

Dementia patients could remain at home longer thanks to ground breaking technology

June 4 2018



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Innovative new technology will enable people with dementia to receive round the clock observation and live independently in their own homes, a new study in the Journal *PLOS One* reports.

During this unique study, researchers from the University of Surrey in partnership with Surrey and Borders Partnership NHS Foundation Trust have developed state of the art AI technologies, powered by machine learning algorithms, to monitor the wellbeing of [people](#) with [dementia](#).

The study known as Technology Integrated Health Management (TIHM) for dementia, uses the 'Internet of Things,' a network of internet enabled devices (sensors, monitors and trackers) installed in homes, which can detect an immediate crisis as well as changes in people's health and daily routines. Any change could indicate a potential health issue and if identified early could prevent a person from becoming seriously unwell and requiring emergency hospital admission.

The well-being of people with dementia can also be monitored using this [innovative technology](#) which can detect agitation and irritability.

Dr. Payam Barnaghi, Reader in Machine Intelligence at the University of Surrey, said: "The impact of a simple algorithm on the life of people with dementia is staggering. Our algorithms and the unique technology it powers means that round the clock observation of people is possible and this not only helps inform clinical decision making but enhances the care and support given to people with dementia and their carers.

"Technology plays a growing role in our healthcare system and it is crucial we capitalise on this to improve the care people receive."

Dr. Helen Rostill, Director of Innovation and Development at Surrey and Borders Partnership NHS Foundation Trust, said: "We are delighted to be working with the University of Surrey on this ground-breaking study which we believe has the potential to not only transform support for people with dementia and their carers but also people with other long term and complex health conditions."

Figures from the Alzheimer's Society indicate that there are 930,000-people with dementia in the UK, with numbers set to rise to over 1 million by 2025. Currently there is no cure for this very challenging illness, placing financial strain on the NHS as the cost of care continues to soar. Innovative [technology](#) like this will help slow the decline and maintain independent living for people with dementia.

More information: Shirin Enshaeifar et al. Health management and pattern analysis of daily living activities of people with dementia using in-home sensors and machine learning techniques, *PLOS ONE* (2018). [DOI: 10.1371/journal.pone.0195605](https://doi.org/10.1371/journal.pone.0195605)

Provided by University of Surrey

Citation: Dementia patients could remain at home longer thanks to ground breaking technology (2018, June 4) retrieved 13 April 2023 from <https://medicalxpress.com/news/2018-06-dementia-patients-home-longer-ground.html>

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