The Mental Health Needs of Military Service Members and Veterans

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Abstract: The prevalence in active duty military service members of 30-day *DSM-IV* psychiatric disorders, including posttraumatic stress disorders and major depressive disorder, is greater than among sociodemographically-matched civilians. Only 23–40% of returning military who met strict criteria for any mental health problem in 2004 had received professional help in the past year. One-fourth of Regular Army soldiers meet criteria for a 30-day *DSM-IV* mental disorder, two-thirds of whom report a pre-enlistment age of onset. Both pre- and post-enlistment age of onset are predictors of severe role impairment which was reported by 12.8% of respondents. In addition, three-fifths of those with severe role impairment had at least one psychiatric diagnosis. The number of deployments, especially three or more, is positively correlated with all disorders, especially major depressive disorder, bipolar disorder, generalized anxiety disorder, posttraumatic stress disorder, and intermittent explosive disorder. Patients with posttraumatic stress disorder and major depressive disorder frequently have comorbidity with other psychiatric diagnoses and an increased death rate from homicide, injury, and cardiovascular disease, and are at increased risk of medical illness, smoking and substance abuse, decreased employment and work productivity, marital and family dysfunction and homelessness. Active duty suicides have increased from a rate lower than among civilians to one exceeding that in civilians in 2008. Suicides among veterans climbed to 22 per day in 2010 with male veterans having twice the risk of dying from suicide as their civilian counterparts. Associated extremely high costs of psychiatric illness in decreased productivity and increased morbidity and mortality can be ameliorated with appropriate treatment which is not yet fully available to veterans in need. In addition, Veterans Administration/Department of Defense treatment guidelines to date do not recognize the need for intensive and extended psychotherapies for chronic complex psychiatric conditions including personality disorders and chronic anxiety and depressive disorders. It has been suggested that treatment should be available for all military service member mental illness regardless of whether or not it predates military service, a goal which remains distant.

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Especially in the last decade, members and veterans of the uniformed services have been exposed to years of war, multiple deployments, and high levels of psychiatric illness. Within the Veterans Health Administration there is a backlog (claims pending for more than 125 days) in providing medical care and disability benefits in which post-9/11 (Iraq and Afghanistan conflicts) claims make up 23% of the total inventory and 24% of the backlog ("Characteristics of Claims," U.S. Dept. of Veterans Affairs, 2014). Soldiers are returning home with posttraumatic stress disorder (PTSD), depression, substance abuse, other psychiatric illnesses, and an increased rate of comorbidity with a panoply of medical illnesses. In addition to delays for treatment within the Veterans Health Administration, veterans who seek treatment in the private sector face severe limitation especially in the provision of mental health services because of obstacles to their coverage by insurance companies despite the incorporation of the mandate for mental health parity within the Affordable Care Act (Bendat, 2014, this issue). The high costs from increased medical care, decreased work productivity, and increased morbidity and mortality from veterans' inadequately treated psychiatric illness is a national crisis that reflects poorly on our commitment to members of our currently all-volunteer armed services.

EPIDEMIOLOGY OF *DSM-IV* MENTAL DISORDERS AND CONSEQUENCES OF POSTTRAUMATIC STRESS DISORDER (PTSD) AND DEPRESSION

In the RAND Corporation's publication, *The Invisible Wounds of War,* Eibner, Ringel, Kilmer, Pacula, and Diaz (2008) reported that surveys of returning service members and veterans found 13.8% of all previously deployed troops met screening criteria for PTSD, 13.7% met screening criteria for major depression, compared to prevalence of 3.5% and 6.7% respectively in the U.S. civilian population (Kessler, Chiu, Demler, & Walters, 2005), and that only 23% to 40% of those who met strict criteria for a mental health problem in 2004 reported receiving professional help in the past year (Hoge et al., 2004). This rate is similar to the low rates of adequate treatment in the civilian population as reported by Wang et al. (2005).

