FY 1991 with a diagnosis of a substance use disorder	1698 women veterans	Descriptive Study	Demographic characteristics; prevalence rates of substance use and psychiatric and medical disorders; rehospitalization rates	Evaluated the prevalence of different types of substance use disorders as well as other psychiatric and medical disorders among women with a discharge diagnosis of substance use versus those without. Alcohol and cocaine use disorders were the most prevalent substance use disorders. Women with substance use were more frequently diagnosed with personality disorders, depression and PTSD, as well as with skin, subcutaneous, infectious and digestive diseases. 44% of women discharged with a substance use diagnosis in the first 6 months of FY '91 were rehospitalized in the same year.
Whitlock, 1995 (75)	Yes	Women veterans receiving care from the Pettis VAMC Preventive Medicine Women's Clinic in the 3 years prior to the study (5/91)	409 women veterans	Observ. Study- Assess risk and prognosis	Demographic variables; cardiovascular risk factors; depressive symptoms; smoking variables;	Evaluated the smoking characteristics of female veterans. 32.5% of the sample were current smokers. More than 1/3 of ever-smokers started smoking in the military. Current smokers had higher depression scores than former or never smokers. Predictors of cessation included increasing age and number of quit attempts. Older age at initiation and number of years of regular tobacco use were inversely associated with cessation.

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Table 6b. Health behaviors, promotion and epidemiology: <i>Health Behaviors</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Batain, 2001 (165)	Yes	Sample of women veterans receiving care at the Durham VA Medical Center Women Veteran Comprehensive Medical Center – the “Women Veteran Cohort”; restricted to those women working outside the home - surveys mailed in 11/97	275 women veterans	Observ. Study- Assess risk or prognosis	Sociodemographic characteristics; health risk behaviors including lack of exercise, tobacco/alcohol/caffeine use, BMI; home and work strain scale	Evaluated predictors of tobacco use. Significant and positive independent predictors of current cigarette smoking included non-married status, lower educational level, not being obese and having higher work strain.
Eitzen, 1997 (166)	Yes	Convenience sample of single women presenting to the Fort Jackson, South Carolina Army base for basic training	594 military women	Observ. Study- Assess knowledge, attitudes, or beliefs	Sexual risk behaviors survey; demographic characteristics; STD prevention methods used; alcohol use	Examined the sexually related behaviors of a sample of unmarried Army recruits. 87% of the sample engaged in vaginal sex with anywhere from one (10%) to 21 (6.6%) partners. 41% used condoms erratically. African Americans were more likely to consistently use condoms and those using alcohol were less likely to do so. White recruits were 1.3 times more likely to have had a greater number of different sex partners. 50.1% of recruits reported receiving a regular pelvic examination and 47% did not perceive themselves at risk for contracting an STD.

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Table 6c. Health behaviors, prevention and epidemiology: <i>Prevention</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Brach, 1998 (167)	Yes	Random sample of men and women veterans receiving primary care from six VHA facilities	1703 men and women veterans	Descriptive Study	Receipt of preventive services	Evaluated receipt of preventive services for veterans using VA primary care. Both male and female veterans exceeded the Healthy People 2000 goals for hypertension detection and tobacco counseling. Female veterans exceed the goal for "almost always" using seat belts. Hyperlipidemia screening, influenza immunization, cervical cancer screening and breast cancer screening for VA users exceeded Healthy People 2000 goals.
Dalessandri, 1998 (168)	Yes	Sample of women veterans from the VA Palo Alto Health Care System who earned < \$22,000 a year	366 in the intervention group; 351 in the control group	Experimental Study	Receipt of mammogram	Randomized controlled trial evaluating the effect of an intervention to encourage underserved women veterans to get breast cancer screening. Women in the intervention group who received more extensive follow-up calls from a nurse were more likely to obtain a mammogram than women in the control group.
Hynes, 1998 (100)	Yes	National sample of women veterans discharged from 1971-1994	297	Observ. Study- Assess risk or prognosis	Lifetime mammography rates and last mammogram; advice from health care professionals regarding mammography; VA health care utilization	Evaluated mammography use patterns of women veterans and identified predictors of mammography use. Women veterans told to have a mammogram were >5 times more likely to have ever had one and twice as likely to have had one in the past 2 years. Regular VA users were more likely to have mammograms.

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Table 6c. Health behaviors, prevention and epidemiology: <i>Prevention</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Rabiner, 1998 (102)	No	Veteran men and women using primary care at 6 VA facilities	300 men; 150 women	Observ. Study- Assess risk or prognosis	Health promotion/disease prevention service receipt; percent use of VA for health care	Surveyed primary care users to determine their receipt of prevention services and their use of the VA for care. Patients receiving 90% or more of their care at the VA obtained more preventive services than those using non-VA providers for 90% or more of their care.
Osborn, 1999 (143)		"The Women Veteran Cohort" – sample of women aged 35 and over at the VA Medical Center in Durham, NC, limited to those who were post-menopausal; 11/97	230 post-menopausal women veterans	All Other Observational	Demographic characteristics; menopause-related characteristics; medications and supplements; hormone use; worry about osteoporosis	Evaluated factors associated with worry about osteoporosis. Married women, white women, those with a hysterectomy and those with worries about osteoporosis were more likely to have used hormone replacement therapy. Older women (60 or older) were 75% less likely to worry about osteoporosis while those with the condition or with a family history of osteoporosis were 9.5 and 2.6 times, respectively, as likely to worry about it.

