

HBI Solutions Research: Early Warning System for Patients at Risk for Suicide Attempt Now in Translational Psychiatry

HBI Solutions, a leader in predictive analytics uses machine-learning on data from electronic health records to isolate individuals at risks for suicide attempt

MOUNTAIN VIEW, CA, USA, May 4, 2020 /EINPresswire.com/ -- In a collaborative piece with leaders from the Department of Psychiatry and Behavioral Sciences, Berkshire Medical Center, Pittsfield, MA, HBI Solutions has published its methods and results from the development of an early warning system for high-risk suicide attempt patients with advanced machine-learning algorithms and deep neural networks applied to data from electronic health records (EHRs) in Nature.com's [Translational Psychiatry](#).



Suicide is Taking Our Children

“

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Eric Widen, CEO HBI Solutions

Suicide is taking our children, plaguing our veterans and poisoning troubled minds as a viable alternative to seeking help. It is the tenth leading cause of death in the US, claiming the lives of more than 47,000 individuals in 2017, twice as many deaths as from homicide. It's the second leading cause of death among individuals between the ages of 10 and 34.

An early-warning system (EWS) for suicide attempt could prove valuable for identifying those at risk of suicide attempts and put information in the hands of providers who can act upon that information in the most timely manner.

“We are seeing more demand for behavioral health risk in everyday care,” explains Eric Widen, CEO of HBI Solutions. “Providers and payers alike are no longer managing disease. They are managing a whole person and that person is a tapestry of conditions, future risks and risk features. Our solutions shine a light on these tapestries. ”

In the study, a final risk score was calculated for each individual and calibrated to indicate the probability of a suicide attempt in the following 1-year time period. Risk scores were subjected to individual-level analysis in order to aid in the interpretation of the results for health-care providers managing the at-risk cohorts. The 1-year suicide attempt risk model attained an area under the curve (AUC ROC) of 0.792 and 0.769 in the retrospective and prospective cohorts, respectively.

The suicide attempt rate in the “very high risk” category was 60 times greater than the population baseline when tested in the prospective cohorts. Mental health disorders including depression, bipolar disorders and anxiety, along with substance abuse, impulse control disorders, clinical utilization indicators, and socioeconomic determinants were recognized as significant features associated with incident suicide attempt.

The commercially available suicide attempt risk is now part of a suite of population risk models that include other behavior and substance risks; opioid abuse and opioid overdose risk.

Additional publications can be found at <https://hbisolutions.com/category/publications/>

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About HBI Solutions

HBI Solutions was founded in 2011 by a physician, a data scientist, and a healthcare IT business executive who shared a vision of improving health and reducing costs. Today, our expert staff includes researchers, physicians, data scientists, healthcare IT executives and developers. Our solutions are grounded in clinical care and data science, and our work is prospectively tested, peer-reviewed, and published in leading medical journals. At HBI, we continually seek to build or innovate on these solutions to provide more value to our clients and support delivery of better care at a lower cost. Visit them online at www.hbisolutions.com, follow them on LinkedIn or Twitter

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