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Understanding Research on the Epidemiology of Trauma and PTSD Special Double Issue of the PTSD Research Quarterly

EDITOR'S NOTE: This is the final entry in our recent, occasional series on the epidemiology of trauma and PTSD around the world. Past issues have reviewed progress in Latin America, the Middle East, and Japan. The present issue emphasizes research in North America most strongly but also includes research from around the world. This issue of the Research Quarterly encompasses the epidemiology of trauma as well as that of PTSD and includes research on both civilian and military populations. In addition, we attempt to educate the reader about definitional issues in epidemiologic research and the influences yielded by changes in the American Psychiatric Association's Diagnostic and Statistical Manual over time. Because of this breadth, this review is being published as a special double issue (2013, Numbers 2 and 3).

Epidemiology is the science concerned with the prevalence and distribution of health and illness in the population. Research on the epidemiology of PTSD has focused on three interrelated concepts: prevalence of exposure to potentially traumatic events, total prevalence of PTSD in the population, and conditional risk, which is the prevalence of PTSD given exposure. Studies estimate prevalence for a defined period, typically lifetime or past year. Epidemiologic studies of PTSD typically employ structured interviews designed for use by lay interviewers, most commonly the PTSD module of the Composite International Diagnostic Interview (CIDI) developed by the World Health Organization (WHO).

Methodological progress and evolving definitions have significantly influenced epidemiologic findings

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over the years. When interpreting prevalence estimates of trauma exposure and PTSD, in addition to standard methodological considerations (sample definition, selection and size, generalizability, and time frame for estimates), the most important thing for any reader of this literature to keep in mind is that a study's definitions of trauma and PTSD and its approach to assessment will strongly influence results. Over time, measures have evolved. Early measures typically began with single-item screens that provided examples of unusually stressful events that sometimes happen to people. Respondents were asked whether these or similar events had ever happened to them and, if so, they were asked about criterion symptoms that followed the worst and up to three of the events. Such measures appear to yield reliable estimates of the prevalence of PTSD but to underestimate the prevalence of potentially traumatic events and to overestimate conditional risk. Subsequent measures replaced single-item screens with more detailed event inventories. Studies using these measures, most notably the National Comorbidity Survey (NCS, Kessler, Sonnega, Bromet, Hughes, and Nelson, 1995), showed higher rates of trauma exposure. Symptom questions continued to be anchored to the worst event, and thus estimates of conditional risk remained biased. The Detroit Area Survey of Trauma (Breslau et al., 1998a) inaugurated a new generation of measures, applying *DSM-IV* criteria. This study estimated PTSD for both the worst event and a randomly selected event, thereby providing unbiased estimates of conditional risk.

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U.S. Department of Veterans Affairs

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Interpretation of the database that is emerging over time is complicated by changes in the diagnostic criteria for PTSD used in the *DSM*. This will continue. For example, under the newly released *DSM-5*, symptoms can be linked to a combination of traumatic events rather than anchored to a single event as was the case in *DSM-III-R* and *DSM-IV*. This change is responsive to certain circumstances where trauma is repetitive, such as domestic violence or combat. It is less clear how the guidelines will be applied and impact epidemiology when an individual has had multiple, unlinked traumas, such as disaster and robbery (see section on conditional PTSD for further discussion).

DSM-5 abandoned the A2 Criterion (terror, horror, and helplessness) primarily because *DSM-IV* research showed A2 to have little influence on the diagnosis of PTSD. As described by Miller and colleagues (2012), the PTSD workgroup proposed that the set of symptom criteria be expanded to 20 (from 17) and organized into four clusters (rather than 3). Criterion B (intrusion) remains relatively unchanged. Criterion C is specifically avoidance rather than avoidance and numbing, and the new Criterion D, an evolution of the earlier numbing category, is broadened to encompass negative alterations in cognitions and mood. Criterion E is largely similar to the former Criterion D (hyperarousal), with the important addition of “reckless or self-destructive behavior” in place of the former “anger and irritability” symptom. All of these changes in both trauma and symptom criteria are based on the state of research to date. However, this will undoubtedly result in a new generation of measures and impact prevalence in some way.

Epidemiology of Trauma Exposure in Civilian Populations

The original NCS (Kessler et al., 1995) was based on a nationwide probability sample of adult residents of the United States. Over 2,800 men and 3,000 women, aged 15 to 54, were interviewed in their homes and asked about 12 specific types of trauma, such as life threatening accident, sexual assault, sexual molestation, witnessing, fire/disaster, combat, or physical assault. Previous studies had prompted a new understanding of trauma as frequent rather than rare (e.g., 69% in Norris, 1992; 69% in Resnick, Kilpatrick, Dansky, Saunders, and Best, 1993), but this study made the point unequivocally: 61% of men and 51% of women (a significant difference) reported at least one *DSM-III-R* traumatic event during their lives. Among persons exposed to any trauma, multiple traumatization was more common than not. The most prevalent events were witnessing someone being injured or killed (36% men, 15% women), being involved in a fire or natural disaster (19% men, 15% women), and being involved in a life-threatening accident (25% men, 14% women).

Creamer, Burgess, and McFarlane (2001) reported similar findings from 10,000 adults who participated in the Australian National Survey of Mental Health and Well-Being. Using a list of events similar to that used by Kessler et al. (1995), Creamer et al. estimated that 65% of Australian men and 50% of Australian women had experienced at least one qualifying event over their lives. Again, multiple events were more common than not among adults who had experienced at least one event. These investigators also found witnessing someone being badly injured or killed (38% men, 16% women), life-threatening accidents (28% men, 14% women), and disasters (20% men, 13% women) to be the most prevalent events.

Using an expanded *DSM-IV* inventory of qualifying events, Breslau et al. (1998a) found an even higher lifetime prevalence of exposure (90%) in the Detroit Area Survey. In this study, approximately 2,200 adults aged 18 to 45 were randomly selected and interviewed by telephone. Persons who experienced at least one qualifying event averaged 5 events over their lifetimes. The most prevalent event was sudden, unexpected death of a love one; 60% of the sample had experienced this event over the course of their lives. Similarly, Stein, Walker, Hazen, and Forde's (1997) telephone survey of 1,000 randomly selected Canadian adults from Winnipeg yielded prevalence rates for lifetime exposure of 74% of women and 81% of men, with more men (55%) than women (46%) experiencing multiple events.

Kilpatrick and colleagues (2013) examined how the *DSM-5* criteria may influence estimates of exposure to potentially traumatic events. They studied this by using a sample of almost 3,000 U.S. adults recruited from a national probability online panel. Most participants who met *DSM-IV* criteria also met *DSM-5* criteria (97.5%) Among those who did not also meet *DSM-5* criteria, over half were excluded because their event (e.g., nonviolent death of a loved one) no longer qualified for Criterion A. More generally, these investigators found that 89% of the sample reported exposure to one or more *DSM-5* Criterion A events. The most prevalent forms of trauma were physical or sexual assault (52%), accident or fire (50%), death of a close family member or friend due to violence (49%), natural disaster (48%), threat or injury to a close family member or friend (32%), and witnessing physical or sexual assault (31%).

As we discuss shortly, research on the prevalence of PTSD around the world has increased dramatically in recent years, but most of these studies did not report the prevalence of trauma per se. However, a few studies provide insights. Norris et al. (2003) estimated the prevalence of exposure to trauma in Mexico by using the CIDI for *DSM-IV* and a probability sample of 2,509 adults from four cities representing different regions of the country. Lifetime rates of exposure (76% overall, 83% of men, 71% of women) were in the range of previous reports from North America. For the sample as a whole, the most prevalent events were traumatic bereavement (loss of a loved one due to homicide, suicide, or accident), witnessing someone injured or killed, life-threatening accident, and physical assault.

De Jong et al. (2001) studied exposure to trauma in four postconflict, low-income countries (Cambodia $n = 610$, Algeria $n = 653$, Ethiopia $n = 1200$, and Gaza $n = 585$). The prevalence of torture ranged from 8% (Algeria) to 26% (Ethiopia), youth domestic stress from 29% (Ethiopia) to 55% (Algeria), death or separation within the family before age 12 from 5% (Gaza) to 18% (Cambodia), conflict events before age 12 from 3% (Cambodia) to 72% (Algeria), and conflict events after age 12 from 59% (Gaza) to 92% (Algeria). These shockingly high rates of severe trauma exposure underscore the importance of conducting epidemiologic research in poor and war-torn countries.

Epidemiology of PTSD in Civilian Populations

In spite of changing definitions and measures, estimates of the prevalence of lifetime PTSD in the U.S. population have been quite consistent since the advent of *DSM-III-R*. The Detroit Health Maintenance Organization (HMO) study yielded a 9% prevalence (11% women, 6% men) of lifetime *DSM-III-R* PTSD (Breslau et al., 1991), the National Women's Study ($N = 4,000$) yielded a 12%

prevalence for lifetime *DSM-III-R* PTSD (Resnick et al., 1993), and the NCS yielded an 8% prevalence (10% women, 5% men) of lifetime *DSM-III-R* PTSD (Kessler et al., 1995).

With regard to understanding prevalence of *DSM-IV* PTSD in the U.S., the best evidence was provided by the NCS Replication (NCS-R; Kessler et al., 2008). The survey employed Version 3.0 of the CIDI. PTSD was assessed in only a subset of the sample, but that subset was nonetheless quite large (Part 2 $N = 5,692$) and weighted to be representative of the U.S. population. As expected given the introduction of the criterion of impaired functioning in *DSM-IV*, the estimate of the prevalence of PTSD was slightly lower in the NCS-R than in the original NCS: 6.8% for lifetime prevalence, compared to 8% in the NCS.