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Table 7a. Clinical Conditions: <i>Benign Diseases of the Reproductive Tract</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Frommelt, 2000 (169)	Yes	Samples of Gulf War Era air force women who had at least one pap smear during 1994. Two cohorts – those deployed to the Gulf and those not deployed	1446 deployed women; 5269 non-deployed women	Observ. Study- Assess risk or prognosis	Demographic characteristics; pap smear results	Evaluated differences in Pap smear diagnoses between women from the Gulf War era who were or were not deployed to the Gulf. Overall, there were no differences between the groups in the diagnosis of “other than within normal limits”, the diagnoses of significant disease or in Bethesda system diagnoses. For women in the 26-30 age group, deployed women were more likely to have been diagnosed with A SCUS
Barnard, 2003 (170)	Yes	National random sample of women with an ambulatory visit between 7/1/94 and 6/30/95 who were menstruating	1744 women	Observ. Study- Assess risk or prognosis	Health status as measured by SF-36; sociodemographic characteristics; menstrual symptoms; psychosocial characteristics; medical conditions	Evaluated for differences in health status among women who reported menstrual symptoms and those who did not. After adjustment for sociodemographic and psychosocial factors and for medical conditions, women with menstrual symptoms had significantly lower health status in every domain except energy/vitality. Health status was affected differently for women with premenstrual symptoms, dysmenorrhea or abnormal, irregular or heavy periods

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Table 7b. Clinical Conditions: <i>Cancers of the Reproductive Tract</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Pierce, 1997 (1)	Yes	Sample of Gulf War women veterans who either served in the USAF active duty or were active guard or reserve members during the first Gulf War	638 women	Observ. Study- Assess risk or prognosis	Demographics; general physical health status; gender-specific health; measures of mental health including PTSD and depression;	Survey of sample of Gulf War women veterans at two points in time, following the war and 2 years later. Women deployed to the theater had more general as well as gender-specific health problems than women deployed elsewhere. Specifically, deployed women were more likely to report breast lumps or cysts and abnormal pap results.
Frommelt, 2000 (169)	Yes	Samples of Gulf War Era air force women who had at least one pap smear during 1994. Two cohorts – those deployed to the Gulf and those not deployed	1446 deployed women; 5269 non-deployed women	Observ. Study- Assess risk or prognosis	Demographic characteristics; pap smear results	Evaluated differences in Pap smear diagnoses between women from the Gulf War era who were or were not deployed to the Gulf. Overall, there were no differences between the groups in the diagnosis of “other than within normal limits”, the diagnoses of significant disease or in Bethesda system diagnoses. For women in the 26-30 age group, deployed women were more likely to have been diagnosed with A SCUS

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Table 7b. Clinical Conditions: <i>Cancers of the Reproductive Tract</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Kang, 2000 (171)	Yes	National sample of female Vietnam veterans who served in Vietnam; control group of female Vietnam era veterans who served in the US ("non-Vietnam veterans)	6430 women (3392 Vietnam and 3038 non-Vietnam veterans)	Observ. Study- Assess risk or prognosis	Demographic characteristics; self-report and medical record review of history of gynecologic cancer (breast, ovarian, uterine, cervical)	Evaluated whether women deployed to Vietnam are at higher risk for gynecologic cancer. After controlling for demographic variables, use of birth control pills, postmenopausal estrogen and progesterone use as well as other factors, there was no evidence of an association between service in Vietnam and gynecologic cancer risk. Increasing age and smoking were associated with an increased risk of gynecologic cancer. Black veterans had a reduced risk.
Goldzweig, 2004 (98)	Yes	144 VA Medical Centers, 1997	144 VAMCs	Observ. Study- Assess risk or prognosis	Breast and cervical cancer screening rates; primary care delivery characteristics; facility quality orientation	Evaluated organizational predictors of higher breast and cervical cancer screening rates for 1996. Found that greater primary care-specialist coordination, greater organizational commitment to quality and anticipated reward and recognition for better performance resulted in higher screening rates.

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Table 7b. Clinical Conditions: <i>Cancers of the Reproductive Tract</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Turpin, 1992 (103)	Yes	All women veteran inpatients discharged from a large VA hospital between 11/1/88 and 4/30/89; 1% sample of male veteran inpatients discharged over the same time period	66 female veterans; 48 male veterans	All Other Observational	Demographic variables; quality of documentation for history and physical and female-specific items; telephone interview regarding care at the VA hospital	Evaluated differences in quality of care for hospitalized male and female veterans. General patient history was more often present on a male veteran's chart. Chest exam was twice as likely to be documented for a male as a female. Breast exams were documented on 34% of female and 6% of male charts. Gender-specific exams were poorly documented for both sexes. There were no differences in reasons for using the VA by gender, utilization rates or health problems.

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Table 7c. Clinical Conditions: <i>Diseases and conditions of pregnancy</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Araneta, 2004 (172)	Yes	National sample of Gulf War veterans who were admitted to military hospitals for pregnancy-related diagnoses between 8/2/90 and 3/31/92; comparing nondeployed conceptions, Gulf-War exposed conceptions, and Gulf War veteran postwar conceptions	409 nondeployed veterans conceptions; 409 Gulf War-exposed conceptions; 292 Gulf War veteran postwar conceptions	Observ. Study- Assess risk or prognosis	Gulf War-exposed pregnancy outcomes including stillbirths, spontaneous abortions, induced abortions and ectopic pregnancies	Evaluated risks of different types of adverse pregnancy outcomes for Gulf War veterans based on exposure and deployment to the Persian Gulf. There were no significant differences in adverse reproductive outcomes among GW-exposed and nondeployed conceptions. There was an increased risk of spontaneous abortion and ectopic pregnancy among Gulf War veteran postwar conceptions.