A more recent report examined data on 5,428 non-deployed Regular Army soldiers in 2011 and found that one-fourth of Regular Army soldiers met criteria for any 30-day *DSM-IV* mental disorder, two-thirds of whom reported pre-enlistment age of onset of at least one 30-day disorder (Kessler et al., 2014). Both pre- and post-enlistment age of onset were predictors of severe role impairment which was reported by

12.8% of respondents, with pre-enlistment age of onset being a more powerful predictor. Of all those with severe role impairment, 61.5% had at least one 30-day *DSM-IV* disorder. Mental disorders are leading causes of U.S. military morbidity, with healthcare appointments and lost work days exceeded only by those caused by injuries. The most prevalent disorders were intermittent explosive disorder (IED; 11.2%), PTSD (8.6%), and attention deficit hyperactivity disorder (7.0%). Other disorders in this report were much less common (3.3%–5.7%). For example, the prevalence of major depressive disorder (MDD) in active duty troops was 4.8% (compared to 0.9% in the civilian population). Defining "internalizing disorders" as those with symptoms of anxiety, depression, and somatic concerns, and "externalizing disorders" as those with symptoms of hyperactivity and aggression, all prevalence estimates for the military (15.0% for any internalizing, 18.4% for any externalizing, and 25.1% for any disorder) were higher than those for the civilian population (5.3% any internalizing, 7.3% any externalizing, and 11.6% any disorder). The number of deployments, especially three or more, was positively correlated with all disorders and especially so with MDD, bipolar disorder, generalized anxiety disorder (GAD), PTSD, and IED. The finding of higher levels of pre-enlistment onset for externalizing disorders in the soldiers surveyed compared to the general population suggests that these disorders are higher in recruits and associated with joining the Army. Soldiers with internalizing disorders, however, had a pre-enlistment onset with prevalence comparable to the civilian population, suggesting that the higher rates of first-onset post-deployment internalizing disorders, including depression, anxiety, and somatic symptoms, are secondary to a higher risk after enlistment. In other words, serving in the military, especially the experience of deployment and increasingly with the number of deployments, leads to increasing anxiety, depressive and somatizing psychiatric illnesses in military service members. In addition never-married soldiers had a lower prevalence than married soldiers of *DSM-IV* disorders, suggesting unique stressors on military marriages.

In the general population 88% of men and 79% of women with PTSD also experience one other disorder in their lifetime. Roughly half of these individuals have three or more comorbid diagnoses (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). Additionally, the number of comorbid disorders is positively correlated with PTSD severity (Marshall et al., 2001). Two-thirds of those with PTSD have major depression (Karney, Ramchand, Osilla, Caldarone, & Burns, 2008), which comorbidity has more negative impact than either diagnosis alone, including more suicidal ideation and mental and primary healthcare visits (Campbell et al., 2007). For all patients with PTSD, the most common

comorbidities are depression, substance abuse, and other anxiety disorders (Brady, Killeen, Brewerton, & Lucerini, 2000). Conduct disorders also occur comorbidly (Kessler et al., 1995).

Forty-five to 65% of patients with depression have a comorbid disorder (Kessler et al., 2005; Olfson et al., 1997; Zimmerman, Chelminski, & McDermut, 2002) with major depression most commonly associated with personality disorders (38%), anxiety disorders (36%), nicotine dependence (26%), alcohol abuse (14%), and drug abuse (5%). The most frequently reported personality disorders include obsessive-compulsive, paranoid, and schizoid disorders while the most common anxiety disorders are phobia, generalized anxiety, and social phobia (Hasin, Goodwin, Stinson, & Grant, 2005).

With respect to mortality, patients with PTSD and depression have a higher rate of death by the way of homicide, suicide, unintentional injuries, and cardiovascular disease. Combat Army veterans with PTSD have heightened risk of cardiovascular death, externally caused death, and cancer mortality compared to those without PTSD (Boscarino, 2006). Patients with depression are twice as likely to suffer from coronary heart disease (Rugulies, 2002). Veterans with PTSD also have an elevated incidence of coronary heart disease (Kubzansky, Koenen, Spiro, Vokonas, & Sparrow, 2007). Vietnam veterans with PTSD have more medical complaints than those without (Beckham et al., 1998). Furthermore, depression exacerbates osteoporosis, arthritis, type 2 diabetes, certain cancers, and periodontal disease (Kiecolt-Glaser & Glaser, 2002).