Importantly, the NCS-R was conducted in conjunction with WHO's World Mental Health (WMH) Survey Initiative (Kessler and Üstün, 2008), which also employed the CIDI. The greatest surprise in these data, collected from nearly 200,000 respondents in 27 countries, was that the lifetime prevalence of PTSD in the surveyed countries was uniformly lower than the prevalence found in the U.S. At the extreme, the Nigerian survey identified no lifetime cases. The highest lifetime prevalence outside of the U.S. was in the Ukraine, at 4.8%. Surveys in Colombia, Mexico, South Africa, Israel, Italy, Spain and China all reported lifetime estimates of approximately 2% or less. While questions could be raised about the extent to which the surveys dealt with cultural issues, the survey methods involved extensive linguistic validation.

International studies that have focused more specifically on trauma and PTSD, but that lacked the national representativeness of the WMH surveys, have reported higher lifetime prevalence estimates that did the comprehensive WMH initiative. Norris et al. (2003) reported a *DSM-IV* lifetime prevalence rate of 11% for the Mexican adults included in their four-city epidemiologic study. De Jong et al. (2001) found exceptionally high population rates of lifetime PTSD in their study of four postconflict settings. *DSM-IV* rates were 16% in Ethiopia, 18% in Gaza, 28% in Cambodia, and 37% in Algeria. In Mollica, Poole, and Tor's (1998) sample of nearly 1,000 Cambodian refugees living in camps along the Thai-Cambodian border, rates of PTSD varied from 17% among refugees reporting four or fewer traumatic events, increasing to 80% among refugees reporting 25 or more trauma events.

Miller and colleagues' (2012) study is important for providing insights into how *DSM-5* may influence estimates of PTSD prevalence in the population. Using a self-report measure, they assessed PTSD according to both *DSM-IV* and *DSM-5* criteria in a nationally representative sample of 2,953 U.S. adults. The *DSM-5* criteria yielded lower estimates (10.4% overall) than did *DSM-IV* criteria (16.6% overall). These results are preliminary and need further exploration using structured clinical interviews.

Of course, the prevalence of current or recent PTSD (usually assessed for past year) is much smaller than the prevalence of lifetime PTSD. With regard to past-year PTSD prevalence in the WMH surveys, the NCS-R yielded the highest past-year PTSD prevalence of any country (Kessler et al., 2008). Approximately 3.5% of the U.S. adult population was estimated to have had PTSD in the past 12 months. Prevalence estimates in most of the remaining surveys were quite low, less than 1% in Colombia, Mexico, Nigeria, South Africa, Israel, Germany, Italy, Spain, China, and Japan (Kessler and Üstün, 2008).

In Miller and colleagues' (2012) comparison of *DSM-5* and *DSM-IV* criteria, *DSM-5* criteria yielded lower estimates of past 12-month PTSD (5.4% overall) than did *DSM-IV* criteria (9.8% overall).

Conditional Risk for PTSD in Civilians

Conditional risk is the probability of having PTSD given exposure to a qualifying stressor. In the NCS, 20% of exposed women and 8% of exposed men developed PTSD, based on data for their worst event, the most likely event to lead to PTSD. On the basis of *DSM-IV* criteria, the Detroit Area Survey (Breslau et al., 1998a) found the conditional probability of lifetime PTSD to be 13% in women and 6% in men when estimated on the basis of a randomly selected event, compared to 18% in women and 10% in men when estimated on the basis of the respondent's worst event. These results confirmed suspicions that estimates of conditional risk made on the basis of "most upsetting" events are biased. In the *DSM-5* field trial (Kilpatrick et al., 2013), the prevalence of PTSD was 11.7% when based on composite event criteria (i.e., symptoms could be attributed to different qualifying traumas) compared to 10.3% when based on same event criteria (i.e., symptoms had to be attributed to the same qualifying trauma).

Events vary considerably in the probability of precipitating PTSD. Resnick et al. (1993) showed that women's rate of PTSD was much higher among crime victims (26%) than among survivors of other types of trauma (9%). In the NCS (Kessler et al., 1995), the event with the highest conditional risk among both men (65%) and women (46%) was rape. Other events associated with a high probability of lifetime PTSD included combat, childhood abuse/neglect, sexual molestation, and physical assault. Accidents, natural disasters, and witnessing were associated with a lower probability of lifetime PTSD. Sexual violence accounted for almost half of cases of PTSD among women, and combat accounted for 29% of cases of PTSD among men. The category of assaultive violence (which included combat, sexual violence, and physical violence) accounted for almost 40% of PTSD cases in the Detroit Area Survey (Breslau et al., 1998a). Sudden unexpected death accounted for almost 30% of cases, indicating that this event is much more important in the epidemiology of trauma than was previously thought.

Epidemiology of Trauma in Military and Veteran Populations

A Veteran, generally speaking, is anyone who served in the military, whether or not he or she served in theater, i.e., an area of conflict. Research on military populations focuses primarily, although not exclusively, on combat trauma. The 2001 National Survey of Veterans (NSV, U.S. Department of Veterans Affairs, 2003) provided data for over 20,000 Veterans living in the U.S. or Puerto Rico. Across wars and eras, 39% of Veterans (41% men, 12% women) reported exposure to combat, and 36% reported exposure to the dead, dying, or wounded. War zone exposure was also reported in the National Vietnam Veterans Readjustment Study (NVVRS, Kulka et al., 1990). Because at the time female military personnel were mostly nurses, war zone exposure included different criteria for men and women. Of theater Veterans, 34% of men reported high (as opposed to moderate/low) war zone stress as defined for men, and 39% of women theater Veterans reported high levels of war zone stress as defined for women.

In recent years, sexual violence has been studied as an important source of trauma for military and veteran populations, especially women. The term military sexual trauma (MST) refers to sexual assault or severe sexual harassment during military service. Kimerling, Gima, Smith, Street, and Frayne (2007) analyzed data from a universal screening program for MST conducted by the Veterans Health Administration (VHA). During 2003, nearly 186,000 women and over 4,000,000 men were treated in VHA settings, and of these 70% were screened. Approximately 1% of men and 22% of women screened positive for MST.

RAND researchers published an important volume on the “invisible wounds of war” (Tanielian and Jaycox, 2008). Schell and Marshall (2008) described the primary results of an epidemiologic study of the psychological consequences of deployment to Afghanistan or Iraq that involved a representative sample of 1,965 men and women who served in theater. They assessed exposure to a number of specific types of combat trauma. The most prevalent type of exposure was having a friend wounded or killed (50%). Other types of exposure included seeing dead or seriously injured noncombatants (45%), witnessing an accident resulting in serious injury or death (45%), smelling decomposing bodies (37%), being physically moved or knocked over by an explosion (23%), being injured not requiring hospitalization (23%), having a blow to the head (18%), being injured requiring hospitalization (11%), engaging in hand to hand combat (10%), witnessing brutality toward detainees or prisoners (5%), and being responsible for the death of a civilian (5%).

Epidemiology of PTSD in Veteran and Military Populations

Most research on Veteran populations focuses on conditional risk implicitly or explicitly because of the central role of combat or related experiences in theatres of conflict as the cause of military-related PTSD. The NVVRS was mandated by the U.S. Congress in 1983 to estimate the prevalence and effects of PTSD in the Vietnam Veteran population and used a composite of measures to diagnose PTSD (Kulka et al., 1990; Schlenger et al., 1992). Lifetime prevalence of PTSD among theater Veterans were 31% for men and 27% for women. Prevalence of PTSD was higher for those in the Army as opposed to other branches of the military. Diagnoses were more likely for those who served longer than 12 months and for those who entered the service between the ages of 17-19. Vietnam Veterans have also been studied in Australia (Australia Commonwealth Department of Veterans' Affairs, 1998; O'Toole et al., 1996). The prevalence of PTSD in Australian Veterans was 19%, as estimated on the basis of the Structured Clinical Interview for *DSM-III-R* (SCID).

Veteran populations often show higher prevalence of current PTSD than do civilian populations, especially if they were exposed to combat. The NVVRS (Kulka et al., 1990) determined that 15% of male theatre Veterans and 9% of female theatre Veterans had current (past year) PTSD. Non-theater Veterans had substantially lower prevalence rates of current PTSD, 2.5% for men and 1.1% for women. In a representative sample of 15,000 Veterans of the Gulf War (Kang, Natelson, Mahan, Lee, and Murphy, 2003), 10% of those deployed as military personnel had current PTSD, compared to 4% of era Veterans (those who were in the service but not deployed at that time). Among those who not only served but saw combat in the Gulf, 23% met criteria for current PTSD. This study used a self-report measure of PTSD, together with a clinically validated cut point, to estimate prevalence of PTSD.

As part of the RAND volume referenced earlier (Tanielian and Jaycox, 2008), Ramchand et al. (2008) reviewed the literature of the mental health consequences of deployment to Iraq or Afghanistan to date. The tables in this chapter may be especially helpful for readers who would like succinct summaries of the methods and results of key studies. One of the earliest studies (Hoge et al., 2004) examined the prevalence of PTSD in a sample of Army service members 3 to 4 months post-deployment and estimated that 12% of those returning from Afghanistan and 18% of those returning from Iraq met criteria for possible PTSD using screening measures. After the U.S. Department of Defense mandated that all service members complete post-deployment questionnaires, studies using these data reported that 5% of service members returning from Afghanistan and 10% of service members returning from Iraq screened positive for PTSD (Hoge, Auchterlonie, and Milliken, 2006). In the RAND survey of 1,965 individuals who had served in Afghanistan or Iraq (Schell and Marshall, 2008), 14% of the sample met criteria for probable PTSD in the past 30 days on the basis of a validated self-report measure. More lengthy deployment and more extensive exposure to combat trauma increased risk. A study conducted in the United Kingdom (Hotopf et al., 2006) one year post-deployment estimated that 4% of United Kingdom (UK) service members had PTSD.