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Table 7c. Clinical Conditions: <i>Diseases and conditions of pregnancy</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Kang, 2000 (173)	Yes	National sample of female Vietnam veterans who served in Vietnam; control group of female Vietnam era veterans who served in the US ("non-Vietnam veterans)	6430 women (3392 Vietnam and 3038 non-Vietnam veterans)	Observ. Study- Assess risk or prognosis	Demographic characteristics; pregnancy history and pregnancy outcomes; military experience; health habits and exposures; medical record review of likely birth defects	Evaluated whether women who served in Vietnam were more likely to have adverse pregnancy outcomes. There were no differences in likelihood of spontaneous abortions or stillbirths, low birth weight, preterm delivery or infant death when comparing women deployed to Vietnam with those not deployed. However, there was a statistically significant increase in the odds of having a "likely" birth defect and a "moderate to severe" birth defect for those deployed to Vietnam (OR 1.46, 95% CI=1.06-2.02); and the risk was higher for non-nurse Vietnam veterans

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Table 7d. Clinical Conditions: <i>Breast</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Dalessandri, 1998 (168)	Yes	Sample of women veterans from the VA Palo Alto Health Care System who earned < \$22,000 a year	717 women	Experimental Study	Rates of mammography	Randomized controlled trial of an intervention to improve mammography rates. Women in the intervention group received follow-up phone calls to encourage mammography and provided information and education as well as help with transportation. Women in the intervention group were significantly more likely to get a mammogram (100/336 women versus 17/351 women).
Goldzweig, 2004 (98)	Yes	144 VA Medical Centers, 1997	144 VAMCs	Observ. Study- Assess risk or prognosis	Breast and cervical cancer screening rates; primary care delivery characteristics; facility quality orientation	Evaluated organizational predictors of higher breast and cervical cancer screening rates for 1996. Found that greater primary care-specialist coordination, greater organizational commitment to quality and anticipated reward and recognition for better performance resulted in higher screening rates.

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Table 7d. Clinical Conditions: <i>Breast</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Turpin, 1992 (103)	Yes	All women veteran inpatients discharged from a large VA hospital between 11/1/88 and 4/30/89; 1% sample of male veteran inpatients discharged over the same time period	66 female veterans; 48 male veterans	All Other Observational	Demographic variables; quality of documentation for history and physical and female-specific items; telephone interview regarding care at the VA hospital	Evaluated differences in quality of care for hospitalized male and female veterans. General patient history was more often present on a male veteran's chart. Chest exam was twice as likely to be documented for a male as a female. Breast exams were documented on 34% of female and 6% of male charts. Gender-specific exams were poorly documented for both sexes. There were no differences in reasons for using the VA by gender, utilization rates or health problems.
Pierce, 1997 (1)	Yes	Sample of Gulf War women veterans who either served in the USAF active duty or were active guard or reserve members during the first Gulf War	638 women	Observ. Study- Assess risk or prognosis	Demographics; general physical health status; gender-specific health; measures of mental health including PTSD and depression;	Survey of sample of Gulf War women veterans at two points in time, following the war and 2 years later. Women deployed to the theater had more general as well as gender-specific health problems than women deployed elsewhere. Specifically, deployed women were more likely to report breast lumps or cysts and abnormal pap results.

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Table 7d. Clinical Conditions: <i>Breast</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Harris, 1998 (158)	Yes	Two separate samples – first non-VA, second VA. VA sample consisted of all women veterans diagnosed with cancer between 1970 and 1982	1432 women veterans with cancer diagnoses	Observ. Study- Assess risk or prognosis	Proportional morbidity rates for cancers	Evaluated whether women veterans, who have approximately twice the rate of medical diagnoses related to alcohol and tobacco use than women using short term US hospitals, have higher rates of breast cancer. Veteran women have standardized proportional morbidity rates for alcohol- and tobacco-related malignancies that exceed 1.0, while PMRs for breast cancer are < 1.0. This information may indicate that alcohol is not causative in breast cancer.
Hynes, 1998 (100)	Yes	National sample of women veterans discharged from 1971-1994	297	Observ. Study- Assess risk or prognosis	Lifetime mammography rates and last mammogram; advice from health care professionals regarding mammography; VA health care utilization	Evaluated mammography use patterns of women veterans and identified predictors of mammography use. Women veterans told to have a mammogram were >5 times more likely to have ever had one and twice as likely to have had one in the past 2 years. Regular VA users were more likely to have mammograms.
Schwartz, 1997 (140)	Yes	Random sample of women veterans from the White River Junction VA Medical Center registry	305 women veterans	All Other Observational	Assessment of numeracy; assessment of perceived risk and benefit from mammography	Evaluated how numeracy affects women's ability to gauge the benefit of mammography after receiving quantitative information. Accuracy in applying risk reduction information and numeracy was poor. Accurately gauging the benefit of mammography was strongly related to numeracy.

