

# HBI Solutions Publishes Results From Machine Learned Algorithm to Identify Elders at High Risk for Falls

*HBI Solutions, a leader in predictive analytics for healthcare published has methods and results from a one-year fall prediction model for older adults.*

MOUNTAIN VIEW, CA, USA, May 12, 2020 /EINPresswire.com/ -- In adults over 65 years old, fall is recognized as a major cause of injury and hospital admission for trauma and related death worldwide. The estimated incidence rates of fall range from 28% to 35% per year for community-dwelling older people, while about 20% of those fallen people require medical attention, and 5% would experience fractures and severe head injuries. With or without injury, once a patient has experienced a fall, it can often spur a downward spiral – fear of falling, inactivity, decreased strength and mobility, increased risk of falling.



Elderly People Crossing

Predicting the risk of falls in advance can trigger interventions, such as in home safety inspections, medication review, strengthening and balance exercises, etc. that could benefit quality of care and reduce mortality and morbidity in the older population.

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*Eric Widen, CEO HBI Solutions*

“Traditional fall risk assessment tools mainly look at physical functions, ignoring other factors that contribute to the overall risk,” explains Eric Widen, CEO of HBI Solutions. “By using machine learning on EHR data, we are able to find and incorporate these important features and improve discriminative ability over other methods.”

The International Journal of Medical Informatics publication, [Identification of elders at higher risk for fall with statewide electronic](#) health records and a machine learning algorithm, describes how the one-year fall prediction model was developed using the machine-learning-based algorithm, XGBoost, and tested on an independent validation cohort. The data were collected from electronic health records (EHR) of Maine from 2016 to 2018, comprising 265,225 older patients (≥65 years of age).

157 impactful predictors were captured into the final model, including cognitive disorders, abnormalities of gait and balance, Parkinson’s disease, fall history and osteoporosis were identified as the top-5 strongest predictors of the future fall event. Other strong features were

found in comorbidities, medications and historical utilization patterns. This risk assessment tool can be immediately deployed in the electronic health system to provide early warnings, recognize personalized risk factors and facilitate customized fall interventions.

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](http://www.hbisolutions.com), follow them on LinkedIn or Twitter

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