Summary of Findings and Future Directions

The most general conclusion to be drawn from these data is that exposure to potentially traumatic events is exceedingly common. By the onset of adulthood, at least 25% of the population will have experienced such an event, and by the age of 45, most of the population will have experienced such an event. A significant subset of the population will experience multiple events.

It is clear that only a fraction of people who are exposed to trauma develop the full syndrome of PTSD. Thus despite the high prevalence of trauma exposure around the world, the lifetime prevalence of PTSD is no more than 7%. At any given point in time, 1 to 3% of the civilian population and higher proportions of Veteran populations will have currently active cases. Much larger proportions develop symptoms but do not meet full criterion for a diagnosis. Moreover, it should also be kept in mind that rates that seem fairly low can produce overwhelmingly large numbers when applied to populations. A 2% prevalence of current PTSD in the U.S. with a total population of 315,000,000 yields 6.3 million *active* cases presumably in need of treatment.

Some of the results of this review are puzzling. It is difficult to explain why the prevalence of PTSD is so low in many of the WMH surveyed countries. The results raise questions about validity of the measures used. Translation was carefully attended to, but this is really only the first step in cross-cultural epidemiology. Mollica et al. (1998) illustrates measures can be modified and adapted to be specific and relevant to the culture of respondents. These items should be identified by ethnographic studies, clinical experience, key informants, and healers in the setting of interest.

Epidemiologic studies have been instrumental in documenting the significance of trauma and PTSD from a public health perspective. Perhaps no single objective would do as much to reduce the prevalence of PTSD in the population as curtailing violence. Whether political or interpersonal, sexual or nonsexual, violence creates the highest conditional risk for PTSD in both men and women. It has

been said often but bears repeating that some distress is a normal reaction to abnormal events. Transient stress reactions are not, in themselves, pathological, and most people can and do “get over” stressful events. It is just as accurate to say that 90% of men and 80% of women do not develop criterion-level psychiatric problems following trauma exposure, as it is to say that 10% of men and 20% of women do. This observation bears witness to the resilience of most men and most women, but we need to continue to search for ways to bolster, and facilitate access to, naturally occurring resources.

Of course, our greatest concern is for those individuals who develop chronic, enduring PTSD. Advances in treatment are extremely important, but it also must be remembered that remediation constitutes a population-level solution (tertiary prevention) only if conducted on a very large scale.

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FEATURED ARTICLES

Australia Commonwealth Department of Veterans' Affairs. (1998). **Morbidity of Vietnam veterans: A study of the health of Australia's Vietnam veteran community; Volume 1, male Vietnam veterans: Survey and community comparison outcomes** (Vol. 1). Canberra, Australia: Department of Veterans' Affairs. This report presents the results of a study of male Vietnam Veterans. The aims of the study are to: (1) survey the health and well-being of Vietnam Veterans, their spouses, and their children; (2) compare the health and well-being of Vietnam Veterans, their spouses, and their children, with Australians of comparable age in the general population, where comparative data exist; (3) obtain health-related baseline data about Vietnam Veterans which could be used for short, medium, and longer term policy development. [Adapted from Text, p. 1]

Breslau, N., Kessler, R.C., Chilcoat, H.D., Schultz, L.R., Davis, G.C., and Andreski, P. (1998a). **Trauma and posttraumatic stress disorder in the community: The 1996 Detroit Area Survey of Trauma**. *Archives of General Psychiatry*, 55, 626-632. doi:10.1001/archpsyc.55.7.626 *Background:* The study estimates the relative importance of specific types of traumas experienced in the community in terms of their prevalence and risk of leading to PTSD. *Methods:* A representative sample of 2,181 persons in the Detroit area aged 18 to 45 years were interviewed by telephone to assess the lifetime history of traumatic events and PTSD, according to *DSM-IV*. PTSD was assessed with respect to a randomly selected trauma from the list of traumas reported by each respondent, using a modified version of the Diagnostic Interview Schedule, Version IV, and the WHO CIDI. *Results:* The conditional risk of PTSD following

exposure to trauma was 9.2%. The highest risk of PTSD was associated with assaultive violence (20.9%). The trauma most often reported as the precipitating event among persons with PTSD (31% of all PTSD cases) was sudden unexpected death of a loved one, an event experienced by 60% of the sample, and with a moderate risk of PTSD (14.3%). Women were at higher risk of PTSD than men, controlling for type of trauma. *Conclusions:* The risk of PTSD associated with a representative sample of traumas is less than previously estimated. Previous studies have overestimated the conditional risk of PTSD by focusing on the worst events the respondents had ever experienced. Although recent research has focused on combat, rape, and other assaultive violence as causes of PTSD, sudden unexpected death of a loved one is a far more important cause of PTSD in the community, accounting for nearly one third of PTSD cases.

Creamer, M., Burgess, P.M., and McFarlane, A.C. (2001). **Post-traumatic stress disorder: Findings from the Australian National Survey of Mental Health and Well-being**. *Psychological Medicine*, 31, 1237-1247. doi:10.1017/S0033291701004287 *Background:* We report on the epidemiology of PTSD in the Australian community, including information on lifetime exposure to trauma, 12-month prevalence of PTSD, sociodemographic correlates and co-morbidity. *Methods:* Data were obtained from a stratified sample of 10641 participants as part of the Australian National Survey of Mental Health and Well-being. A modified version of the CIDI was used to determine the presence of PTSD, as well as other *DSM-IV* anxiety, affective, and substance use disorders. *Results:* The estimated 12-month prevalence of PTSD was 1.33%, which is considerably lower than that found in comparable North American studies. Although females were at greater risk than males within the subsample of those who had experienced trauma, the large gender differences noted in some recent epidemiological research were not replicated. Prevalence was elevated among the never married and previously married respondents, and was lower among those aged over 55. For both men and women, rape and sexual molestation were the traumatic events most likely to be associated with PTSD. A high level of Axis 1 co-morbidity was found among those persons with PTSD. *Conclusions:* PTSD is a highly prevalent disorder in the Australian community and is routinely associated with high rates of anxiety, depression and substance disorders. Future research is needed to investigate rates among other populations outside the North American continent.

De Jong, J.T.V.M., Komproe, I.H., Van Ommeren, M., El Masri, M., Araya, M., Khaled, N., Van de Put, et al. (2001). **Lifetime events and posttraumatic stress disorder in 4 postconflict settings**. *Journal of the American Medical Association*, 286, 555-562. doi:10.1001/jama.286.5.555 *Context:* Little is known about the impact of trauma in postconflict, low-income countries where people have survived multiple traumatic experiences. *Objective:* To establish the prevalence rates of and risk factors for PTSD in 4 postconflict, low-income countries. *Design, Setting, and Participants:* Epidemiological survey conducted between 1997 and 1999 among survivors of war or mass violence (aged ≥ 16 years) who were randomly selected from community populations in Algeria ($n = 653$), Cambodia ($n = 610$), Ethiopia ($n = 1200$), and Gaza ($n = 585$). *Main Outcome Measure:* Prevalence rates of PTSD, assessed using the PTSD module of the CIDI version 2.1 and evaluated in relation to traumatic events,

assessed using an adapted version of the Life Events and Social History Questionnaire. *Results:* The prevalence rate of assessed PTSD was 37.4% in Algeria, 28.4% in Cambodia, 15.8% in Ethiopia, and 17.8% in Gaza. Conflict-related trauma after age 12 years was the only risk factor for PTSD that was present in all 4 samples. Torture was a risk factor in all samples except Cambodia. Psychiatric history and current illness were risk factors in Cambodia (adjusted odds ratio [OR], 3.6; 95% confidence interval [CI], 2.3-5.4 and adjusted OR, 1.6; 95% CI, 1.0-2.7, respectively) and Ethiopia (adjusted OR, 3.9; 95% CI, 2.0-7.4 and adjusted OR, 1.8; 95% CI, 1.1-2.7, respectively). Poor quality of camp was associated with PTSD in Algeria (adjusted OR, 1.8; 95% CI, 1.3-2.5) and in Gaza (adjusted OR, 1.7; 95% CI, 1.1-2.8). Daily hassles were associated with PTSD in Algeria (adjusted OR, 1.6; 95% CI, 1.1-2.4). Youth domestic stress, death or separation in the family, and alcohol abuse in parents were associated with PTSD in Cambodia (adjusted OR, 1.7; 95% CI, 1.1-2.6; adjusted OR, 1.7; 95% CI, 1.0-2.8; and adjusted OR, 2.2; 95% CI, 1.1-4.4, respectively). *Conclusions:* Using the same assessment methods, a wide range of rates of symptoms of PTSD were found among 4 low-income populations who have experienced war, conflict, or mass violence. We identified specific patterns of risk factors per country. Our findings indicate the importance of contextual differences in the study of traumatic stress and human rights violations.