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Table 7e. Clinical Conditions: <i>Bone, Joint, Rheumatic</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Kang, 2003 (9)	No	Population-based stratified sample of Gulf War veterans and non-Gulf War veterans, 1995-1997	11,441 Gulf War and 9,476 non-Gulf War veterans; 2123 Gulf War women and 2076 non-Gulf War women and	Observ. Study – Assess risk and prognosis	Symptom inventory for prevalence of somatic and psychological symptoms; PTSD screen; stressor severity based on combat exposure	Evaluates the prevalence of PTSD and chronic fatigue syndrome (CFS) in Gulf War and non-Gulf War veterans, and evaluates the relations between deployment-related stress and the risk of PTSD or CFS. In bivariate analysis, veterans who were female, older, non-White, enlisted and in the Army and National Guard were more likely to meet criteria for PTSD. Veterans with CFS-like illness were more likely to be younger, single, enlisted, in the Army or Marines and in the reserves. In regression analysis, Gulf veterans were 3 times as likely to have PTSD and 4.8 times as likely to have CFS.
Osborn, 1999 (143)		“The Women Veteran Cohort” – sample of women aged 35 and over at the VA Medical Center in Durham, NC, limited to those who were post-menopausal; 11/97	230 post-menopausal women veterans	All Other Observational	Demographic characteristics; menopause-related characteristics; medications and supplements; hormone use; worry about osteoporosis	Evaluated factors associated with worry about osteoporosis. Married women, white women, those with a hysterectomy and those with worries about osteoporosis were more likely to have used hormone replacement therapy. Older women (60 or older) were 75% less likely to worry about osteoporosis while those with the condition or with a family history of osteoporosis were 9.5 and 2.6 times, respectively, as likely to worry about it.

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Table 7e. Clinical Conditions: <i>Bone, Joint, Rheumatic</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Allison, 1991(174)	Yes	Female veterans seen in the orthopedic unit of the Philadelphia VA Ambulatory Care Clinic for compensation and pension evaluation of trauma-related musculoskeletal conditions; 1/81 through 12/88	207 women veterans	Descriptive Study	ICD-9 diagnoses	Describes the prevalence of various musculoskeletal disorders among this cohort of women. 77.3% of the women were seen for compensation and pension awards with the rest seen for treatment and follow-up. 55.1 % of the disorders were related to back and neck conditions, 33.8% to knee problems and 24.6% to foot disorders. This was in contradistinction to men, where foot disorders rank fifth and shoulder disorders third.

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Table 7f. Clinical Conditions: <i>Endocrinologic</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Gilhooly, 2001 (21)	Yes	Sample of northeastern US Persian Gulf women veterans with and without symptoms of Chronic Fatigue Syndrome	22 health subjects and 26 with CFS	Observ. Study- Assess risk or prognosis	Sexual function; genitourinary symptomatology	Evaluates association of sexual dysfunction with chronic fatigue syndrome. Female sexual dysfunction was significantly more likely in women with fatiguing symptoms, as was decreased libido. Vaginal irritation was also more likely in fatigued veterans.
Haskell, 2004 (175)	Yes	Sample of women from the VA Connecticut Healthcare System who were taking combination estrogen and progesterone HRT	48 survey respondents	Descriptive Study	Survey related to behaviors surrounding HRT use and menopausal symptoms	Evaluated women's experiences with HRT after learning of the results of the Women's Health Initiative. 77% of the respondents stopped HRT while 23% continued. Women who continued were younger and were more likely to be taking HRT for menopausal symptoms. Among women who stopped HRT, there was a greater percentage with recurrent menopausal symptoms in the group that tapered the HRT rather than stopping it abruptly.

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Table 7g. Clinical Conditions: <i>Gastroenterology</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Delco, 1998 (157)	No	All veteran patients with a primary or secondary diagnosis of Crohn's disease or ulcerative colitis in the Patient Treatment File from 1986-1996; 4 controls were randomly selected for each patient	10,544 veterans with inflammatory bowel disease (IBD); 42,026 controls [There is no breakdown by gender]	Observ. Study- Assess risk or prognosis	Demographic variables; time period of military service; military duty in Vietnam; prisoner of war status; exposure to Agent Orange	Evaluated the epidemiology of IBD among veterans with respect to their military history. Women and white veterans were significantly more likely to have either Crohn's or ulcerative colitis. Status of prisoner of war and active duty in Vietnam were predictive against Crohn's. Age was negatively associated with Crohn's but positively associated with ulcerative colitis.

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Table 7h. Clinical Conditions: <i>Estrogen</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Roumie, 2004 (112)	Yes	Women veterans age 50-79 with a hormone replacement therapy prescription filled at the VA Tennessee Valley Healthcare System between 1/1/02 and 7/1/02	91 women veterans	All Other Observational	Rates of discontinuation of HRT; demographic variables; comorbid medical conditions; provider characteristics	Evaluated the impact of an educational intervention aimed at patients and providers on continued use of hormone replacement therapy. The rate of discontinuation of combined HRT in 2002 was 70.3% with 43% occurring after the initiation of the intervention. The discontinuation rate per day was 4.9 times higher after the intervention then after the media release regarding the dangers of HRT.

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Table 7i. Clinical Conditions: <i>Occupational Hazards</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Bullman, 1994 (176)	No	Multiple	Multiple	Non-Systematic Review	Varied	Reviews numerous studies that have evaluated the impact of different types of exposures, including mustard gas, ionizing radiation, herbicides, trauma and oil smoke, on the health of military or veteran personnel.
Stuart, 2002 (16)	Yes - compares men and women	Persian Gulf War theater veterans receiving clinical evaluations as part of DOD's Gulf War Comprehensive Clinical Evaluation Program (CCEP), 2000	46,633 veterans (4888 females)	Descriptive Study	Health symptoms; wartime exposures; primary and secondary physician-determined medical diagnoses	Examined health status of male and female Gulf War theater veterans. Found that the most frequent diagnoses were musculoskeletal/connective tissue diseases, ill-defined conditions and mental disorders. Female veterans were more frequently diagnosed with mental disorders. Self-reported health of veterans with symptoms was much poorer than that of veterans with no symptoms; and women had poorer health status than men.
Stuart, 2003 (17)	No	Sample of Gulf War veterans in the Comprehensive Clinical Evaluation Program (CCEP), 1994-1998	39548 men; 4620 women	All Other Observational	Belief in exposure to nerve or mustard gas; physical symptoms, clinical diagnoses; health status	Examined risk factors for belief in exposure to potential terrorist agents and found that women, non-whites, and older veterans were more likely to report exposure. They also reported more physical symptoms during the war, were more likely to be diagnosed with a mental disorder and reported poorer health status.

