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INVISIBLE WOUNDS AND COVID-19: HEIGHTENED RISK FOR WOUNDED WARRIORS

Wounded Warrior Project® (WWP) is committed to understanding the evolving needs of the 148,000+ injured post-9/11 veterans we serve. For more than a decade, WWP has conducted its Annual Warrior Survey (AWS) to identify these needs, build programs that address them, and inform policy and the efforts of other organizations that can make a difference. This commitment to research and understanding the needs of warriors has been critical to fulfilling our mission during the COVID-19 pandemic.

Globally, the pandemic has created additional and worsening challenges to mental health, physical health, and financial wellness.^{1,2} The stressors of social distancing along with other adversities associated with the virus (e.g., loss of employment, sudden homelessness, isolation) lead to long-term hardships, including psychological distress, physical decline, depression, and sustained unemployment.^{1,3}

While the warriors WWP serves are also dealing with these challenges, 11 years of AWS data informs us that they also face the long-term effects of their injuries or illnesses. According to the most recent AWS, nearly 90% of WWP warriors live with more than three mental or physical injuries as a result of their service. Year after year, mental health issues have been among the most commonly self-reported injuries. In 2020, the number of warriors reporting these issues remained consistent with previous years:

- ★ **83% live with PTSD.**
- ★ **77% live with anxiety.**
- ★ **72% live with depression.**

To learn more about the
Annual Warrior Survey and
download the full
2020 report, visit
AnnualWarriorSurvey.com

Warriors have selflessly served our country, but the combination of post-traumatic stress, anxiety, and depression can negatively impact resilience.^{4,5} The AWS has consistently shown that the WWP warrior population scores significantly lower in resilience than the average US population.^{6*} The majority of warriors report experiencing high levels of loneliness, and many (30%) report having recent thoughts related to suicide.

The 2020 survey was administered May to June, during the coronavirus pandemic. A common pandemic-related challenge WWP warriors reported was difficulty accessing care. Over half of warriors (59%) reported that their physical health appointments had been postponed or canceled, and 38% reported their mental health appointments had been postponed or canceled. Lack of care, combined with long-standing mental health conditions and the stressors of the pandemic environment, led us to explore the additional burden WWP warriors face. We have not yet reached the end of the pandemic, so we can use the data to quantify the current impact and identify ways to support warriors through this time.

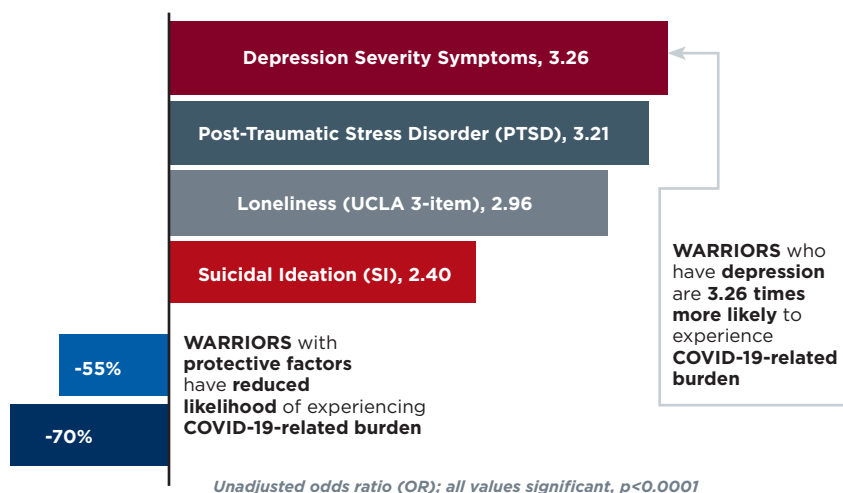
* In 2020, the mean Connor-Davidson 10-Item Resilience Scale score for WWP warriors was 24.3 (median 24.0). This has remained consistent over the last five years. The mean score found for the general U.S. population was 31.8. Scores range from 0-40, with higher scores indicating greater resilience.