Hoge, C.W., Auchterlonie, J.L., and Milliken, C.J. (2006). **Mental health problems, use of mental health services, and attrition from military service after returning from deployment to Iraq or Afghanistan.** *Journal of the American Medical Association*, 295, 1023-1032. doi:10.1001/jama.295.9.1023 *Context:* The U.S. military has conducted population-level screening for mental health problems among all service members returning from deployment to Afghanistan, Iraq, and other locations. To date, no systematic analysis of this program has been conducted, and studies have not assessed the impact of these deployments on mental health care utilization after deployment. *Objectives:* To determine the relationship between combat deployment and mental health care use during the first year after return and to assess the lessons learned from the postdeployment mental health screening effort, particularly the correlation between the screening results, actual use of mental health services, and attrition from military service. *Design, Setting, and Participants:* Population-based descriptive study of all Army soldiers and Marines who completed the routine postdeployment health assessment between May 1, 2003, and April 30, 2004, on return from deployment to Operation Enduring Freedom in Afghanistan ($n = 16,318$), Operation Iraqi Freedom ($n = 222,620$), and other locations ($n = 64,967$). Health care utilization and occupational outcomes were measured for 1 year after deployment or until leaving the service if this occurred sooner. *Main Outcome Measures:* Screening positive for posttraumatic stress disorder, major depression, or other mental health problems; referral for a mental health reason; use of mental health care services after returning from deployment; and attrition from military service. *Results:* The prevalence of reporting a mental health problem was 19.1% among service members returning from Iraq compared with 11.3% after returning from Afghanistan and 8.5% after returning from other locations ($P < .001$). Mental health problems reported on the postdeployment assessment were significantly associated with combat experiences, mental health care referral

and utilization, and attrition from military service. Thirty-five percent of Iraq war Veterans accessed mental health services in the year after returning home; 12% per year were diagnosed with a mental health problem. More than 50% of those referred for a mental health reason were documented to receive follow-up care although less than 10% of all service members who received mental health treatment were referred through the screening program. *Conclusions:* Combat duty in Iraq was associated with high utilization of mental health services and attrition from military service after deployment. The deployment mental health screening program provided another indicator of the mental health impact of deployment on a population level but had limited utility in predicting the level of mental health services that were needed after deployment. The high rate of using mental health services among Operation Iraqi Freedom Veterans after deployment highlights challenges in ensuring that there are adequate resources to meet the mental health needs of returning Veterans.

Hoge, C.W., Castro, C.A., Messer, S.C., McGurk, D., Cotting, D.I., and Koffman, R.L. (2004). **Combat duty in Iraq and Afghanistan, mental health problems, and barriers to care.** *New England Journal of Medicine*, 351, 13-22. doi:10.1056/NEJMoa040603 *Background:* The current combat operations in Iraq and Afghanistan have involved U.S. military personnel in major ground combat and hazardous security duty. Studies are needed to systematically assess the mental health of members of the armed services who have participated in these operations and to inform policy with regard to the optimal delivery of mental health care to returning Veterans. *Methods:* We studied members of four U.S. combat infantry units (three Army units and one Marine Corps unit) using an anonymous survey that was administered to the subjects either before their deployment to Iraq ($n = 2530$) or three to four months after their return from combat duty in Iraq or Afghanistan ($n = 3671$). The outcomes included major depression, generalized anxiety, and PTSD, which were evaluated on the basis of standardized, self-administered screening instruments. *Results:* Exposure to combat was significantly greater among those who were deployed to Iraq than among those deployed to Afghanistan. The percentage of study subjects whose responses met the screening criteria for major depression, generalized anxiety, or PTSD was significantly higher after duty in Iraq (15.6 to 17.1%) than after duty in Afghanistan (11.2%) or before deployment to Iraq (9.3%); the largest difference was in the rate of PTSD. Of those whose responses were positive for a mental disorder, only 23 to 40% sought mental health care. Those whose responses were positive for a mental disorder were twice as likely as those whose responses were negative to report concern about possible stigmatization and other barriers to seeking mental health care. *Conclusions:* This study provides an initial look at the mental health of members of the Army and the Marine Corps who were involved in combat operations in Iraq and Afghanistan. Our findings indicate that among the study groups there was a significant risk of mental health problems and that the subjects reported important barriers to receiving mental health services, particularly the perception of stigma among those most in need of such care.

Kessler, R.C., Berglund, P.A., Chiu, W.-T., Demler, O., Glantz, M., Lane, M.A., Jin, R., et al. (2008). **The National Comorbidity Survey Replication (NCS-R): Cornerstone in improving mental health and mental health care in the United States.** In R.C. Kessler and

T.B. Üstün (Eds.), *The WHO World Mental Health Surveys: Global perspectives on the epidemiology of mental disorders* (pp. 165-209). New York: Cambridge University Press. This chapter presents epidemiological data from the WMH Survey on the prevalence of PTSD and other psychiatric disorders in the U.S., and reviews ways in which the NCS-R has been able to provide an up-to-date and detailed view of the enormous societal burdens that mental disorders impose in the U.S. as well as potentially fruitful ways in which unmet needs for effective mental health care can be addressed. [Adapted from Text, p. 203]

Kessler, R.C., Sonnega, A., Bromet, E., Hughes, M., and Nelson, C.B. (1995). **Posttraumatic stress disorder in the National Comorbidity Survey.** *Archives of General Psychiatry*, 52, 1048-1060. *Background:* Data were obtained on the general population epidemiology of *DSM-III-R* PTSD, including information on estimated lifetime prevalence, the kinds of traumas most often associated with PTSD, sociodemographic correlates, the comorbidity of PTSD with other lifetime psychiatric disorders, and the duration of an index episode. *Methods:* Modified versions of the *DSM-III-R* PTSD module from the Diagnostic Interview Schedule and of the CIDI were administered to a representative national sample of 5877 persons aged 15 to 54 years in the part II subsample of the NCS. *Results:* The estimated lifetime prevalence of PTSD is 7.8%. Prevalence is elevated among women and the previously married. The traumas most commonly associated with PTSD are combat exposure and witnessing among men and rape and sexual molestation among women. PTSD is strongly comorbid with other lifetime *DSM-III-R* disorders. Survival analysis shows that more than one third of people with an index episode of PTSD fail to recover even after many years. *Conclusions:* PTSD is more prevalent than previously believed, and is often persistent. Progress in estimating age-at-onset distributions, cohort effects, and the conditional probabilities of PTSD from different types of trauma will require future epidemiologic studies to assess PTSD for all lifetime traumas rather than for only a small number of retrospectively reported "most serious" traumas.

Kessler, R.C., and Üstün, T.B. (Eds.) (2008). **The WHO World Mental Health Surveys: Global perspectives on the epidemiology of mental disorders.** New York: Cambridge University Press. The effect of mental illness on a global level is profound, with an impact on communities worldwide from a social, cultural, and economic perspective. Although most psychiatry and psychology texts provide some statistical analyses of mental health disorders and their treatment, the epidemiology of mental illness is still poorly understood. This book reports results from the WHO WMH Survey Initiative, the largest coordinated series of cross-national psychiatric epidemiological surveys ever undertaken. Results from discrete surveys of seventeen different countries on four continents are reported here for comparison and cross-referencing. Many of the countries included in the WMH surveys had never before collected data on the prevalence or correlates of mental disorders in their country, and others had information on mental disorders only from small regional studies prior to the WMH survey. These surveys provide valuable information for physicians and health policy planners and provide greater clarity on the global impact of mental illness and its undertreatment. [Back Cover]

Kilpatrick, D., Resnick, H.S., Milanak, M.E., Miller, M.W., Keys, K.M. and Friedman, M.J. (2013). **National estimates of exposure to potentially traumatic events and PTSD prevalence using *DSM-IV* and *DSM-5* criteria.** *Journal of Traumatic Stress*, (In Press). Prevalence of *DSM-5* and *DSM-IV* PTSD was compared in a national sample of U.S. adults ($N = 2953$) recruited from an online panel. Exposure to traumatic events, PTSD symptoms, and functional impairment were assessed online using a highly-structured, self-administered survey. Traumatic event exposure using *DSM-5* criteria was high (89.7%), and exposure to multiple traumatic event types was the norm. PTSD caseness was determined using *Same Event* (i.e., all symptom criteria met to the same event type) and *Composite Event* (i.e., symptom criteria met to a combination of event types) definitions. Lifetime, past 12 month, and past 6 month PTSD prevalence for *DSM-5* using the *Same Event* definition were 8.3%, 4.7%, and 3.8% respectively. All six *DSM-5* prevalence estimates were slightly lower than their *DSM-IV* counterparts, although only two of these differences were statistically significant. *DSM-5* PTSD prevalence was higher among women than among men, and prevalence increased with greater traumatic event exposure. Major reasons individuals met *DSM-IV* but not *DSM-5* were exclusion of non-accidental, non-violent deaths from Criterion A, and the new requirement of at least one active avoidance symptom.

Kimerling, R., Gima, K., Smith, M.W., Street, A., and Frayne, S. (2007). **The Veterans Health Administration and military sexual trauma.** *American Journal of Public Health*, 97, 2160-2166. doi:10.2105/AJPH.2006.092999 *Objectives:* We examined the utility of the VHA universal screening program for military sexual violence. *Methods:* We analyzed VHA administrative data for 185,880 women and 4,139,888 men who were veteran outpatients and were treated in VHA health care settings nationwide during 2003. *Results:* Screening was completed for 70% of patients. Positive screens were associated with greater odds of virtually all categories of mental health comorbidities, including PTSD (adjusted odds ratio [AOR] = 8.83; 99% confidence interval [CI] = 8.34, 9.35 for women; AOR = 3.00; 99% CI = 2.89, 3.12 for men). Associations with medical comorbidities (e.g., chronic pulmonary disease, liver disease, and for women, weight conditions) were also observed. Significant gender differences emerged. *Conclusions:* The VHA policies regarding military sexual trauma represent a uniquely comprehensive health care response to sexual trauma. Results attest to the feasibility of universal screening, which yields clinically significant information with particular relevance to mental health and behavioral health treatment. Women's health literature regarding sexual trauma will be particularly important to inform health care services for both male and female Veterans.