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Table 7i. Clinical Conditions: <i>Occupational Hazards</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Schumm, 2002 (159)	No	Sample of male and female Reserve Component Gulf War veterans from Ohio; deployed and non-deployed samples	969 veterans (unable to determine number of women in sample)	Observ. Study- Assess risk or prognosis	Receipt of anthrax vaccination; reports of adverse reactions to vaccination; health status at different times related to the Gulf War; sociodemographic variables	Evaluated changes in subjective health status over time for Gulf War veterans and its relationship to receipt of anthrax vaccine. Female veterans were more likely to report severe as well as mild reactions to vaccines when compared with men. In regression analysis, the strongest predictor of subsequent health is prior health. Reactions to all vaccines predicted worse subjective health. Anthrax vaccine did not affect subjective health during the war, but predicted worse subjective health at other time periods.

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Table 7j. Clinical Conditions: <i>Drugs</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Hankin, 1999 (39)	Yes	National sample of women veterans using VA outpatient services between 7/94 and 7/95 (same sample and study as (138))	3632	Observ. Study- Assess risk or prognosis	History of sexual assault while in the military; current symptoms of depression and alcohol abuse	23% reported a history of sexual assault while in the military and prevalence of current depression was 3 times higher and for current alcohol abuse 2 times higher among those reporting military sexual assault versus those without this experience.
Leda, 1992 (91)	Yes	Database of homeless veterans in the VA Homeless Chronically Mentally Ill (HCMI) Veterans Program, 1988-1991	19283 male veterans; 310 women veterans	Observ. Study- Assess risk or prognosis	Psychiatric and substance abuse disorders	Evaluated characteristics of a homeless veteran population. 1.6% of the population were female which was consistent with expected numbers. Women homeless veterans were younger, less likely to be employed and more likely to be homeless for less than one month. More women veterans were diagnosed with major psychiatric disorders but fewer had substance use disorders.

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Table 7j. Clinical Conditions: <i>Drugs</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Davis, 2003 (152)	Yes	Sample of women veterans who had received care from the VA Puget Sound Health Care System between 10/1/96 and 1/1/98	1257 women veterans	Observ. Study- Assess risk and prognosis	Demographic characteristics; substance abuse; cigarette smoking; drinking patterns; mental health symptoms including PTSD	Evaluated the prevalence of substance abuse and psychiatric disorders in the sample of women veterans. 29.1% reported past year cigarette use and 31.1% reported drinking problems. 59% of women under 35 screened positive for smoking, problem drinking or drug abuse. Screening positive for a psychiatric condition was associated with substance use.
Wing, 1999 (51)	Yes	Women with PTSD related to military sexual trauma	10 women	Qualitative Research	Understand about addiction in these traumatized patients – when it started, why the women used chemicals, how they recovered from addiction	Chemicals were used to “escape” bad memories and life problems but impaired coping mechanisms.

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Table 7j. Clinical Conditions: <i>Drugs</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Bradley, 2001 (90)	Yes	Sample of all female veterans who received care from the VA Puget Sound Health Care System between 10/1/96 and 1/1/98	1243 women veterans	Observ. Study – Assess risk and prognosis	Alcohol use including binge drinking and alcohol-related problems; psychiatric symptoms	Evaluated the prevalence and associated risk of binge drinking in a population of women veterans. 25% of respondents reported binge drinking and these women tended to be younger, unmarried, and with less education. In regression analyses, binge drinkers were significantly more likely to screen positive for panic disorder. Binge drinkers also had higher rates of health problems including STDs, hepatitis or cirrhosis, injuries and domestic violence. Smoking, drug use and having multiple sexual partners increased with the frequency of binge drinking
Harris, 1988 (158)	Yes	Two separate samples – first non-VA, second VA. VA sample consisted of all women veterans diagnosed with cancer between 1970 and 1982	1432 women veterans with cancer diagnoses	Observ. Study- Assess risk or prognosis	Proportional morbidity rates for cancers	Evaluated whether women veterans, who have approximately twice the rate of medical diagnoses related to alcohol and tobacco use than women using short term US hospitals, have higher rates of breast cancer. Veteran women have standardized proportional morbidity rates for alcohol- and tobacco-related malignancies that exceed 1.0, while PMRs for breast cancer are < 1.0. This information may indicate that alcohol is not causative in breast cancer.
Bradley, 2003 (109)	Yes	Sample of women receiving care at the VA Puget Sound Health Care System between	393 women veterans	All Other Observational	Health questionnaire including alcohol screening (standard and sex-specific AUDIT screens), health status, mental health, eating	Evaluated the validity of the AUDIT alcohol screen in women veterans. 22.6% of the women met interview criteria for past-year hazardous drinking and/or active alcohol abuse or dependence. Standard and sex-specific AUDIT-Cs had a sensitivity of 0.81 and 0.84, respectively, and a specificity of 0.91 and 0.92, respectively.