Co-occurring Challenges and the Burden on Quality of Life During COVID-19

The AWS uses a variety of validated scales to assess the prevalence of mental health conditions within the WWP warrior population. These measures identify warriors[†] currently experiencing some of the significant issues common among the warrior population and labeled the issues as psychosocial risk factors.[‡] At the time of the survey, **60% of warriors were experiencing moderate to severe depression symptoms, 56% were experiencing PTSD symptoms, 66% reported loneliness, and 30% reported recent suicidal ideations.**

Our analysis compared the level of COVID-19-related quality of life (C-QoL) burden among warriors who experienced these psychosocial risk factors and among those who did not. **We found that warriors experiencing PTSD, depression, loneliness, or suicidal ideation are significantly more likely to suffer C-QoL burden.**

Figure 1:
Warriors with Psychosocial Risk Factors Have Greater Likelihood of Experiencing COVID-19-Related Burden



The likelihood of experiencing COVID-19-related quality of life (C-QoL) burden*

WWP Warriors experiencing:

- **Moderate to severe depression** are **3.26 times more likely** to suffer C-QoL burden
- **PTSD symptoms** are **3.21 times more likely** to suffer C-QoL burden
- **Loneliness** are **2.96 times more likely** to suffer C-QoL burden
- **Thoughts of suicide** are **2.40 times more likely** to suffer C-QoL burden

*When compared to warriors not meeting the threshold for moderate to severe depression or experiencing PTSD symptoms, loneliness, or thoughts of suicide, respectively.

COVID-19-related Quality of Life (C-QoL) burden:
The negative impact on overall quality of life experienced by warriors as a result of COVID-19.

Method

Specific to the 2020 AWS, administered May to June, warriors were asked a series of questions related to challenges they've experienced as a result of COVID-19. Warriors were asked to indicate the extent to which they've experienced each challenge using a Likert scale ("strongly agree" [1] to "strongly disagree" [5]).

COVID-19-related quality of life (C-QoL) burden was defined based on modeling using factor analysis, including three items from this series of challenge-related questions:

- disconnection from family, friends, or community
- worsening mental health
- worsening physical health

Scoring:

1 **6** **NO BURDEN** **15**

Greater C-QoL burden

Scores ranged from 1 to 15, with lower scores indicating greater perceived challenges for C-QoL burden. Scores were reclassified into a yes/no binary format, where those with a score greater than 6 were considered to be absent of C-QoL burden.

We overlaid a set of risk factors and protective factors with the magnitude of burden experienced, giving us the likelihood that C-QoL burden would occur in a warrior experiencing each of those individual factors.

Psychosocial risk factors included PTSD, depression, loneliness, and suicidal ideation. Protective factors included psychological well-being and resilience.[§]

[†]The 2020 Annual Warrior Survey reports weighted data; data used for this analysis excluded active duty warriors (n=1,310) and was unweighted with a final sample of 26,972 warriors.

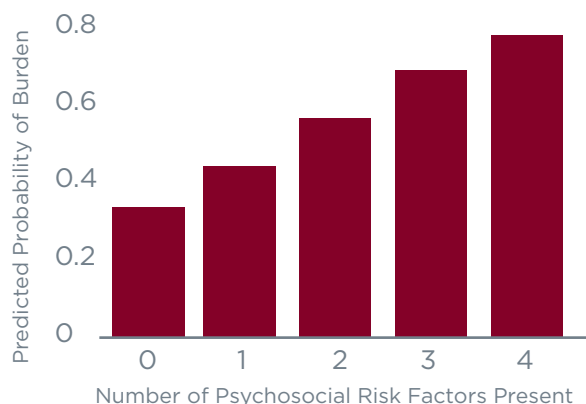
[‡]**PTSD:** Measured by the PTSD Checklist for DSM-5 (PCL-5); **Depression:** Measured by the Patient Health Questionnaire (PHQ-9); **Loneliness:** Measured by the UCLA 3-Item Loneliness Scale; **Suicidal Ideation:** Measured using one item from the PHQ-9 that asks frequency of suicidal thoughts over the past two weeks.

[§]**Psychological Well-being:** Measured by the Veterans RAND 12-Item Health Survey Mental Component Score (VR-12 MCS); **Resilience:** Measured by the Connor-Davidson 10-Item Resilience Scale (CD-RISC 10) Copyright © 2001, 2014 by Kathryn M. Connor, M.D., and Jonathan R.T. Davidson, M.D.

The Compounding Effect of Co-occurring Challenges

Figure 2:

Predicted Probability of C-QoL Burden by Number of Psychosocial Risk Factors Present



Through further analysis, we assessed the compounding effect of psychosocial risk factors on C-QoL burden. Results showed that **warriors with more risk factors had a greater likelihood of experiencing burden**. Figure 2 shows this increased burden, highlighting the potential cumulative effect of co-occurring mental health conditions.