Kulka, R. A., Schlenger, W. E., Fairbank, J. A., Hough, R. L., Jordan, B. K., Marmar, C. R., and Weiss, D. S. (1990). *Trauma and the Vietnam War generation: Report of findings from the National Vietnam Veterans Readjustment Study.* New York, NY: Brunner/Mazel. This book presents findings from the National Vietnam Veterans Readjustment Study, which was mandated by the U.S. Congress in 1983 to establish the prevalence and incidence of PTSD and other psychological problems in readjusting to civilian life among Vietnam Veterans. [Adapted from Preface]

Miller, M.W., Wolf, E.J., Kilpatrick, D., Resnick, H., Marx, B.P., Holowka, D.W., Keane, T.M., et al. (2012). **The prevalence and latent structure of proposed *DSM-5* posttraumatic stress disorder**

symptoms in U.S. national and veteran samples. Psychological Trauma: Theory, Research, Practice, and Policy. doi:10.1037/a0029730 The Diagnostic and Statistical Manual, Fourth Edition (*DSM-IV*) is currently undergoing revisions in advance of the next edition, *DSM-5*. The *DSM-5* posttraumatic stress disorder workgroup has proposed numerous changes to the PTSD diagnosis. These include the addition of new symptoms, revision of existing ones, and a new four-cluster organization (Friedman, Resick, Bryant, and Brewin, 2011). We conducted two Internet-based surveys to provide preliminary information about how proposed changes might impact PTSD prevalence and clarify the latent structure of the new symptom set. We used a newly developed instrument to assess event exposure and lifetime and current *DSM-5* PTSD symptoms among a nationally representative sample of American adults ($N = 2,953$) and a clinical convenience sample of U.S. military Veterans ($N = 345$). Results from both samples indicated that the originally proposed *DSM-5* symptom criteria (i.e., requiring 1 B, 1 C, 3 D, and 3 E symptoms) yielded considerably lower PTSD prevalence estimates compared with *DSM-IV* estimates. These estimates were more comparable when the *DSM-5* D and E criteria were relaxed to 2 symptoms each (i.e., the revised proposal). Confirmatory factor analyses (CFA) indicated that the factor structure implied by the four-symptom criteria provided adequate fit to the data in both samples, and a *DSM-5* version of a dysphoria model (Simms, Watson, and Doebbeling, 2002) yielded modest improvement in fit. Item-response theory and CFA analyses indicated that the psychogenic amnesia and new reckless/self-destructive behavior symptom deviated from the others in their respective symptom clusters. Implications for final formulations of *DSM-5* PTSD criteria are discussed.

Norris, F.H., Murphy, A.D., Baker, C.K., Perilla, J.L., Gutiérrez Rodríguez, F., and Gutiérrez Rodríguez, J.d.J. (2003). **Epidemiology of trauma and posttraumatic stress disorder in Mexico.** *Journal of Abnormal Psychology, 112*, 646-656. doi:10.1037/0021-843X.112.4.646 Prevalence rates of trauma and PTSD were estimated from a probability sample of 2,509 adults from 4 cities in Mexico. PTSD was assessed according to Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 1994) criteria using the CIDI (WHO, 1997). Lifetime prevalence of exposure and PTSD were 76% and 11.2%, respectively. Risk for PTSD was highest in Oaxaca (the poorest city), persons of lower socioeconomic status, and women. Conditional risk for PTSD was highest following sexual violence, but nonsexual violence and traumatic bereavement had greater overall impact because of their frequency. Of lifetime cases, 62% became chronic; only 42% received medical or professional care. The research demonstrates the importance of expanding the epidemiologic research base on trauma to include developing countries around the world.

O'Toole, B. I., Marshall, R. P., Grayson, D. A., Schureck, R. J., Dobson, M., French, M., Pulvertaft, B., et al. (1996). **The Australian Vietnam veterans health study: III, Psychological health of Australian Vietnam veterans and its relationship to combat.** *International Journal of Epidemiology, 25*, 331-340. *Background:* Self reported psychiatric status of Australian Vietnam war Veterans was determined 20-25 years after the war and its relation to combat was investigated. *Method:* A simple random sample of Australian Army Vietnam Veterans was interviewed nationally using standardized

interviews and self-completion tests to assess the prevalence of lifetime and current psychiatric illness and its relationship to combat. Army records were used to extract data on the cohort for use in regression-based adjustment for non response. *Results:* The conditions mainly affecting the Australian Veterans were alcohol abuse or dependence, post-traumatic stress disorder, somatization disorder were significantly related to combat exposure but not with posting to a combat unit. Less than half of the current one-month diagnoses were related to combat, possibly because of low power conferred by the relative rarity of these conditions. *Conclusions:* The results confirm a range of psychological problems in former warriors may linger 20 or more years from their war exposure and may be directly affected by exposure to war trauma.

Schell, T., and Marshall, G. (2008). **Survey of individuals previously deployed for OEF/OIF.** In T.anielian and L. Jaycox (Eds), *Invisible wounds of war: Psychological and cognitive injuries, their consequences, and services to assist recovery* (pp. 87-115). Santa Monica, CA: Rand Corporation. RAND conducted a large population-based survey on individuals previously deployed as part of Operation Enduring Freedom or Operation Iraqi Freedom (OEF/OIF) to address several gaps in the existing literature concerning the prevalence and correlates of mental health conditions and traumatic brain injury (TBI) stemming from service in OEF/OIF. Research on the prevalence of PTSD and major depression has typically focused on active duty Army personnel and has largely neglected several types of service members deployed in OEF/OIF. For example, although Air Force and Navy personnel account for 38 percent of the deployed force, few studies have examined the prevalence of PTSD and major depression in these populations. Similarly, only minimal information concerning these conditions exists for marines. Moreover, little information is available regarding the mental health of previously deployed National Guard or Reserve personnel, despite evidence from post-deployment screening that service members of the Army National Guard and Army Reserve are twice as likely as active duty personnel to suffer from mental health problems. In addition, almost all research to date has focused on individuals who are within one year of their most recent deployment. These omissions make it difficult to estimate the actual magnitude of combat-related mental disorders in this population. Although research into the mental health of service members who have served in OEF/OIF has focused on a narrow segment of the whole population, research into the prevalence and correlates of TBI is even less conclusive. With the exception of one recently published study of TBI in infantry soldiers from two brigades, most information regarding TBI in previously deployed individuals is based on small samples of treatment-seeking individuals or on internal Department of Defense (DoD) research that has not been peer reviewed or released publicly; results were available only through the news articles. Another shortcoming of existing research is that most studies of previously deployed personnel have been conducted under the auspices of DoD, which raises the possibility that respondents may either underreport problems to avoid disclosing career-jeopardizing disorders or overreport to maintain disability or medical benefits. Finally, all publicly released results from DoD studies must be approved through DoD operational security and public-affairs offices. It is generally preferable that the design, analysis, and dissemination of research be controlled by organizations that do

not have a direct interest in the outcome. In this chapter, we describe the methods we employed and results of our large population-based survey of personnel previously deployed for OEF/OIF, designed to assess deployment experiences, current mental health symptoms, use of services, and barriers to care. [Text, pp. 87-88]

Schlenger, W.E., Kulka, R.A., Fairbank, J.A., Hough, R.L., Jordan, B.K., Marmar, C.R., and Weiss, D.S. (1992). **The prevalence of post-traumatic stress disorder in the Vietnam generation: A multimethod, multisource assessment of psychiatric disorder.** *Journal of Traumatic Stress, 5*, 333-363. doi:10.1002/jts.2490050303

Findings from the Congressionally mandated National Vietnam Veterans Readjustment Study indicate that nearly one-half million Vietnam Veterans — 15.2% of the men and 8.5% of the women who served in Vietnam—suffer from PTSD fifteen or more years after their military service. Current PTSD prevalence rates for Vietnam Veterans are significantly and substantially higher than the rates for their comparable Vietnam generation peers, which range from 0.3% to 2.5%. Additionally, the current prevalence rate among male Vietnam Veterans was found to differ significantly among race/ethnicity subgroups: 27.9% among Hispanic men, 20.6% among black men, 13.7% among white/other men. Multivariate analyses indicated that although background factors are significantly related to the current prevalence of PTSD, the current prevalence is much higher among Vietnam Veterans than among era veteran and civilian counterpart comparison groups even after background differences are taken into account. These analyses also demonstrated the important role of exposure to combat and other types of war zone stress in the current prevalence of the disorder.