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Table 7j. Clinical Conditions: <i>Drugs</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
		10/1/96 and 1/1/99			habits, breast pain and physical activity; clinical interview	
Walker, 1995 (164)	Yes	Female veterans discharged from VA medical centers in FY 1991 with a diagnosis of substance use disorder; control were those discharged without this diagnosis	1698 women veterans with substance use disorder diagnosis; 12,037 without substance abuse disorder	Descriptive Study	Demographic characteristics; types of substance use disorders; psychiatric disorders; medical disorders; service episode characteristics; rehospitalization rates	Evaluated the prevalence of substance use, psychiatric and medical disorders among female veterans discharged from VA hospitals. 12% of women discharged had at least one diagnosis of substance use disorder, with alcohol (77.2%) and cocaine (27.3%) use disorders being the most prevalent. Women with substance use disorders were younger and not currently married. 31% received a concomitant psychiatric diagnosis. Rates of medical disorders were similar among women with and without substance use disorders, though women with substance use disorders had more hospitalizations during 1991.
Bush, 2003 (110)	Yes	Sample of women receiving care at the VA Puget Sound Health Care System between 10/1/96 and 1/1/99	393 women veterans	All Other Observational	Clinical interview about alcohol and associated mental health disorders; AUDIT screen; TWEAK Questionnaire	Evaluated the performance of the TWEAK, an alcohol screening instrument, in women veterans. After interview, 9.9% of women met criteria for active DSM-IV alcohol abuse or dependence and 22.7% for hazardous drinking and/or alcohol abuse or dependence. The TWEAK had low sensitivities in the range of 0.44. The AUDI-C had higher sensitivities than the TWEAK at most specificities.
Greenberg, 2004 (136)	Yes	Sample of women veterans receiving treatment in one of four	224 women veterans; 149 women veterans at 1 st follow-up; 131	All Other Observational	Sociodemographic characteristics; treatment process measures; clinical measures including PTSD	Evaluated the relationship of changes in health status to continuity of care in women entering a PTSD treatment program. There were few consistently significant associations between continuity of care and outcome measures in the full regression models thereby providing

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Table 7j. Clinical Conditions: <i>Drugs</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
		specialized PTSD treatment programs, 7/98 – 6/00; national outpatient treatment files	at 2 nd follow-up		symptoms, substance abuse, general psychiatric/physical health, violent behavior and employment; continuity of care and intensity of care	weak and inconsistent evidence of the benefits of continuity of care.
Lang, 2003 (139)	Yes	Sample of women veterans from a San Diego VAMC primary care clinic in 1998	221 women veterans	Observ. Study- Assess risk or prognosis	Demographics, psychological and medical symptoms, exposure to traumatic stressors, health behaviors and health-related quality of life	Evaluated the association of health behavior and sexual assault and the role of PTSD as a mediator. 72% reported some type of sexual trauma and 44% reported sexual assault. Sexual assault history was associated with increased substance use, risky sexual behaviors, less vigorous exercise and increased preventive healthcare. PTSD mediated the history of sexual assault and health behaviors.
Davis, 1999 (41)	Yes	Sample of female veterans participating in outpatient PTSD and/or substance abuse treatment at one VAMC	28 women	Descriptive Study	Demographic information including age, ethnicity, sexual orientation, military service, past psychiatric/substance treatment, years since assault; General Severity Index of the Brief Symptom Index; Alcohol screening (AUDIT); the Life Stressor Checklist; health status	Most of women included in study had been sexually abused with 63% meeting criteria for PTSD. 89% of women who had abused substances also reported a history of sexual abuse. Most of the sexual abuse occurred during military service.

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Table 7j. Clinical Conditions: <i>Drugs</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Davis, 2002 (163)	Yes	Sample of veteran women in a VA intensive outpatient addictions treatment program and sample of women from a similar community treatment center	76 women veterans and 308 community women	Observ. Study- Assess risk or prognosis	Addiction Severity Index; demographic variables	Evaluated differences in identification of comorbid issues and patients' perceived treatment needs in a VA and a community substance use treatment center. Women in the VA cohort appeared to be more severely impaired on a variety of indices including medical, psychiatric and employment while the community cohort reported more family and alcohol problems.

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Table 7k. Clinical Conditions: <i>Smoking</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
McKinney, 1997 (161)	Yes	1987 National Medical Expenditure Survey (NMES), comparing veterans to non-veterans in various categories (female, Vietnam, users of VA)	3372 veterans compared to 18,606 non-veterans (133 female veterans, 12,063 female non-veterans)	Observ. Study- Assess risk or prognosis	Smoking habits; receipt of care in VA; demographic characteristics	Evaluated the smoking behaviors of veterans and non-veterans. Veterans were 1.27 times and women veterans 1.37 times more likely to have smoked five or more packs of cigarettes in their lifetime; and both groups were also more likely to be currently smoking than comparison non-veterans. Women veterans who stopped smoking were on average three years younger when they quit than non-veterans. Veterans currently using the VA were 1.52 times as likely to be smoking.
Davis, 2003 (152)	Yes	Sample of women veterans who had received care from the VA Puget Sound Health Care System between 10/1/96 and 1/1/98	1257 women veterans	Observ. Study- Assess risk and prognosis	Demographic characteristics; substance abuse; cigarette smoking; drinking patterns; mental health symptoms including PTSD	Evaluated the prevalence of substance abuse and psychiatric disorders in the sample of women veterans. 29.1% reported past year cigarette use and 31.1% reported drinking problems. 59% of women under 35 screened positive for smoking, problem drinking or drug abuse. Screening positive for a psychiatric condition was associated with substance use.

