



Collaborating Against Loneliness

The cost of loneliness to the **Veterans Administration (VA)** each year is estimated to be between **\$3.4 billion and \$4.3 billion**. This estimate is based on a study by the National Academies of Sciences, Engineering, and Medicine, which found that loneliness is associated with increased healthcare costs, including hospital admissions, emergency room visits, and prescription drug use.

Health Problems	Mechanisms of Loneliness	Studies of Loneliness and Social Isolation
<ul style="list-style-type: none"> • Heart Disease / Stroke • Type 2 Diabetes • Depression • Anxiety • Sleep Problems • Early Death 	<ul style="list-style-type: none"> • Increased Stress. Loneliness increases levels of stress hormones, damaging the heart and other organs • Weakened Immune System. Loneliness can weaken the immune system, increasing susceptibility to infection • Poor Self Care. Loneliness contributes to the neglect of health, leading to chronic health problems 	<ul style="list-style-type: none"> • National Academies of Sciences • National Institutes of Health • U.S. Surgeon General • American Psychological Association

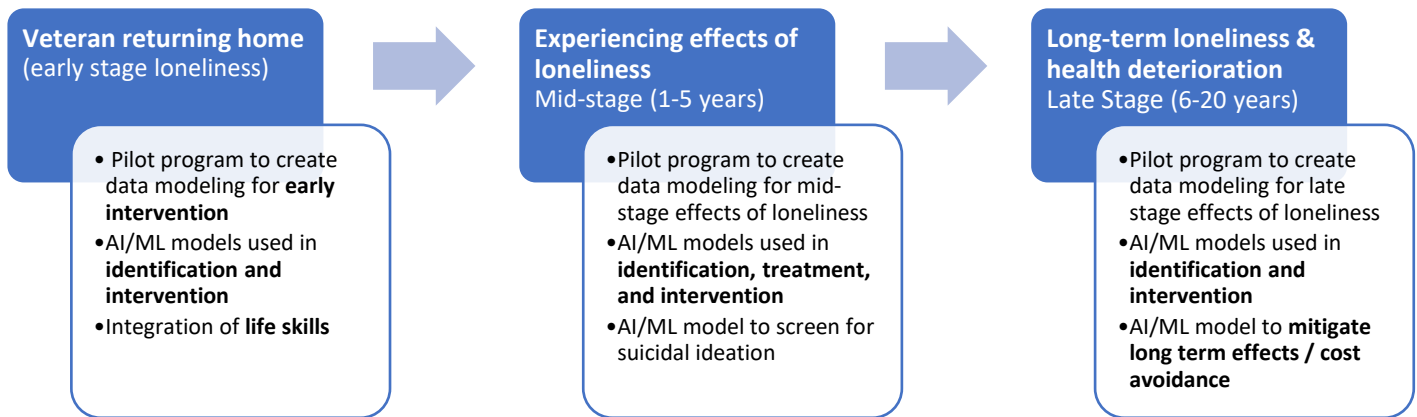
Delivering in the real world today. Innovating for tomorrow.

Veturon, a CVE-certified SDVOSB, is a team of partners delivering real-time, lifesaving digital Remote Support to thousands of people in the United States. The principles of Veturon and our partners have personally known each other for decades, having delivered **quantifiable, published** life-changing results to one of the largest, ongoing public-sector early intervention programs in the United States. When we say we want to innovate against loneliness – we understand the technology, the academic studies, and the unfortunate consequences of failure to act. We seek collaboration with the VA to **build AI/ML models** of early, mid-, and late-stage identification and management of those veterans along the continuum of loneliness. Using VA data and data from our leading-edge digital Remote Support to manage early mitigation and skill development for many, tracking and focused management for some, and treatment and Remote Support for those in need. This results in the best possible outcome for veterans and cost avoidance for the VA. Our internal estimates lead us to believe there could be a minimum 100X cost/benefit ratio.

The Veturon Approach

Loneliness is part of a continuum for the Veteran. Initial intervention and services are critical to veterans returning home safely and avoiding the avoidable loneliness-driven deterioration of their health over the next forty to fifty years. For Veterans caught in the middle of the continuum, ongoing communication and health initiatives are essential for managing and avoiding the health problems we now know are coming. Veterans who have suffered long-term loneliness require extensive outreach and Remote Support.

Veturon advocates innovation through collaboration with the VA to develop AI/ML models coupled with our existing leading-edge technology for each veteran group in the continuum. Teamed with existing interventions, pilot programs in each member group will grow the dataset for at-risk veteran identification and management, including those within the self-harm window or those already suffering from the late-stage health effects of loneliness. Veturon envisions a partnership with the VA to create robust predictive data models to mitigate the impacts and damages of loneliness proactively.



Reducing Hospital Admissions and The Effects of Loneliness: Remote Support for the Veteran

Research has identified that loneliness is linked to a greater risk of developing dementia (50%), a greater risk of cardiovascular diseases such as stroke or coronary artery disease (30%) and an increased risk of premature mortality (26%), even after adjusting for other health factors such as depression and health-related behaviors. Loneliness is also associated with worse mental health outcomes, such as a higher prevalence of depression, anxiety, and suicidal behavior ([Anderson and Thayer, 2018](#); [CDC Alzheimer's Disease and Healthy Aging, 2020](#)).

Last year, 56.9% of U.S. Veterans reported feeling lonely sometimes (37.2%) or often (19.7%). Loneliness severity was independently associated with a range of mental health, physical health, and functional difficulties. Loneliness has been documented within the veteran population to lead to depression (20%) or suicidal ideation (11%). Because of the negative stereotype associated with mental illness, many veterans are unwilling to seek help. They may fear being labeled weak or suspect others will look down on them.

Establishing a targeted program to address the overwhelming prevalence of loneliness among U.S. veterans to dramatically reduce this condition and the subsequent effects of mental health, physical health and functional disabilities. Also, establishing baseline metrics to be used to demonstrate program effectiveness further.

Key Measures:

- UCLA Loneliness Scale baseline
- Monthly measures of medication compliance & consistency
- Quarterly updates to the baseline scale to demonstrate trending over time and resulting effects of on-demand 24x7 access to highly trained personnel
- Annual measures of hospitalization utilization for comparative analysis vs. control group