Tanielian, T., and Jaycox, L.H. (Eds.) (2008). **Invisible wounds of war: Psychological and cognitive injuries, their consequences, and services to assist recovery.** Santa Monica, CA: Rand Corporation. Since October 2001, approximately 1.64 million U.S. troops have been deployed for Operations Enduring Freedom and Iraqi Freedom (OEF/OIF) in Afghanistan and Iraq. Early evidence suggests that the psychological toll of these deployments -- many involving prolonged exposure to combat-related stress over multiple rotations—may be disproportionately high compared with the physical injuries of combat. In the face of mounting public concern over post-deployment health care issues confronting OEF/ OIF Veterans, several task forces, independent review groups, and a President's Commission have been convened to examine the care of the war wounded and make recommendations. Concerns have been most recently centered on two combat-related injuries in particular: PTSD and traumatic brain injury. Many recent reports have referred to these as the signature wounds of the Afghanistan and Iraq conflicts. With the increasing incidence of suicide and suicide attempts among returning Veterans, concern about depression is also on the rise. The study discussed in this monograph focuses on PTSD, major depression, and traumatic brain injury, not only because of current high-level policy interest but also because, unlike the physical wounds of war, these conditions are often invisible to the eye, remaining invisible to other service members, family members, and society in general. All three conditions affect mood, thoughts, and behavior; yet these wounds often go unrecognized and unacknowledged. The effect of traumatic brain injury is still poorly understood, leaving a large gap in knowledge related to how extensive the problem is or how to address it. RAND conducted a comprehensive study of the post-deployment

health-related needs associated with PTSD, major depression, and traumatic brain injury among OEF/OIF Veterans, the health care system in place to meet those needs, gaps in the care system, and the costs associated with these conditions and with providing quality health care to all those in need. This monograph presents the results of that study. Data collection for this study began in April 2007 and concluded in January 2008. Specific activities included a critical review of the extant literature on the prevalence of PTSD, major depression, and traumatic brain injury and their short- and long-term consequences; a population-based survey of service members and Veterans who served in Afghanistan or Iraq to assess health status and symptoms, as well as utilization of and barriers to care; a review of existing programs to treat service members and Veterans with PTSD, major depression, and traumatic brain injury; focus groups with military service members and their spouses; and the development of a microsimulation model to forecast the economic costs of these conditions over time. Interviews with senior Office of the Secretary of Defense (OSD) and Service (Army, Navy, Air Force, Marine Corps) staff within the Department of Defense and within the Veterans Health Administration informed our efforts to document the treatment and support programs available to this population. Note, however, that the views expressed in this monograph do not reflect official policy or the position of the U.S. government or any of the institutions we included in our interviews. [Adapted from Preface]

ADDITIONAL CITATIONS

Alonso, J., and Kessler, R. (2008). **Prevalence and treatment of mental disorders in Germany: Results from the European Study of Mental Disorders (ESEMeD) Survey.** In R. Kessler and T. Üstün (Eds.), *The WHO World Mental Health Surveys: Global perspectives on the epidemiology of mental disorders* (pp. 331-345). New York: Cambridge University Press. Presents epidemiological data from the WMH Survey on the prevalence of PTSD and other psychiatric disorders in Germany. The 3,555 respondents were interviewed by using the Composite International Diagnostic Interview. Of these, 1,323 were asked about trauma and DSM-IV PTSD. The prevalence of PTSD was 1.6% for the lifetime measure and 0.7% for the 12-month measure.

Arbabzadeh-Bouchez, S., Gasquet, I., Kovess-Masfety, V., Negre-Pages, L., and Lépine, J.P. (2012). **The prevalence of mental disorders and service use in France: Results from a national survey 2001-2002.** In R. Kessler and T. Üstün (Eds.), *The WHO World Mental Health Surveys: Global perspectives on the epidemiology of mental disorders* (pp. 305-330). New York: Cambridge University Press. To provide estimates of the prevalence of mental disorders in France, a sampling frame of telephone households was generated, stratified by region and city size. The 22,000 respondents were interviewed using a short form of the CIDI. Findings were presented by region. The 12-month prevalence of DSM-IV PTSD was 4.8% in Ile-de-France, 4.7% in Haute-Normandie, 5.0% in Lorraine, and 5.0% in Rhone-Alpes.

Breslau, N. (2002). **Epidemiologic studies of trauma, posttraumatic stress disorder, and other psychiatric disorders.** *Canadian Journal of Psychiatry, 47*(10), 923-929. This paper reviews recent

epidemiologic studies of PTSD in the general population. Estimates of the prevalence of exposure to traumatic events vary with the method used to ascertain trauma exposure and the definition of the stressor criterion. Changes in the DSM-IV definition of “stressor” have increased the number of traumatic events experienced in the community that can be used to diagnose PTSD and thus, the number of PTSD cases. Risk factors for PTSD in adults vary across studies. The 3 factors identified as having relatively uniform effects are (1) preexisting psychiatric disorders, (2) a family history of disorders, and (3) childhood trauma. In civilian populations, women are at a higher risk for PTSD than are men, following exposure to traumatic events. Most community residents have experienced 1 or more PTSD-level traumas in their lifetime, but only a few succumb to PTSD. Trauma victims who do not succumb to PTSD are not at an elevated risk for the subsequent onset of major depression or substance use disorders, compared with unexposed persons.

Breslau, N., and Davis, G.C. (1992). **Posttraumatic stress disorder in an urban population of young adults: Risk factors for chronicity.** *American Journal of Psychiatry*, 149(5), 671-675. *Objective:* Despite progress in epidemiologic research on PTSD, little is known about factors that distinguish chronic from nonchronic PTSD. In a previous report, the authors identified a set of personal predispositions associated with PTSD following traumatic events in a general population sample of young adults. The purpose of this analysis was to identify characteristics of chronic PTSD and examine whether any of the suspected risk factors for PTSD was associated specifically with chronic PTSD. *Method:* A random sample of 1,007 21- to 30-year-old members of a large health maintenance organization in the Detroit area was interviewed, using the National Institute of Mental Health (NIMH) Diagnostic Interview Schedule (DIS), revised for *DSM-III-R*. The analysis was performed on data from 394 respondents who reported traumatic events, of whom 93 met criteria for PTSD. Chronic PTSD was defined as duration of symptoms for 1 year or more. *Results:* Persons with chronic PTSD ($N = 53$) had, on the average, a significantly higher total number of PTSD symptoms and higher rates of overreactivity to stimuli that symbolized the stressor and interpersonal numbing than persons with nonchronic PTSD. The rates of one or more additional anxiety or affective disorders and a variety of medical conditions were higher in persons with chronic than nonchronic PTSD. Family history of antisocial behavior and female sex were associated specifically with chronic PTSD. *Conclusions:* The findings suggest that chronic PTSD may be associated with specific risk factors and clinical features. Longitudinal data on the course of PTSD are needed to determine whether the distinct features and the medical and psychiatric histories of persons with chronic PTSD are complications attendant on a chronic course or coexisting disturbances that inhibit recovery.

Breslau, N., Davis, G.C., Andreski, P., and Peterson, E.L. (1991). **Traumatic events and posttraumatic stress disorder in an urban population of young adults.** *Archives of General Psychiatry*, 48(3), 216-222. To ascertain the prevalence of PTSD and risk factors associated with it, we studied a random sample of 1007 young adults from a large health maintenance organization in the Detroit, Michigan area. The lifetime prevalence of exposure to traumatic events was 39.1%. The rate of PTSD in those who were exposed was 23.6%, yielding a lifetime prevalence in the sample of 9.2%. Persons with PTSD were at increased risk for other psychiatric

disorders; PTSD had stronger associations with anxiety and affective disorders than with substance abuse or dependence. Risk factors for exposure to traumatic events included low education, male sex, early conduct problems, extraversion, and family history of psychiatric disorder or substance problems. Risk factors for PTSD following exposure included early separation from parents, neuroticism, preexisting anxiety or depression, and family history of anxiety. Life-style differences associated with differential exposure to situations that have a high risk for traumatic events and personal predispositions to the PTSD effects of traumatic events might be responsible for a substantial part of PTSD in this population.

Breslau, N., Kessler, R.C., and Peterson, E.L. (1998b). **Post-traumatic stress disorder assessment with a structured interview: Reliability and concordance with a standardized clinical interview.** *International Journal of Methods in Psychiatric Research*, 7, 121-127. doi:10.1002/mpr.41 Epidemiologic studies of PTSD have used the PTSD module of the NIMH DIS in its various editions and modifications. Although the diagnoses of numerous disorders made by the DIS or the WHO –CIDI, which is modeled on the DIS, have been compared to clinical diagnoses, little is known about the performance of these instruments in diagnosing PTSD. In this study, we examine the test–retest reliability of a modified version of the PTSD section of the DIS-IV and the CIDI 2.1 and compare it with an independently conducted clinical interview in the 1996 Detroit Area Survey of Trauma, an epidemiological study of a representative sample of 2,181 persons. A blind readministration of the structured interview was conducted by a lay interviewer 12 to 18 months after the initial interview, on 32 respondents classified as PTSD cases in the initial interview and on 23 non-cases who reported exposure to trauma. The clinical reappraisal was conducted blindly by two psychiatric social workers, using the Clinician Administered PTSD Scale for *DSM-IV* (CAPS-DX). The data were weighted to adjust for the oversampling of cases and the differential probabilities of selection of traumatic events across respondents with different numbers of events. The test–retest consistency of the structured interview was a kappa of 0.62 and an odds ratio of 42.5. The comparison of the structured interview with the clinical reappraisal showed agreement in 81% of the assessed sample. Positive predicted value was 0.75, negative predictive value was 0.97, and the odds ratio was 94.8 (all weighted values). Discrepant cases were mostly ‘false positives’ and, of these, the majority were subthreshold cases missing only one symptom in the CAPS-DX.

Bromet, E., Gluzman, S.E., Tittle, N.L., Paniotto, V.I., Webb, C.P.M., Zakhosha, V., Havenaar, J.M., et al. **The state of mental health and alcoholism in Ukraine.** In R. Kessler and T. Üstün (Eds.), *The WHO World Mental Health Surveys: Global perspectives on the epidemiology of mental disorders* (pp. 431-445). New York: Cambridge University Press. Presents epidemiological data from the WMH Survey on the prevalence of PTSD and other psychiatric disorders in Ukraine. The 4,725 respondents were interviewed by using the CIDI. Of these, 1,720 were asked about trauma and *DSM-IV* PTSD. The prevalence of PTSD was 4.8% for the lifetime measure and 2.8% for the 12-month measure.