Deployed service members have high levels of somatic complaints with 77% in Iraq and 54% in Afghanistan reporting gastrointestinal illness, 69% reporting respiratory illness, and 35% reporting noncombat injuries, with higher reports of physical problems among those with PTSD and depression (Sanders et al., 2005). Among returning service members with PTSD there is a higher rate of reported abdominal, back, head, and chest pain, dizziness, fainting, racing heart, shortness of breath, bowel, and sexual complaints, and lost workdays. This group reports lower quality of life, health, well-being, and energy. Similar patterns exist for depressed patients (Hoge, Terhakopian, Castro, Messer, & Engel, 2007). Patients with PTSD and depression have increased levels of smoking (Lasser et al., 2000), sexual risk-taking behaviors, and sexually transmitted infections, including HIV (Holmes, Foa, & Sammel, 2005). Patients with PTSD and depression also have an increased prevalence of obesity (Simon et al., 2006; Vieweg, Fernandez et al., 2006; Vieweg, Julius et al., 2006). The stark increased risk among psychiatrically ill veterans for comorbid medical illness was illustrated in one study at a Veterans Administration facility (Deykin et al., 2001) that found that patients with posttraumatic stress disorder, either alone or

in combination with depression, had higher use, and costs, of non-psychiatric medical care. These authors found that higher use and costs were related to a significantly increased number of medical conditions, highlighting the fundamental linkage between mental and physical health.

Patients with substance abuse co-occurring with other psychiatric diagnoses have more severe symptoms and poorer outcomes than patients with a single disorder (Ouimette, Brown & Najavits, 1998). Seventy-five percent of Vietnam combat veterans with PTSD meet criteria for substance abuse or dependence (Kulka et al., 1990). In the general population, depressed patients are 3.7 times more likely to have alcohol dependence, 1.2 times more likely to have alcohol abuse, and 9 times more likely to have drug dependence (Grant et al., 2004). Even short-term drug use during military service has long-term consequences and is associated with alcohol abuse, depression, and poor social adjustment. Vietnam veterans that have continued using opiates after the war are more likely to have a premature death (Price, Risk, Murray, Virgo, & Spitznagel, 2001).

Tobacco-related morbidity and mortality costs the U.S. military $952 million per year (Robbins, Chao, Coil, & Fonesca, 2000). Smoking also affects employee habits, and is associated with disability, lowered productivity, and greater absenteeism (Helyer, Brehm, & Perino, 1998). Within the population of Vietnam veterans with PTSD, there is a higher prevalence of heavy smoking than in those without PTSD (Beckham et al., 1997). It has been suggested that nicotine alleviates PTSD symptoms of arousal, numbness, and detachment (McFall, Mackay, & Donovan, 1992). Patients with major depression are also more likely to become daily smokers (Breslau, Peterson, Schultz, Chilcoat, & Andreski, 1998). Male patients with PTSD are more likely to abuse alcohol and women with PTSD are at greater risk for comorbid depression (Jacobsen, Southwick, & Kosten, 2001).

The immediate symptoms of post-deployment psychiatric illness affect interpersonal relationships and can worsen over time leading to negative consequences that can accumulate and limit options for productive employment and can trigger a cascade of negative consequences that may affect the life course of the veteran (Caspi, Elder, & Bem, 1987). Early interventions may have important long-term benefit (Karney et al., 2008).

With respect to employment, Vietnam veterans with PTSD are less likely to be employed than those without PTSD (McCarren et al., 1995; Savoca & Rosenheck, 2000; Smith, Schnurr, & Rosenheck, 2005; Zatzick et al., 1997). For this population, the likelihood of securing a job decreases as the severity of symptoms increases (Smith et al., 2005).

Similarly, depression in veterans is associated with a negative effect on employment. Vietnam veterans with depression, PTSD, or substance abuse have significantly lower wages than veterans who do not (Savoca & Rosenheck, 2000). PTSD and depression adversely affect veterans' future employment, productivity, and educational attainment (Karney et al., 2008). Clearly, programs and policies that promote extended healthcare coverage and employment after return from military service are important in addition to psychiatric care for a specific diagnosis.

