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Track the walk: a fall-proof method

November 22, 2014 | Analysis | By BioSpectrum Bureau

Track the walk: a fall-proof method



Singapore: CDC predicts that every year, one in every three adults in the age group of 65 or older falls and around 2 million are treated in emergency departments for fall-related injuries. Some falls lead to head traumas and hip fractures, affecting the independence and health of the elderly. Health experts estimate that by 2020, the cost of fall-related injuries may rise up to $32.4 billion. Understanding fall-risk prevention and protection will improve clinical treatments and promise better healthcare administration.

While many health experts advise conventional tips like exercise and diet to prevent falls, a young Australian startup, Quanticare technologies have applied predictive analytics to design a novel sensor system for walking frames that can effectively prevent falls in the elderly. In recent times, predictive analytics is a much-discussed, most-hyped form of healthcare delivery. It plays an important role in an ageing population by making healthcare cheaper, more effective and timely, thereby increasing the productivity of healthcare professionals.

Started by a group of four young graduates, Quanticare aims to create novel solutions for monitoring and tracking health conditions, thus experimenting with innovative ways of healthcare delivery. Speaking to BioSpectrum, Mr Philip Goebel, CEO, said, "With the Internet of things and digital health, healthcare delivery has been modernized. Quanticare Technologies began as an exploration of the potential impact these innovative technologies will have on healthcare."

Among senior citizens, falls are a threat to health and independence. Spiraling healthcare costs are a major factor that contribute to the woes of the elderly. Quanticare's new technology consists of a sensor which can be attached to existing walking frames to track the movement of the user. The device can monitor any deviation from normal. This data can then be presented to both seniors and healthcare practitioners to provide timely solutions.

Explaining the invention, Mr Goebel, said, "Our sensor system, 'Footprints' will obtain the same data set that clinicians use today to understand fall-risk, but the process will be continuous and passive. This will allow clinicians to assess, track and tend patients remotely. The sensor can fit into a standard walking frame used by the elderly for walking. While we are currently optimizing the product for a 4-wheeled walking frame (the most common type) the product can also be adapted for use with 2 and 3 wheeled frames, gutter frames, pickup frames, and walking frames used in a pediatric population."

Predictive analytics can be effectively used to prevent adverse health hazards and help health professionals to prevent adverse medical conditions by providing pre-emptive care. This approach is the way forward to reducing healthcare costs while improving effectiveness think the founders. However, Mr Goebel stated that there are many challenges as many healthcare models do not utilize predictive analytics. "We are currently identifying healthcare sectors that are in the best position to adopt predictive analytics in healthcare. Residential aged care is one such sector that can use predictive analytics to its maximum advantage and help elderly lead a better life by eliminating risks."

Quanticare is currently accelerating the development of Footprints and aims to begin clinical trials as early as next year. Mr Goebel noted, "We have begun testing in a gait laboratory to validate and optimize the accuracy of the device. Soon, we hope to begin field testing." Though the company has not received any funding, it plans to raise seed funding by participating in the Melbourne Accelerator Program as entrepreneurial fellows at the Melbourne University.

In the long run, Quanticare aims to build novel digital health solutions to deliver better experience for patients by improving patient-management, clinical outcomes, and reducing medical costs. Mr Goebel emphasized, "Our healthcare systems have been designed to deal with acute illnesses, yet 75 cents of every healthcare dollar is spent on the consequences of chronic diseases. The sustainability of healthcare systems around the world depend on finding a better way to manage chronic diseases. Expanding business model opportunities is the key to delivering better, cheaper, and more accessible healthcare."

Many reasons like increasing health concerns, longevity, low-cost benefits and the vast gene pool of the Asian nations has been able to lure lifescience industry to develop unprecedented medical solutions that can revolutionize healthcare. As smart healthcare and digital health are replacing conventional medical practices, Quanticare is aspiring to reach greater heights in years to come.