Bruffaerts, R., Bonnewyn, A., and Demyttenaere, K. (2008). **Mental health in Belgium: Current situation and future perspectives.**

In R. Kessler and T. Üstün (Eds.), *The WHO World Mental Health Surveys: Global perspectives on the epidemiology of mental disorders* (pp. 279-304). New York: Cambridge University Press. Presents epidemiological data from the WMH Survey on the prevalence of PTSD and other psychiatric disorders in Belgium. The 2,419 respondents were interviewed by using the CIDI. Of these, 1,043 were asked about trauma and *DSM-IV* PTSD. The prevalence of PTSD was 2.6% for the lifetime measure and 0.7% for the 12-month measure.

De Girolamo, G., Morosini, P., Gigantesco, A., Delmonte, S., and Kessler, R.C. (2008). **The prevalence of mental disorders and service use in Italy: Results from the National Health Survey 2001-2003.** In R. Kessler and T. Üstün (Eds.), *The WHO World Mental Health Surveys: Global perspectives on the epidemiology of mental disorders* (pp. 364-387). New York: Cambridge University Press. Presents epidemiological data from the WMH Survey on the prevalence of PTSD and other psychiatric disorders in Italy. The 4,712 respondents were interviewed by using the CIDI. Of these, 1,779 were asked about trauma and *DSM-IV* PTSD. The prevalence of PTSD was 2.3% for the lifetime measure and 0.7% for the 12-month measure.

De Graf, R., Ormel, J., Ten Have, M., Burger, H., and Buist-Bouwman, M. (2008). **Mental disorders and service use in the Netherlands: Results from the European Study of the Epidemiology of Mental Disorders (ESEMeD).** In R. Kessler and T. Üstün (Eds.), *The WHO World Mental Health Surveys: Global perspectives on the epidemiology of mental disorders* (pp. 388-405). New York: Cambridge University Press. Presents epidemiological data from the WMH Survey on the prevalence of PTSD and other psychiatric disorders in Italy. The 2,372 respondents were interviewed by using the CIDI. Of these, 1,094 were asked about trauma and *DSM-IV* PTSD. The prevalence of PTSD was 4.0% for the lifetime measure and 2.5% for the 12-month measure.

Gureje, O., Adeyemi, O., Enyidah, N., Ekpo, M., Udofia, O., Uwakwe, R., and Wakil, A. (2008). **Mental disorders among adult Nigerians: Risks, prevalence, and treatment.** In R. Kessler and T. Üstün (Eds.), *The WHO World Mental Health Surveys: Global perspectives on the epidemiology of mental disorders* (pp. 211-237). New York: Cambridge University Press. Presents epidemiological data from the WMH Survey on the prevalence of PTSD and other psychiatric disorders in Nigeria. The 6,752 respondents were interviewed by using the CIDI. Of these, 2,143 were asked about trauma and *DSM-IV* PTSD. The lifetime prevalence of PTSD was 0.0% (1 case).

Haro, J.M., Alonso, J., Pinto-Meza, A., Vilagut Saiz, G., Fernández, A., Codony, M., Martínez, M., et al. (2008). **The Epidemiology of Mental Disorders in the General Population of Spain.** In R.C. Kessler and T. Üstün (Eds.), *The WHO World Mental Health Surveys: Global perspectives on the epidemiology of mental disorders* (pp. 406-430). New York: Cambridge University Press. Presents epidemiological data from the WMH Survey on the prevalence of PTSD and other psychiatric disorders in Spain. The 5,473 respondents were interviewed by using the CIDI. Of these, 2,121 were asked about trauma and *DSM-IV* PTSD. The prevalence of PTSD was 2.0% for the lifetime measure and 0.5% for the 12-month measure.

Herman, A.A., Williams, D., Stein, D.J., Seedat, S., Heeringa, S.G., and Moomal, H. (2008). **The South African Stress and Health Study (SASH): A foundation for improving mental health care in South Africa.** In R. Kessler and T. Üstün (Eds.), *The WHO World Mental Health Surveys: Global perspectives on the epidemiology of mental disorders* (pp. 238-264). New York: Cambridge University Press. Presents epidemiological data from the WMH Survey on the prevalence of PTSD and other psychiatric disorders in South Africa. The 4,351 respondents were interviewed by using the CIDI, which included questions about trauma and *DSM-IV* PTSD. The prevalence of PTSD was 2.3% for the lifetime measure and 0.6% for the 12-month measure.

Hotopf, M., Hull, L., Fear, N.T., Browne, T., Horn, O., Iversen, A.C., Jones, M., et al. (2006). **The health of UK military personnel who deployed to the 2003 Iraq war: A cohort study.** *Lancet*, 367, 1731-1741. doi:10.1016/S0140-6736(06)68662-5 *Background:* Concerns have been raised about the mental and physical health of UK military personnel who deployed to the 2003 war in Iraq and subsequent tours of duty in the country. *Methods:* We compared health outcomes in a random sample of UK armed forces personnel who were deployed to the 2003 Iraq war with those in personnel who were not deployed. Participants completed a questionnaire covering the nature of the deployment and health outcomes, which included symptoms of post-traumatic stress disorder, common mental disorders, general wellbeing, alcohol consumption, physical symptoms, and fatigue. *Findings:* The participation rate was 62.3% ($n=4722$) in the deployed sample, and 56.3% ($n=5550$) in the non-deployed sample. Differences in health outcomes between groups were slight. There was a modest increase in the number of individuals with multiple physical symptoms (odds ratio 1.33; 95% CI 1.15-1.54). No other differences between groups were noted. The effect of deployment was different for reservists compared with regulars. In regulars, only presence of multiple physical symptoms was weakly associated with deployment (1.32; 1.14-1.53), whereas for reservists deployment was associated with common mental disorders (2.47, 1.35-4.52) and fatigue (1.78; 1.09-2.91). There was no evidence that later deployments, which were associated with escalating insurgency and UK casualties, were associated with poorer mental health outcomes. *Interpretation:* For regular personnel in the UK armed forces, deployment to the Iraq war has not, so far, been associated with significantly worse health outcomes, apart from a modest effect on multiple physical symptoms. There is evidence of a clinically and statistically significant effect on health in reservists.

Huang, Y., Liu, Z., Zhang, M., Shen, Y., Tsang, C.H.A., He, Y., and Lee, S. (2008). **Mental disorders and service use in China.** In R.C. Kessler and T. Üstün (Eds.), *The WHO World Mental Health Surveys: Global perspectives on the epidemiology of mental disorders* (pp. 447-473). New York: Cambridge University Press. Presents epidemiological data from the WMH Survey on the prevalence of PTSD and other psychiatric disorders in China. The 2,633 respondents in Beijing and 2,568 respondents in Shanghai were interviewed by using the CIDI. Of these, 1,628 (combined) were asked about trauma and *DSM-IV* PTSD. The lifetime prevalence of PTSD was 0.3%.

Kang, H.K., Natelson, B.H., Mahan, C.M., Lee, K.Y., and Murphy, F.M. (2003). **Post-traumatic stress disorder and chronic fatigue syndrome-like illness among Gulf War veterans: A population-based survey of 30,000 veterans.** *American Journal of Epidemiology*,

157(2), 141-148. doi:10.1093/aje/kwf187 The authors estimated the prevalence of PTSD and illness resembling chronic fatigue syndrome (CFS) in the entire population of Gulf War and non-Gulf-War Veterans. They also evaluated the relation between the extent of deployment-related stress and the risk of either PTSD or CFS. In 1995–1997, the authors conducted a health survey in which these two symptom-based medical diagnoses in a population-based sample of 15,000 Gulf War Veterans representing four military branches and three unit components (active, reserve, and National Guard) were compared with those of 15,000 non-Gulf veteran controls. Gulf War Veterans, compared with non-Gulf veteran controls, reported significantly higher rates of PTSD (adjusted odds ratio = 3.1, 95% confidence interval: 2.7, 3.4) and CFS (adjusted odds ratio = 4.8, 95% confidence interval: 3.9, 5.9). The prevalence of PTSD increased monotonically across six levels of deployment-related stress intensity (test for trend: $p < 0.01$), while the prevalence of CFS rose only at the low end of the stress spectrum. While deployment-related stress could account for the higher risks of both PTSD and CFS, additional factor(s) unique to the Gulf environment may have contributed to the risk of CFS among Gulf War Veterans.

Karam, E.G., Mneimneh, Z.N., Karam, A.N., Fayyad, J.A., Nasser, S.C., Dimassi, H., and Salamoun, M.M. (2008). **Mental disorders and war in Lebanon.** In R. Kessler and T.A. Üstün (Eds.), *The WHO World Mental Health Surveys: Global perspectives on the epidemiology of mental disorders* (pp. 265-278). New York: Cambridge University Press. Presents epidemiological data from the WMH Survey on the prevalence of PTSD and other psychiatric disorders in Lebanon. The 2,857 respondents were interviewed by using the CIDI. Of these, 1,031 were asked about trauma and DSM-IV PTSD. The prevalence of PTSD was 3.4% for the lifetime measure and 2.0% for the 12-month measure.

