

**News Release**

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**New Data Presented at Psych Congress 2018 Sheds Light on the Significant Economic Burden of Treatment-Resistant Depression Amongst U.S. Veterans**

Results Highlight the Urgency for More Research and Treatment Options for Those Living with Depression, Which Affects Approximately One-Third of U.S. Veterans<sup>1</sup>

Additional Study of a Commercial Claims Database Found the Economic Burden of Treatment-Resistant Depression Increases Based on Severity of the Condition

**TITUSVILLE, NJ – (October 29, 2018)** – A new Janssen study presented at Psych Congress 2018 in Orlando, FL, highlights the substantial economic burden amongst U.S. veterans living with treatment-resistant depression (TRD). A person who has not responded to two or more antidepressant medications is considered to have TRD, which affects nearly one-third of those living with depression in the United States.<sup>2,3</sup> This new evidence, coupled with a separate Janssen analysis revealing new insights into the increased economic burden of TRD based on severity of the condition in people with commercial health insurance, heightens the urgency for more research and treatment options to support those living with this illness.

“While approximately 13 percent of Americans will experience depression during their lifetime, nearly three times as many U.S. veterans will be affected by this illness, which may be due to exposure to traumatic experiences and separation from family during deployment or military trainings.<sup>1</sup> Despite the higher prevalence, there has been limited research to date to understand the impact of treatment-resistant depression within this group,” said Onur Baser, PhD, Adjunct Professor of Internal Medicine, University of Michigan, and health economics research expert. “These findings add to the growing body of evidence showing the devastating personal and societal impact of TRD. More research and innovative therapies are urgently needed to help relieve the burden for this particularly vulnerable population.”

**[Click to Tweet:](#) New study illuminates economic burden of treatment-resistant #depression amongst U.S. veterans. More research is desperately needed to help the ~5 million Americans living with this debilitating illness.  
<http://po.st/oVR3cw>**

Depression is a significant public health issue and the leading cause of disability worldwide.<sup>4</sup> The costs associated with depression in the U.S. are also on the rise – the incremental economic burden of individuals with the illness was \$210.5 billion in 2010, compared to \$173.2 billion in 2005, an increase of 21.5 percent.<sup>5</sup>

TRD is considered to be present in people with depression who have not responded to at least two or more medications,<sup>3</sup> and places a particularly significant emotional, functional, and economic burden on the individual, their loved ones, and society.<sup>6</sup> People with TRD have been reported to pay more than twice as much in medical costs, were twice as likely to be hospitalized, and had six times higher hospital-related expenditures.<sup>7,8,9</sup>

The U.S. veterans study analyzed claims data from the Veterans Health Administration over a four-year period from April 2014 to March 2018, and found that TRD was associated with healthcare resource utilization and costs that were nearly four times higher than costs for those without depression, and 1.5 times higher than those with non-TRD depression. Specifically, U.S. veterans with TRD incurred:

- \$5,906 and \$11,873 higher total all-cause healthcare costs each year than U.S. veterans with non-TRD depression or without depression, respectively
- \$4,210 and \$8,651 higher mental health-related healthcare costs each year than U.S. veterans with non-TRD depression or without depression, respectively

Additionally, U.S. veterans with TRD were 1.7 times more likely to have inpatient visits than those with non-TRD depression [95 percent CI: 1.57-1.83], and five times more likely than those without depression [95 percent CI: 4.51-5.63].

The additional analysis of a U.S. commercial claims database found that the economic burden of TRD increases based on the severity of the condition. Condition severity was determined through a Patient Health Questionnaire-9 (PHQ-9), which is a validated patient self-administrated tool of depression symptom severity. The results showed people with moderate and severe TRD had 45 percent and 150 percent more inpatient admissions, 65 percent and 164 percent longer hospital stays, 18 percent and 54 percent more emergency department visits, and 8 percent and 10 percent more outpatient visits per person per year, respectively, compared to people with mild TRD. The all-cause healthcare costs for people with severe and moderate TRD were \$5,150 and \$3,455 more than people with mild TRD, respectively.

“The more we learn about treatment-resistant depression, the more we realize how significant the unmet need is for people living with this debilitating illness, which is estimated to affect five million adults in the U.S.<sup>2,3</sup>,” said Holly Szukis, MPH, Health Economics and Outcomes Research Specialist, Janssen Pharmaceuticals, Inc. “This is an

urgent public health crisis that demands a better understanding. Our Janssen Neuroscience team is committed to furthering our research on developing new treatment options for people with treatment-resistant depression.”

