



## RESEARCH BRIEF

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### Combining Medical, Social Determinants of Health, and Suicide Data: Enhancing Understanding of Suicide Risk among Homeless and Justice- Involved Veterans

#### Authors



**Ryan Holliday, PhD**

**Matthew Stimmel, PhD**

**Shawn Liu, MSW**

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#### What Do We Know?

Veterans experiencing homelessness and interacting with the criminal justice system experience a number of drivers of risk for suicidal thoughts and behavior. For example, Veterans experiencing these social determinants have notably high rates of psychiatric (e.g., serious mental illness; depression) and chronic health conditions (e.g., hypertension).<sup>1-3</sup> Moreover, these Veterans may experience trauma and psychosocial stressors (e.g., unemployment) which can further impact their functioning and increase their risk for suicide.<sup>1-5</sup>

These factors can result in a highly complex clinical presentation. Such clinical complexity can lead to high use of health and social services while also creating barriers to engaging with and benefiting from available services. For example, Veterans experiencing homelessness and interacting with the criminal justice system may over-rely on emergency services as a means of managing acute service needs (e.g., substance intoxication).<sup>3,6</sup> However, such interventions may not result in fully engaging Veterans into care that focuses on addressing drivers of these conditions (e.g., substance use disorder).

Given the clinical complexity that this population experiences, understanding and preventing suicide remains challenging. Therefore, building on prior work, we proposed that robust, multivariate analytic approaches capable of understanding risk as it relates to the intersection of multimorbidity and service use would be beneficial. Specifically, we used a “latent class analysis” approach that is able to incorporate the multitude of risk and protective factors, which homeless and justice-involved Veteran populations can experience, and identify common factor groups among these data. We sought to use such an approach to better understand variability in the risk for suicide across subgroups with similar as well as diverging risk factors and/or service utilization (e.g., Veterans primarily accessing substance use disorder treatment; Veterans with no history of a psychiatric diagnosis; Veterans with psychiatric multimorbidity and highly using services). These findings could be used, in turn, to inform methods of enhancing suicide risk management for these Veterans.

### **New Information Provided by This Study**

We conducted a latent class analysis for 200,083 Veterans accessing Department of Veterans Affairs (VA) justice-related services as well as 724,752 Veterans accessing VA homeless services between 2005-2018. Among these Veterans, latent classes were generated based on psychiatric conditions, non-mental health medical comorbidity (e.g., cardiovascular or liver disease), traumatic brain injury history, military sexual trauma history, Veterans Health Administration (VHA) mental health service use, VHA homeless/justice-related service use, and use of all other VHA services. VHA service use was categorized as: low use (lowest third of users), moderate use (middle third of users), and high use (highest third of users). Psychiatric burden was categorized by the likelihood of experiencing a mental health diagnosis for a specific group of homeless or justice-involved Veterans (i.e., within each specific latent class). Group membership was then examined as it related to death by suicide.

Among Veterans accessing VHA Homeless and Veterans Justice Programs, suicide risk appeared most pronounced among Veterans with high psychiatric burden (i.e., high rates of mental health conditions; psychiatric comorbidity) as well as those with moderate to high VHA service use (including mental health and all other services). Suicide risk was also notable among Veterans accessing VHA homeless services with moderate psychiatric burden and low to moderate VHA service use (including mental health and all other services). While Veterans in the moderate psychiatric burden group still experienced higher risk for mental health conditions as well as notable risk for psychiatric comorbidities, their rates were lower than Veterans in the high psychiatric burden group. In addition, Veterans with moderate psychiatric burden had lower overall risk for certain mental health diagnoses (i.e., alcohol and substance use disorders) compared to Veterans experiencing high psychiatric burden. Across all Veterans accessing VHA Homeless or Veterans Justice Programs, military sexual trauma history, non-mental health medical comorbidity, and traumatic brain injury history were not associated with latent group membership. This finding suggests that these factors can occur across homeless and justice-involved Veteran populations regardless of mental health diagnosis and service use.

Our findings continue to support the association between psychiatric diagnosis and suicide risk.<sup>7</sup> For example, Veterans with lower rates of mental health diagnoses and psychiatric comorbidities were significantly less likely to die by suicide. Notably, findings support that for some Veterans accessing VHA justice-related and/or homeless services, the overall frequency of service use may not be protective against suicide risk. Rather, this occurrence may be a signal that these Veterans are accessing care regularly but with more limited engagement, and in turn therapeutic benefit, from such services. An additional consideration is that these Veterans may not be referred to nor engaged in appropriate, evidence-based care. These scenarios may result in the Veteran accessing services with a high frequency as they are not matched to the Veterans' health and social needs.

In addition, some Veterans accessing VHA homeless services who are experiencing psychiatric multimorbidity may be presenting to, and potentially engaging in, less care. These Veterans appear at greater risk for suicide. One potential explanation for this finding is that these Veterans may be making initial contact with VHA providers (across services). However, these Veterans may not be following-up on referrals for sustained service delivery (e.g., completing a course of an evidence-based treatment).

Given these results, it is important to consider the intersection of mental health diagnosis and VA service delivery. Efforts to outreach Veterans experiencing homelessness and interacting with the criminal justice system should continue to focus on linking Veterans to care, while service providers across the VHA spectrum of services (including not just homeless programs staff, but primary care, mental health, and substance use treatment clinicians) should work to ensure that these Veterans are fully engaged in the health and social service delivery process. Doing so can increase therapeutic benefit, enhance functional recovery, and improve Veteran suicide prevention efforts.

## References

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