Kawakami, N., Takeshima, T., Ono, Y., Uda, H., Nakane, Y., Nakamura, Y., Tachimori, H., et al. (2008). **Twelve-month prevalence, severity, and treatment of common mental disorders in communities in Japan: The World Mental Health Japan 2002 2004 Survey.** In R. Kessler and T. Üstün (Eds.), *The WHO World Mental Health Surveys: Global perspectives on the epidemiology of mental disorders* (pp. 474-485). New York: Cambridge University Press. Presents epidemiological data from the WMH Survey on the prevalence of PTSD and other psychiatric disorders in Japan. The 2,437 respondents were interviewed by using the CIDI. Of these, 887 were asked about trauma and DSM-IV PTSD. The 12-month prevalence of PTSD was 0.4%.

Levinson, D., Lerner, Y., Zilber, N., Levav, I., and Polakiewicz, J. (2008). **The prevalence of mental disorders and service use in Israel: Results from the National Health Survey, 2003-2004.** In R. Kessler and T. Üstün (Eds.), *The WHO World Mental Health Surveys: Global perspectives on the epidemiology of mental disorders* (pp. 346-363). New York: Cambridge University Press. Presents epidemiological data from the WMH Survey on the prevalence of PTSD and other psychiatric disorders in Israel. The 4,859 respondents were interviewed by using the CIDI, which included questions about trauma and DSM-IV PTSD. The prevalence of PTSD was 1.5% for the lifetime measure and 0.5% for the 12-month measure.

Medina-Mora, M.E., Borges, G., Lara, C., Benjet, C., Fleiz, C., Rojas, G.E., Zambrano, J., et al. (2008). **The Mexican National Comorbidity Survey (M-NCS): Overview and results.** In R. Kessler and T. Üstün (Eds.), *The WHO World Mental Health Surveys: Global perspectives on the epidemiology of mental disorders* (pp. 144-164). New York: Cambridge University Press. Presents epidemiological data from the WMH Survey on the prevalence of PTSD and other psychiatric disorders in Mexico. The 5,826 respondents were interviewed by using the CIDI. Of these, 2,362 were asked about trauma and DSM-IV PTSD. The prevalence of PTSD was 0.5% for the lifetime measure and 0.4% for the 12-month measure.

Mollica, R.F., Poole, C., and Tor, S. (1998). **Symptoms, functioning, and health problems in a massively traumatized population: The legacy of the Cambodian tragedy.** In B.P. Dohrenwend (Ed.), *Adversity, stress, and psychopathology* (1st ed., pp. 34-51). New York, NY: Oxford University Press. In 1990, a team of researchers from the Harvard Program in Refugee Trauma, with the co-sponsorship of the World Federation of Mental Health and the Ford Foundation (Bangkok), conducted a population-based survey of Cambodians living in the refugee camp known as Site 2. Containing more than 150,000 displaced persons, Site 2 was for over a decade the largest camp for displaced Cambodians along the Thai border. Preliminary scientific findings and policy recommendations have been reported previously. This chapter presents additional findings to continue the evaluation of the psychosocial impact of mass violence on this civilian refugee population. The principal aim is to identify differences by gender in traumatic experiences, psychiatric and physical symptoms, and social and economic limitations. In addition, preliminary results are present on “dose-response” relationships between cumulative trauma and symptoms of depression and PTSD. [Adapted from Text, p. 34]

Norris, F.H. (1992). **Epidemiology of trauma: frequency and impact of different potentially traumatic events on different demographic groups.** *Journal of Consulting and Clinical Psychology*, 60(3), 409-418. doi:10.1037/0022-006X.60.3.409 The frequency and impact of 10 potentially traumatic events were examined in a sample of 1,000 adults. Drawn from four southeastern cities, the sample was half Black, half White, half male, half female, and evenly divided among younger, middle-aged, and older adults. Over their lifetimes, 69% of the sample experienced at least one of the events, as did 21% in the past year alone. The 10 events varied in importance, with tragic death occurring most often, sexual assault yielding the highest rate of PTSD, and motor vehicle crash presenting the most adverse combination of frequency and impact. Numerous differences were observed in the epidemiology of these events across demographic groups. Lifetime exposure was higher among Whites and men than among Blacks and women; past-year exposure was highest among younger adults. When impact was analyzed as a continuous variable (perceived stress), Black men appeared to be most vulnerable to the effects of events, but young people showed the highest rates of PTSD.

Posada-Villa, J., Rodriguez, M., Duque, P., Garzón, A., Aguilar-Gaxiola, S., and Breslau, J. (2008). **Mental disorders in Colombia: Results from the World Mental Health Survey.** In R. Kessler and T. Üstün (Eds.), *The WHO World Mental Health Surveys: Global perspectives on the epidemiology of mental disorders* (pp. 131-143). New York: Cambridge University Press. Presents epidemiological data from

the WMH Survey on the prevalence of PTSD and other psychiatric disorders in Colombia. The 4,426 respondents were interviewed by using the CIDI. Of these, 2,381 were asked about trauma and *DSM-IV* PTSD. The prevalence of PTSD was 1.8% for the lifetime measure and 0.6% for the 12-month measure.

Ramchand, R., Karney, B.R., Osilla, K.C., Burns, R.M., and Calderone, L.B. (2008). **Prevalence of PTSD, depression, and TBI among returning service members.** In T.anielian and L.H. Jaycox (Eds), *Invisible wounds of war: Psychological and cognitive injuries, their consequences, and services to assist recovery* (pp. 35-85). Santa Monica, CA: Rand Corporation. This chapter reviews and describes the best available data on the prevalence of mental health and cognitive conditions endured by service members in the current conflicts. Unlike previous conflicts, such as the Vietnam War or Gulf War, on which prevalence studies were generally conducted years after service members returned home, in the current conflicts epidemiologic studies are being conducted throughout the course of the deployment cycle, i.e., a week before being deployed, while troops are in theater, and immediately upon their return. Comparisons of prevalence rates obtained across these assessments may provide unique insights into mental health and cognitive conditions in the military in general and how the experience of these conditions may be related to deployment. In sum, this chapter describes the current landscape of mental health and cognitive conditions among members of the military deployed to Afghanistan and Iraq, in hopes of highlighting where future problems, vulnerabilities, and resource needs may lie. [Text, p. 35]

Resnick, H.S., Kilpatrick, D.G., Dansky, B.S., Saunders, B.E., and Best, C.L. (1993). **Prevalence of civilian trauma and posttraumatic stress disorder in a representative national sample of women.** *Journal of Consulting and Clinical Psychology*, 61(6), 984-991. doi:10.1037/0022-006X.61.6.984 Prevalence of crime and noncrime civilian traumatic events, lifetime PTSD, and PTSD in the past 6 months were assessed in a sample of U.S. adult women ($N = 4,008$). Random digit-dial telephone methods were used to identify study participants. Structured telephone interviews for assessment of specific crime or other traumatic event history and PTSD were conducted by trained female interviewers. Lifetime exposure to any type of traumatic event was 69%, whereas exposure to crimes that included sexual or aggravated assault or homicide of a close relative or friend occurred among 36%. Overall sample prevalence of PTSD was 12.3% lifetime and 4.6% within the past 6 months. The rate of PTSD was significantly higher among crime versus noncrime victims (25.8% vs. 9.4%). History of incidents that included direct threat to life or receipt of injury was a risk factor for PTSD. Findings are compared with data from other epidemiological studies. Results are discussed as they relate to PTSD etiology.

Stein, M.B., Walker, J.R., Hazen, A.L., and Forde, D.R. (1997). **Full and partial posttraumatic stress disorder: Findings from a community survey.** *American Journal of Psychiatry*, 154(8), 1114-1119. *Objective:* Full and partial PTSD following trauma exposure were examined in a community sample in order to determine their prevalence and their relative importance and functional significance. *Method:* A standardized telephone interview with a series of trauma probes and a *DSM-IV* PTSD checklist was administered to a random sample of 1,002 persons

in a midsized Midwestern Canadian city. The authors determined current (i.e., 1 month) prevalence rates of full PTSD, i.e., all *DSM-IV* criteria, and partial PTSD, i.e., fewer than the required number of *DSM-IV* criterion C symptoms (avoidance/numbing) or criterion D symptoms (increased arousal). Additional questions about interference with functioning were also posed. *Results:* The estimated prevalence of full PTSD was 2.7% for women and 1.2% for men. The prevalence of partial PTSD was 3.4% for women and 0.3% for men. Interference with work or school was significantly more pronounced in persons with full PTSD than in those with only partial symptoms, although the latter were significantly more occupationally impaired than traumatized persons without PTSD. *Conclusions:* These findings in an epidemiologic sample underscore observations from patient and military groups that many traumatized persons suffer from a subsyndromal form of PTSD. These persons with partial PTSD, although somewhat less impaired than persons with the full syndrome, nonetheless exhibit clinically meaningful levels of functional impairment in association with their symptoms. This subthreshold form of PTSD may be especially prevalent in women. Additional study of partial PTSD is warranted.

U.S. Department of Veterans Affairs. (2003). *2001 National Survey of Veterans (NSV), Final Report.* Washington D.C. http://www.va.gov/VETDATA/docs/SurveysAndStudies/NSV_Final_Report.pdf The 2001 National Survey of Veterans was designed to help the VA plan programs and services for Veterans. Researchers interviewed approximately 20,000 Veterans, selected via random digit dialing and from files of Veterans who enrolled in VA health care or received compensation or pension from the VA. Across wars and eras, 39% of Veterans (41% men, 12% women) reported exposure to combat, and 36% reported exposure to the dead, dying, or wounded. Exposure to combat or to the dead, dying or wounded varied by era of service, with the prevalence being highest in the World War II era (60%, 50%, respectively) and lowest for the era between the Korean conflict and Vietnam Era (32%, 30%). Almost 14% of surveyed Veterans said they had a service-related disability.