## **About the Studies**

### **The U.S. Veteran Study**

The retrospective matched-cohort analysis used Veterans Health Administration claims data from April 1, 2014 to March 31, 2018, to identify U.S. veterans with TRD. People with depression ( $\geq 18$  years of age) who failed  $\geq 2$  antidepressant (AD) treatments of adequate dose and duration were defined as TRD, while people not meeting this criterion constituted the non-TRD depression cohort (index: first AD claim). The non-MDD cohort included those without a depression diagnosis (index: randomly assigned). People with psychosis, schizophrenia, manic/bipolar disorder, or dementia in the 6-month pre-index period were excluded. People with non-TRD depression and without depression were matched 1:1 to people with TRD based on demographics (n=10,449 per cohort). Healthcare resource utilization (HRU) and costs were analyzed during the post-index period using a generalized linear model and ordinary least squares regression model, respectively.

Study limitations include: potential miscoding or diagnoses entered for administrative processing, inherent limitations of the retrospective study design, and generalizability of the findings, given the predominantly male population who served in the active military service.

### **TRD Severity Study**

The analysis used a claims-based algorithm to identify adults with TRD from the OptumHealth Care Solutions, Inc. database of privately insured employees and dependents from January 2010 to March 2015. People with TRD were matched on demographics to people with depression without TRD and people without depression. Among the 6,411 people with TRD, 455 (7.1 percent) were identified as mild, 2,153 (33.6 percent) as moderate, and 1,455 (22.7 percent) as severe, based on the information in the last observed MDD ICD-9-CM code. Healthcare resource utilization and costs of moderate and severe cohorts were compared to those of the mild control cohort using regression models adjusted for baseline characteristics. Treatment patterns were compared using statistical tests.

Study limitations include: potential underreported claims due to social stigma of TRD, possible inaccuracies in healthcare and disability claims, and the potential for results to

not reflect the general population, as the claims database only included those who were privately insured.

### **About Major Depressive Disorder (Depression) in U.S. Veterans**

Depression is the leading cause of disability worldwide.<sup>2</sup> In the U.S., approximately 16 million adults each year have at least one major depressive episode.<sup>5</sup> Individuals with depression experience continuous suffering from a serious, biologically based disease that has a significant negative impact on all aspects of life, including quality of life and function.<sup>10</sup>

While approximately 13 percent of Americans will experience major depressive disorder (depression) during their lifetime, nearly three times as many U.S. veterans will be affected by this debilitating illness, which may be due to exposure to traumatic experiences and separation from family during deployment or military trainings.<sup>1</sup> This disproportionate prevalence of depression among servicemembers is also seen in active duty soldiers, who have a five times higher prevalence compared to civilians, according to the Army Study to Assess Risk and Resilience in Servicemembers (Army STARRS).<sup>11</sup>

### **About the Janssen Pharmaceutical Companies of Johnson & Johnson**

At the Janssen Pharmaceutical Companies of Johnson & Johnson, we are working to create a world without disease. Transforming lives by finding new and better ways to prevent, intercept, treat and cure disease inspires us. We bring together the best minds and pursue the most promising science. We are Janssen. We collaborate with the world for the health of everyone in it. Learn more at [www.janssen.com](http://www.janssen.com). Follow us at [www.twitter.com/JanssenUS](https://www.twitter.com/JanssenUS).

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#### References:

1. Veterans Affairs. VA/DoD Clinical Practice Guideline for the Management of Major Depressive Disorder, Version 3.0. Prepared by The Management of Major Depressive Disorder Working Group, 2016 <https://www.healthquality.va.gov/guidelines/MH/mdd/VADoDMDDCPGFINAL82916.pdf>. Accessed October 2, 2018.
2. National Institute of Mental Health. Major depression among adults. <https://www.nimh.nih.gov/health/statistics/prevalence/major-depression-among-adults.shtml>. Accessed September 21, 2018.
3. Rush AJ, Trivedi MH, Wisniewski SR, et al. Acute and longer-term outcomes in depressed outpatients requiring one or several treatment steps: a STAR\*D report. *Am J Psychiatry*. 2006;163(11):1905-1917.
4. Media Centre: Depression. World Health Organization. <http://www.who.int/news-room/fact-sheets/detail/depression>. Accessed October 12, 2018.
5. Greenberg PE et al. The economic burden of adults with major depressive disorder in the United States (2005 and 2010). *J Clin Psychiatry* 2015; 76(2):155-162
6. Crown WH, et al. *J Clin Psychiatry*. 2002;63(11):963-71.
7. Kubitz N, et al. *PloS One*. 2013;8(10): e76882.
8. Corey-Lisle PK, et al. *J Clin Psychiatr*. 2002;63(8):717-26.
9. Ivanova JI, et al. *Curr Med Res Opin*. 2010;26(10):2475-84.
10. Trivedi, M. Prim Care Companion. *J Clin Psychiatry* 2004;6 (suppl 1)

11. Kessler RC, Heeringa SG, Stein MB, et al. Thirty-day prevalence of DSM-IV mental disorders among nondeployed soldiers in the US Army: Results from the Army study to assess risk and resilience in service members (Army STARRS). *JAMA Psychiatry*. 2014;71(5):504-513

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