According to a 2007 publication, 1,000 returning Iraq and Afghanistan veterans are at risk for homelessness (Perl, 2007). Among veterans, psychiatric illness and substance abuse are stronger predictors of homelessness than combat or other military experience (Rosenheck & Fontana, 1994). Post-combat mental disorders also have a negative impact on the families of service members (Galovski & Lyons, 2004). Emotional numbing and avoidance symptoms of PTSD are associated with poor parenting in Vietnam veterans (Ruscio, Weathers, King, & King, 2002). Depression is also associated with increased hostility, irritability, and compromised parenting skills (Downey & Coyne, 1990). The presence of depression in a parent can also have indirect, long-term, deleterious effects in that it can affect the development of their child, and may increase the child's risk for behavior problems, academic problems, and psychiatric illness (Beardslee, Bemporad, Keller, & Klerman, 1983; Beardslee, Versage, & Gladstone, 1998; Cummings & Davies, 1999). Similarly, children of veterans with PTSD have more behavior problems, academic difficulties and a 23% rate of receiving psychiatric treatment (Davidson, Smith, & Kudler, 1989). Overall, there is a greatly increased risk of familial difficulties, distressed relationships, intimate-partner violence, and divorce in the families of patients with PTSD and depression. The effect of post-combat mental illness affects veterans' families and future generations (Karney et al., 2008, Rosenheck & Fontana, 1998; Solomon, Waysman, Belkin et al., 1992).

Between 2004 and 2009, active duty military suicide rates initially were lower than civilian rates, but increased to reach levels higher than the civilian rate (Schoenbaum et al., 2014). By 2010, the average rate of suicides among veterans reached 22 per day (Kemp & Bossarte, 2012). Male veterans have twice the risk of completed suicide as their civilian counterparts (Kaplan, Huguet, McFarland, & Newsom, 2007). In a study of nearly one million active duty Regular Army soldiers between 2004 and 2009, the suicide rate among never, currently, and previously deployed Regular Army soldiers rose and exceeded the civilian rate by 2008 with a total of 569 deaths classified as suicides. Suicide among enlisted soldiers was inversely related to rank, was elevated among deployed women soldiers, soldiers without high school diplomas or

GEDs, white race ethnicity, and soldiers who had been demoted within the past two years, and was inversely related to length of Army service with the highest risk in the first two years for currently and previously deployed soldiers. Pre-enlistment mental disorders were associated with one-third of post-enlistment suicide attempts with a consistently increased rate among currently or previously deployed soldiers compared to those never deployed, the highest among those with three or more deployments, suggesting deployment-related factors. However, soldiers who were never deployed also had an elevated risk of suicide. The risk of suicide was also significantly elevated among soldiers with post-enlistment and likely deployment-related onset of major depressive disorder or intermittent explosive disorder (Schoenbaum et al., 2014). Patients with major depression are at 10 times the risk for suicidal ideation and 11 times the risk for suicide attempts than non-depressed patients. In the civilian population, patients with PTSD have a significantly higher rate of suicidal ideation and suicide attempts than those with other anxiety disorders (Kessler, Borges, & Walters, 1999). Schoenbaum et al. found that posttraumatic stress disorder was not correlated with suicide attempts within their study population. This finding is the opposite of findings within the civilian population. Furthermore, the results of the Schoenbaum et al. study showed that along with panic disorder, PTSD had an inverse or nonsignificant association with suicide among soldiers (2014). Never-married soldiers had a lower rate of suicide attempts compared to married soldiers, a finding inconsistent with civilian populations, suggesting unique marital stressors in military personnel (Friedman, 2014; Nock et al., 2014).

THE COST OF POST-DEPLOYMENT PTSD AND DEPRESSION

Eibner and colleagues' (2008) statement with respect to the needs of returning service members should serve as a principle for national policy with respect both to monetary and all other human costs subsequent to military service: "In our analysis, we consider the U.S. societal perspective because we believe that the cost of treating service members injured in Afghanistan or Iraq is a national responsibility and that we as a society should be committed to minimizing all costs, regardless of whether they accrue to government agencies, military service members, their families, taxpayers, or others" (Eibner et al., 2008, pp. 169-170). In addition, "Understanding the costs of these conditions, and the potential reduction in costs associated with evidence-based care, is valuable because the nation has obligated itself to providing health care for all returning service members, regardless of where their injuries were sustained" (Eibner et al., 2008, p. 177).