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Table 7k. Clinical Conditions: <i>Smoking</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Caloun, 2001 (162)	Yes	Sample of women enrolled in primary care at the Women Veteran Comprehensive Health Center at the VAMC in Durham, NC (Women Veteran's Cohort)	409 women veterans	Observ. Study- Assess risk or prognosis	Adapted Cook-Medley Hostility Scale; sociodemographic variables; health risk behaviors	Evaluated the association between hostility and health risk behaviors among women veterans. In logistic regression analysis, self-reported hostility was significantly associated with current tobacco use and high levels of caffeine use. It was not associated with lack of exercise or being overweight. Hostility was associated with the number of drinks consumed in the past week among those women who drink.
Harris, 1988 (158)	Yes	Two separate samples – first non-VA, second VA. VA sample consisted of all women veterans diagnosed with cancer between 1970 and 1982	1432 women veterans with cancer diagnoses	Observ. Study- Assess risk or prognosis	Proportional morbidity rates for cancers	Evaluated whether women veterans, who have approximately twice the rate of medical diagnoses related to alcohol and tobacco use than women using short term US hospitals, have higher rates of breast cancer. Veteran women have standardized proportional morbidity rates for alcohol- and tobacco-related malignancies that exceed 1.0, while PMRs for breast cancer are < 1.0. This information may indicate that alcohol is not causative in breast cancer.

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Table 7k. Clinical Conditions: <i>Smoking</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
Lang, 2003 (139)	Yes	Sample of women veterans from a San Diego VAMC primary care clinic in 1998	221 women veterans	Observ. Study- Assess risk or prognosis	Demographics, psychological and medical symptoms, exposure to traumatic stressors, health behaviors and health-related quality of life	Evaluated the association of health behavior and sexual assault and the role of PTSD as a mediator. 72% reported some type of sexual trauma and 44% reported sexual assault. Sexual assault history was associated with increased substance use, risky sexual behaviors, less vigorous exercise and increased preventive healthcare. PTSD mediated the history of sexual assault and health behaviors.
Whitlock, 1995 (75)	Yes	Women veterans receiving care from the Pettis VAMC Preventive Medicine Women's Clinic in the 3 years prior to the study (5/91)	409 women veterans	Observ. Study- Assess risk and prognosis	Demographic variables; cardiovascular risk factors; depressive symptoms; smoking variables;	Evaluated the smoking characteristics of female veterans. 32.5% of the sample were current smokers. More than 1/3 of ever-smokers started smoking in the military. Current smokers had higher depression scores than former or never smokers. Predictors of cessation included increasing age and number of quit attempts. Older age at initiation and number of years of regular tobacco use were inversely associated with cessation.
Bastain, 2001 (165)	Yes	Sample of women enrolled in primary care at the Women Veteran Comprehensive Health Center at the VAMC in Durham, NC, who worked outside the	275 women veterans	Observ. Study- Assess risk or prognosis	Sociodemographic variables; health behaviors; UNCAHS Strain scale (measures home and work strain)	Evaluated the health effects of role overload and the relationship between multiple role strain and current cigarette smoking. 57% of the sample worked full time, 25% were current smokers, 4% regular alcohol drinkers, 50% regular exercisers and 44% obese. Current smoking status was independently associated with marital status, educational level, obesity and work strain.

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Table 7k. Clinical Conditions: <i>Smoking</i>						
Author	Women Veteran Specific?	Sample characteristics	Sample size [N]	Design	Main measures	Description
		home (Women Veteran's Cohort)				

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Table 8. Gynecological					
Author	Sample characteristics	Sample size [N]	Design	Main measures	Description
Kang, 2000 (173)	National sample of female Vietnam-era veterans, comparing those who served in Vietnam with those who did not	3392 Vietnam women; 3038 women who did not serve in Vietnam	Observ. Study- Assess risk or prognosis	Demographic characteristics; health questionnaire including pregnancy history and outcomes and exposures; medical record review of reported birth defects	Evaluated for any association between military service in Vietnam and birth defects. There were no significant differences between the groups in terms of risk of miscarriage or still birth, low birth weight, pre-term delivery or infant death. Veterans who served in Vietnam were more likely to report moderate-to-severe birth defects than women who did not serve in Vietnam
Kang, 2001 (177)	National sample of Gulf War era veterans, men and women, comparing those deployed to the Gulf and those deployed elsewhere	Gulf veterans: 636 women and 2761 men Non-Gulf veterans: 695 women and 1951 men	Observ. Study- Assess risk or prognosis	Demographic characteristics; pregnancies and pregnancy outcomes	Evaluated pregnancy outcomes for Gulf War era veterans, comparing those who were deployed to the Gulf and those deployed elsewhere. Male Gulf veterans reported a significantly higher rate of miscarriage (OR = 1.62). Female miscarriage rates were not statistically different. Men and women deployed to the Gulf reported significantly more birth defects “moderate to severe” birth defects being 1.78 times as likely for men and 2.8 times as likely for women. There were no differences in rates of stillbirths, pre-term deliveries or infant mortality.

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Table 8. Gynecological					
Author	Sample characteristics	Sample size [N]	Design	Main measures	Description
Araneta, 2004 (172)	National sample of Gulf War era female veterans with pregnancy histories	409 nondeployed veterans' conception; 409 Gulf War-exposed conceptions; 292 Gulf War veteran postwar conceptions	Observ. Study- Assess risk or prognosis	Deployment history; reproductive outcomes	Evaluated reproductive outcomes among women during the Gulf War era comparing GW-exposed pregnancies with postwar conceptions of women deployed to the Gulf and conceptions of women not deployed to the Gulf. Compared with non-deployed conceptions, there were no significant differences in rates of spontaneous abortion or ectopic pregnancy for Gulf War-exposed conceptions but Gulf War postwar conceptions were 2.92 times as likely to result in spontaneous abortion and 7.7 times as likely to result in ectopic pregnancy.
Dalessandri, 1998 (168)	Sample of women from the VA Palo Alto Health Care System who earned less than \$22,000/year	717 women veterans; 366 in the intervention group and 351 in the control group	Experimental Study	Demographic characteristics; receiving a mammogram	Evaluated the impact of an intervention to improve mammography screening rates in "underserved" women. All women received a letter requesting she schedule a mammogram or visit to the breast clinic. Women in the intervention group received a follow-up phone call by a nurse that included individualized explanations and discussion of transportation needs. Women in the intervention group were more than 5 times as likely to have a mammogram.

