Research Identifies Potential of Data Analytics to Prevent Falls

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A collaborative research project involving the University of Strathclyde, Glasgow City Health and Social Care Partnership (HSCP), Tunstall, and the Digital Health and Care Innovation Centre has highlighted the potential of data analytics to improve fall prevention and care for older adults.

Falls are a significant health concern for older individuals, leading to hospital admissions, injuries, and reduced quality of life. The research aimed to explore how data collected from telecare devices could be used to predict falls and inform more proactive care interventions.

The team analysed data from over 28,000 Glasgow residents who use telecare systems. They identified key areas for improvement, including data standardisation, access, and sharing. The researchers also emphasized the importance of using artificial intelligence (AI) to develop personalized and predictive models for allocating resources effectively.

Marilyn Lennon, Professor of Digital Health and Care at the University of Strathclyde, said: “Telecare devices, systems and users produce vast amounts of data, and we needed to carry out detailed analysis to work out how it can be categorised and used in very pragmatic ways to predict people who are at risk of falling, so that ultimately, preventative steps can be put in place.”

The research findings have significant implications for the use of telecare systems in fall prevention. By addressing the data challenges and implementing data-driven approaches, healthcare providers can deliver more targeted and effective care.

Professor Lennon added: “It is not straightforward to share data but when we do, we get great results. We have the opportunity to share innovative machine learning for the greater good.

“This work has the potential to really make a difference for the better, resulting in timely and early interventions that can ultimately prevent falls.”

Glenda Cook, Planning Manager for the HSCP added: “We knew this was a complex data picture with multiple forms of data, and this study highlights the need to address more efficient data entry, control and storage.”

Lucille Whitehead from Tunstall, said: “These early insights on the data collected from Glasgow City HSCP, and the early analysis by the University of Strathclyde, may help to target care where and when it’s needed most.”