According to the RAND Corporation assessment, while treatment could be costly in the short term, providing evidence-based care according to the Veterans Administration/Department of Defense treatment guidelines to all returning veterans with a mental health condition could be cost saving over the long term. The RAND model used to measure the impact of returning service member illness includes the societal costs of inadequate or absent care, treatment costs for relapses, suicide attempts and completions, and lost productivity, but not costs connected to domestic violence, homelessness, or substance abuse. Savings from evidence-based care come from improved productivity, health, and quality of life. Any calculation of post-deployment mental health treatment costs should include both the costs of treatment and any offsetting savings from improving mental health in veterans (Eibner et al., 2008).

Depression is the most costly illness within two years post-deployment, followed by comorbid depression and PTSD, and PTSD as sole illness (Eibner et al., 2008). According to the RAND data, 5% of returning service members have PTSD immediately after their return, which increases to 15% over two years. Half of these service members will have comorbid major depression and 7.2% will have major depression alone. The impact on productivity is the largest factor, accounting for 55.3% to 94.5% of illness-related costs for service members with PTSD and major depression (Eibner et al., 2008). According to one RAND estimate, there could be a 15.75% reduction in wages for returning veterans with PTSD and a 45.23% reduction for those with major depression (Eibner et al., 2008). Christensen, McMahon, Schaefer, Jaditz, and Harris (2007) found that veterans in their 20s and 30s with service-related disabilities had a 5% lower probability of working than those with no disability and a 14% lower wage rate overall. Veterans with a 10% mental health disability had three times the annual income loss compared to veterans with a 10% physical disability (Eibner et al., 2008).

Estimates of two-year costs were created by modeling three care alternatives for veterans returning to the states with PTSD or major depression assuming three different care alternatives: usual care, evidence-based care, or no care (Eibner et al., 2008). One example is a calculation of the two-year costs of PTSD and major depression for 50,000, 25-year-old returning veterans with an average E-5 rank. For this situation, several different estimates were made with varying basic assumptions, with the "status quo" scenario assuming that 30% of these returning service members receive any treatment, 30% of which is evidence based (according to the VA/Dept. of Defense treatment guidelines at that time). For this model, two-year costs of PTSD and major depression ranged from $119.8 million to $204.7 million (at 2007

prices) depending on whether or not the value of lives lost to suicide were included in the estimates (Eibner et al., 2008). If the costs of lives lost to suicide are included, increasing treatment rates for this group from 30% to 100% and providing evidence-based treatment could save society $86.2 million over two years (Eibner et al., 2008).

Looking at the larger cohort, total PTSD and major depression-related costs for 1.6 million troops (deployed since 2001 until the time of this study) within the first two years post-deployment could range from $4.0 to $6.2 billion depending on the value assigned to the loss of life from suicide (Eibner et al., 2008). Providing all of these patients with evidence-based care (based on then current Dept. of Defense Treatment Guidelines) could reduce these costs up to 27.3% and more than pay for itself from a total societal perspective, largely from increased productivity. Considering costs flowing from homelessness, domestic violence, and negative impact of veterans' illness on families could well increase this estimated benefit of providing evidence-based treatment. For total case estimates of PTSD and major depression in returning service members, there is a potential cost savings of providing evidence-based treatments within the first two years of up to $1.7 billion or $1,063 per returning veteran. Increased productivity from successful treatment also reduces costs of unemployment, disability payments, and public assistance (Eibner et al., 2008).

TREATMENT NEEDS OF RETURNING SERVICE MEMBERS AND VETERANS

Based on a review of relevant literature, the Veterans Administration and the Department of Defense recommend several different psychotherapeutic approaches along with appropriate psychotropic medication as needed, for the treatment of PTSD. According to the VA/DoD Clinical Practice Guidelines for PTSD, the most strongly supported "A level" psychotherapies are trauma-focused psychotherapy, stress inoculation training, and other approaches that include combinations of the ingredients of exposure, cognitive restructuring, relaxation/stress modulation, psychoeducation such as in prolonged exposure, cognitive processing therapy, and reprocessing such as in EMDR.

Brief psychodynamic therapy was recommended as a therapy less highly supported by research and it was concluded that dialectical behavioral treatment (DBT) and group therapies had insufficient research evidence to recommend for or against them. While supportive psychotherapy was not considered by a high standard of research to be conclusively demonstrated as effective for PTSD, it has been demonstrated at least to be significantly more helpful than no treatment.