Protective Factors and Lessening the Burden on Quality of Life During COVID-19

Anchored in our commitment to serving warriors during this time, we also identified ways in which warriors can be protected against C-QoL burden. **We found that WWP warriors with greater psychological well-being and resilience scores are significantly less likely to experience C-QoL burden.***

- Warriors with psychological well-being scores greater than the median are 70% less likely to experience C-QoL burden.
- Warriors with resilience scores greater than the median are 55% less likely to experience C-QoL burden.

**When compared to warriors with psychological well-being and resilience scores lower than the median, respectively.*

Conclusion

What the data show

The data show that lack of social connection (loneliness) along with co-occurring mental health conditions (PTSD, depression, suicidal ideation) exacerbates and magnifies the burden warriors experience during adverse events like COVID-19. Furthermore, the compounded effect of these challenges results in a disproportionate level of risk and increased burden.

The data also show that increased psychological well-being and resilience can mitigate or lessen the burden experienced during COVID-19 and similar adverse events.

Wounded Warrior Project programming during COVID-19

These findings highlight the importance of connection opportunities and effective and accessible mental health services for veterans. Prioritizing this type of programming is not only critical during the pandemic, but as a constant effort to protect warriors from the burden of future adverse events.

In the onset of COVID-19 and social distancing efforts, WWP introduced new ways to engage warriors and deliver critical programs and services. Before the pandemic, WWP offered in-person connection-focused events. We quickly shifted programming to include virtual options, ensuring warriors did not lose that connection. In fiscal year 2020, WWP held more than 4,300 virtual and in-person connection

events to keep warriors engaged with their peers and communities. Impact data show that these events – even when held virtually – are effective in building feelings of social support and meaningful connection. After attending these events, 91% of participants reported that they felt socially connected to their peers, and 89% said they feel that they have people they can depend on. These impact measures are especially important during and after the pandemic, as our research shows that warriors experiencing a lack of connection (loneliness) are nearly three times more likely to experience C-QoL burden.

WWP Talk is a telephonic mental health support program that breaks down barriers to mental health services for some of the most isolated warriors, family members, and caregivers. As a telephonic program since its inception, WWP Talk highlights the effectiveness of this all-virtual model in building psychological well-being and resilience, both before and during the pandemic. WWP Talk conducted more than 21,400 emotional support calls in 2020, significantly improving psychological well-being in 69% of participants and building resilience in 62% of participants. According to our research outlined in this paper, these improvements in psychological well-being and resilience can lessen the risk of C-QoL burden in warriors by 70% and 55%, respectively.

In addition to this shift in regular programming, WWP launched Operation Check-In. In less than 60 days following the shift to virtual programming, nearly 500 WWP teammates made more than 31,700 phone calls to check in and connect with warriors and family members. 60% of the referrals made during these phone calls were for WWP mental health and connection programs, which are proven to increase psychological well-being, resilience, social connection, and meaningful support.

Recommendations

Communities and organizations should prioritize making mental health services and connection opportunities more accessible. They should also prioritize actively reaching out to their memberships/constituents to make referrals or encourage participation in these programs and services. As our research in this paper has shown, these efforts could protect warriors and other populations who may be experiencing mental health issues against further pandemic-related burden.⁷ The compounding effects of existing mental health issues and pandemic-related burden will likely lead to an increased demand from veterans for mental health care services.⁸ Targeted outreach efforts of populations experiencing disparate burden helps alleviate isolation and connect them to needed services.

These findings can also inform the preparation for and response to future global unforeseen events like pandemics and natural disasters.^{3,9} While the full extent of the COVID-19 pandemic's impact remains to be seen, a focus on improving psychological well-being, resilience, and community support can dampen the degree of future burden.

If you or a veteran you know is looking for support during this time, please do not hesitate to reach out to the WWP Resource Center by calling 888.WWP.ALUM (997.2586) or emailing resourcecenter@woundedwarriorproject.org.

Generously funded by CSX Pride in Service

Research reported in this white paper was generously funded by CSX. Through their Pride in Service initiative, CSX is dedicated to connecting our nation's heroes and their families to the resources they need and providing them with the recognition they deserve.



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