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Table 8. Gynecological					
Author	Sample characteristics	Sample size [N]	Design	Main measures	Description
Woloshin, 1999 (141)	Random sample of women veterans from the White River Junction VA Medical Center registry, excluding those with a personal history of breast cancer; 12/95	201 women veterans	All Other Observational	Reported estimates of personal risk of breast cancer; risk-factor data for breast cancer	Evaluated how women estimate the risk of getting breast cancer. 98% of women overestimated their risk for breast cancer but only 10% thought their risk was higher than that of the average woman. Perceived “___ in 1,000” risk was not related to actual risks but women’s comparative perceptions of being at low, average or high risk were related to actual risks.
Frommelt, 2000 (169)	National sample of pap smears from Gulf War era Air Force women, deployed and non-deployed	1446 pap smears from deployed women; 5226 pap smears from non-deployed women	Observ. Study- Assess risk or prognosis	Demographic characteristics; pap smear results	Evaluated for differences in cervical pathology between women deployed and women not deployed to the Persian Gulf. Overall, there were no differences in abnormal pap smear results between women deployed or not deployed. However, in the 26-30 year group, women deployed to the Gulf were more likely to have a diagnosis of “other than within normal limits” than women of the same age not deployed to the Gulf.

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Table 8. Gynecological					
Author	Sample characteristics	Sample size [N]	Design	Main measures	Description
Weaver, 2001 (113)	All women who had hysterectomies in VA from 10/91 through 9/97	1722 women with hysterectomies	Descriptive Study	Demographic characteristics; indications for surgery; surgical characteristics; complications; length of stay	Describes the indications and surgical morbidity for women veterans undergoing hysterectomies in VA. 74% of operations were abdominal, 22% vaginal and 4% laparoscopic. The most common indications were leiomyomas, bleeding and endometriosis. Length of stay was about 2 days longer for abdominal surgeries. The overall complication rate within 30 days was 9%.
Kang, 2000 (171)	National sample of Vietnam-era women veterans, comparing those who served in Vietnam to those who did not	3392 women veterans deployed to Vietnam; 3038 not deployed to Vietnam	Observ. Study- Assess risk or prognosis	Demographic characteristics; self-reported health history and report of gynecologic cancer (breast, ovaries, uterus, cervix)	Evaluated for an increased risk of gynecologic cancer in women who served in Vietnam. There were no statistically significant differences in the rates of gynecologic cancers between those who served in Vietnam and those who served during the Vietnam era.

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Table 8. Gynecological					
Author	Sample characteristics	Sample size [N]	Design	Main measures	Description
Pierce, 1999 (87)	Sample of Gulf War women veterans stratified for component, deployment location and parental status	525 active duty, reserve, guard or veteran women	Observ. Study- Assess risk or prognosis	Demographic variables; gender-specific problems; health care utilization rates; satisfaction with military and civilian life	Evaluated the prevalence of various health problems and health care utilization rates for a sample of Gulf War military women. 79% of women had at least one gender-specific condition for which they sought care. 76% used military health care for treatment of at least one gender-specific condition during their military career and 41% used civilian health care. Active duty military were more likely to use military health care. Symptoms were more common in enlisted women as compared to officers. Satisfaction ratings were higher for civilian care.
Haskell, 2004 (175)	Sample of women from the VA Connecticut Healthcaer System who had a prescription for hormone replacement therapy	48 women veterans	Descriptive Study	Questionnaire related to use of hormone replacement therapy	Evaluated the response of patients taking hormone replacement therapy to the results of the Women's Health Initiative. Women were mailed an informational letter about the WHI and a few months later received the questionnaire. 77% of women stopped taking HRT after receiving the letter. Women continuing on HRT were slightly younger and were more likely to be taking HRT for menopausal symptoms.

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Table 8. Gynecological					
Author	Sample characteristics	Sample size [N]	Design	Main measures	Description
Barnard, 2003 (170)	Nationally representative sample of women veterans who made at least one outpatient visit to the VA between July 1, 1994 and June 30, 1995 (VA Women's Health Project)	1736 women veterans; 574 without menstrual symptoms and 1162 with menstrual symptoms	Observ. Study- Assess risk or prognosis	Demographic characteristics; SF-36; menstrual symptoms; psychosocial characteristics	Evaluated whether there was a difference in health status between women reporting menstrual symptoms and those without menstrual symptoms. Women with menstrual symptoms had significantly lower health status in every domain of the SF-36 except energy/vitality with the greatest difference seen in physical role functioning.
Gilhooly, 2001(21)	Sample of female Gulf War veterans from the northeastern US who had symptoms consistent with chronic fatigue syndrome (CFS)	26 women with CFS symptoms; 22 controls	Observ. Study- Assess risk or prognosis	Demographic characteristics; psychiatric diagnoses; genitourinary symptoms; sexual functioning	Evaluated the association of sexual dysfunction with fatiguing symptoms. Women with symptoms of CFS were significantly more likely to have difficulty with sexual functioning and decreased libido. Women with CFS were also more likely to have vaginal irritation and urinary frequency. There were no differences in sexual dysfunction between women with CFS who had or did not have psychiatric diagnoses.

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