The guidelines stress that PTSD is often comorbid, especially with substance abuse and major depressive disorder (MDD). The guidelines further instruct that comorbid conditions should be treated concurrently, considering patient preferences, provider experience, severity of the conditions, and availability of resources. They also recommend referral to specialty care for severe MDD, MDD with suicidality, unstable bipolar disorder, severe personality disorders, psychotic disorders, and substance abuse. The guidelines stress that symptoms causing the most impairment should be addressed and treated, regardless of the cause.

The Veterans Administration/Department of Defense Clinical Practice Guidelines for Major Depressive Disorder (U.S. Dept. of Veterans Affairs, 2009) recommend the use of psychotropic medications including antidepressants in the treatment of moderate and severe major depression, in conjunction with psychotherapy. Electroconvulsive shock therapy can be used for very severe, psychotic, and treatment-resistant major depression.

With respect to psychotherapy, the guidelines recommend cognitive behavioral therapy (CBT), interpersonal psychotherapy, problem-solving therapy, and client-centered counseling for major depression. DBT is recommended as an adjunctive treatment to pharmacotherapy for major depression in older patients and couples/marital-focused therapy is recommended for patients with comorbid depression and relationship distress. The guidelines also recommend short-term psychodynamic psychotherapy for older patients who have recently become caregivers for a disabled family member. Computer-based cognitive behavioral therapy or guided self-help can be used for mild to moderate depression as alternatives, particularly when standard psychotherapy is not readily accessible.

In addition, a literature not referenced by the VA/DoD guidelines (which almost exclusively reference briefer treatments) reviews the superior usefulness of longer-term psychotherapies for certain patients with serious chronic complex disorders including personality disorders, multiple mental disorders, and complex depressive and anxiety disorders (i.e., associated with chronic course and/or multiple mental disorders). Some of the longer psychotherapies reviewed include psychodynamic therapy and psychoanalysis.

For patients with chronic, complex disorders who require more extended psychotherapy, frequency and duration of sessions are separate but additive positive factors in psychotherapy outcome (Sandell et al., 2000). While a number of psychotherapeutic approaches are effective for various personality disorders (Bateman, 2012; Hadjipavlou & Ogrodniczuk, 2010; Linehan, Armstrong, Suarez, Allmon, & Heard, 1991), longer courses of psychotherapy are often needed for these pa-

tients (Høglend, 1993; Howard, Kopta, Krause, & Orlinsky, 1986), which yield superior and more long-lasting recovery. The British National Institute for Health and Care Excellence (2009) guidelines recommend a longer course of psychotherapy for borderline personality patients in particular.

Patients with personality disorders and other serious chronic psychiatric conditions very frequently have disturbed interpersonal relationships that contribute to family dysfunction, experience decreased work productivity, and have a higher risk factor for mortality than smoking, alcoholism, obesity, and hypertension (Holt-Lunstad, Smith, & Layton, 2010). A number of studies point to psychodynamic as opposed to cognitive-behavioral psychotherapies as the superior treatment in ameliorating disturbed interpersonal relationships (Clarkin, Levy, Lenzenweger, & Kernberg, 2007; DeMaat, de Jonghe, Schoevers, & Dekker, 2009; Gregory, DeLucia-Deranja, & Mogle, 2010; Huber, Zimmerman, Henrich, & Klug 2012; Leichsenring & Rabung, 2008; Leichsenring & Rabung, 2011; Levy, Meehan, Kelly, Reynoso, Weber, Clarkin, & Kernberg, 2006; Shedler, 2010; van den Bosche, Verheul, Schippers, & van den Brink, 2002). Other studies purport psychodynamic psychiatric as being the more effective and cost-effective treatment for a broad range of psychiatric diagnoses, as well as yielding superior results in other outcome measures such as increased work productivity, decreased sick leave, and medical and hospital costs (Bateman & Fonagy, 1999; Bateman & Fonagy, 2003; Bateman & Fonagy, 2008; Berghout, Zevalkink, & Hakkaart-Van Roijen, 2010a, 2010b; Beutel, Rasting, Stuhr, Ruger, & Leuzinger-Bohleber, 2004; Clarkin et al., 2001; Clarkin et al., 2007; DeMaat, Phillipszoon, Schoevers, Dekker, & De Jonghe, 2007; Dossmann, Kutter, Heinzel, & Wurmser, 1997; Düehrssen, 1962; Duehrssen & Jorswieck, 1965; Hall, Caleo, Stevenson, & Meares, 2001; Heinzel, Breyer, & Klein, 1996; Keller, Westhoff, Dilg, Rohner, & Studt, 2002; Meares, Stevenson, & Comerford, 1999; Stevenson & Meares 1999; Teufel & Volk, 1988).

Many chronically depressed patients treated with short-term psychotherapy are left with residual depressive, introjective, perfectionistic, or interpersonal problems that are prodromal symptoms leading to recurrence (Blatt, Quinlan, Pilkonis, & Shea, 1995; Fava, Ruini, & Belaise, 2007). Perfectionistic, chronically depressed patients do better with intensive, extended psychodynamic therapy (Blatt, 1992). Many chronically depressed patients need more extended psychodynamic psychotherapy and if treated with more intensive, extended psychodynamic psychotherapy, compared to those treated with long-term CBT, have more sustained improvement and fewer interpersonal problems at three-year follow-up (Huber et al., 2012), as well as beneficial brain changes after treatment (Buchheim et al., 2012). (See "The Cost-Effec-

tiveness of Psychotherapy for the Major Psychiatric Diagnoses," Lazar, 2014, this issue, for a fuller discussion.)

Additional studies specifically link personality disorders with treatment resistant, persistent, and recurrent depression. Patients with major depressive disorder and a co-occurring personality disorder had significantly more role limitations due to impaired social functioning and significantly longer time to remission than patients with solely major depressive disorder (Grilo et al., 2010; Skodol et al., 2005). In addition, borderline and obsessive-compulsive personality disorders at baseline are particularly robust predictors of accelerated relapse after remission from an episode of major depressive disorder (Grilo et al., 2010). Borderline personality disorder is a robust predictor of chronicity (accounting for approximately 57% of persistent cases) and is also the strongest predictor of persistence of major depressive disorder, followed by schizoid and schizotypal personality disorder, any anxiety disorder (the strongest Axis I predictor), and dysthymic disorder (Skodol et al., 2011). Poor psychosocial functioning can compound the impairments of major depressive disorder, and affect the course of the illness. In one study, subjects whose personality disorders remitted had improvement in social functioning and were more likely to achieve remittance of their depression than those with major depression and persisting personality disorders (Markowitz et al., 2007).

Taking the long view from a cost-effective perspective, since depression is the most costly illness within two years post-deployment, it would seem clear that returning service members and veterans with major depression and a comorbid personality disorder need both illnesses treated to avoid recurrent and persistent depressive illness, even though the treatment of the personality disorder may require a longer and more intensive treatment.

In summary, mental illnesses in military service members and veterans include major depression, posttraumatic stress disorder, and the entire spectrum of psychiatric diagnoses. The costs and sequelae of their illnesses are protean and include increased morbidity and mortality from other medical illness, decreased work productivity, serious interpersonal and family dysfunction, homelessness, high rates of suicide, and substance abuse. The backlog for treatment by the VA has been unacceptably long. Currently we fall far behind the standard of the RAND Corporation's recommendation that the nation be obliged to shoulder the entire

> cost of treating service members injured . . . (as) a national responsibility and that we as a society should be committed to minimizing all costs, regardless of whether they accrue to government agencies, military service

> members, their families, taxpayers, or others . . . because the nation has obligated itself to providing health care for all returning service members, regardless of where their injuries were sustained. (Eibner et al., 2008, pp. 169-170)

If one also extends this responsibility to cover all psychiatric illness in returning service members then our understanding of the clinically and research-based treatments required has not been fully up to date. Awareness and availability of optimal treatment for the needs of patients with serious chronic complex illnesses, including personality disorders, multiple chronic mental disorders, severe anxiety, and depression have not been adequate. If this is true within the military environment, how do veterans fare in the private insurance market especially if we take their needs for treatment for all of their psychiatric illnesses seriously, whether originating in military service or antedating it? Given the current national state of poor compliance with mental health parity requirements, we are surely neglecting our returning service members and veterans at great cost to themselves, to their families, and to the country.

(One important resource for the epidemiology and cost data in this article was *Invisible Wounds of War, Psychological and Cognitive Injuries, Their Consequences, and Services to Assist Recovery*, edited by T. L. Tanielian and L. Jaycox, Rand Center for Military Health Policy Research, Rand Corporation, 2008.)

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