

Data-driven app results in 25% fewer emergency hospital admissions from care homes

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The use of a digital remote monitoring technology in care homes has been found to reduce hospital A&E attendances by 11% and emergency

admissions by 25% in a new study from the Health Data Research UK (HDR UK) Better Care program, published today in [Age and Ageing](#).

There are more than 400,000 people living in care homes across the U.K., many of whom will be living with complex medical needs that put them at greater risk of needing emergency health care, especially during the winter months.

Through the HDR UK Better Care program, a collaboration between the universities of Sheffield, Durham, Lancaster and Newcastle, researchers set out to investigate the benefits of using a digital technology for remote health monitoring within care homes.

Health Call, an NHS-owned digital company, developed a [smartphone app](#) that care home staff can use to monitor and manage the long-term health of residents by recording daily observations. The information, held securely in the app, provides a way for doctors and other clinicians to review the resident and offer guidance for their care while the resident is in their home.

Researchers looked at the impact of using the Health Call app for 8,702 residents in 118 care homes across the North East of England between 2018 and 2021.

By linking routinely collected NHS secondary care data from County Durham and Darlington NHS Foundation Trust with data gathered within the care homes, the team show that using the Health Call app reduced the number of attendances to A&E by 11% and unplanned [emergency admissions](#) by 25%.

Alex Garner, a Ph.D. student at the Center for Health Informatics, Computing and Statistics at Lancaster University and first author on the study, said, "As the age of the U.K. population increases, finding

solutions that improve care and quality of life for older people has become increasingly important.

"The findings of our study highlight the potential of data-driven solutions such as remote monitoring technology to improve care through reducing emergency attendances and admissions to hospital. Care home staff also reported that using the app boosted their confidence in being able to identify possible deterioration earlier and support better management of illnesses before hospitalization is needed.

"Our hope is that these types of digital technology will play a vital role in improving communication between health service providers in the future, benefiting both patients and the NHS."

In addition to assessing the impact on hospital attendance and admissions, the research team also performed a cost analysis. They found that use of Health Call within [care homes](#) led to a cost reduction for the NHS of £57 per resident in 2018, increasing to £113 in 2021.

Suzanne Mason, professor of emergency medicine at the University of Sheffield and senior author on the study, said, "By having the capability to link data recorded by care home staff to data from NHS services, we were able to evaluate the impact of using a novel digital monitoring technology such as the HealthCall app. This study highlights the added value in capturing routine health data for research above and beyond that already being collected for the delivery of patient care."

The app provides a structured method for seeking clinical advice for the management of care home residents who become unwell. Staff are trained to use the app to record the vital signs of the residents to allow calculation of the National Early Warning Score 2 (NEWS2)—used across the NHS to identify patients who may be at risk of deterioration. Caregivers can also upload free text describing a resident's condition

using a Situation, Background, Assessment, Recommendation (SBAR) approach, which is a structured form of communication used to enable information to be conveyed accurately.

Jo Knight, professor in applied [data science](#) at Lancaster Medical School and member of the Lancaster University Data Science Institute, said, "Given the opportunities that will result from the investment into NHS secure data environments, this research looking at how to use routinely collected data to improve health outcomes is timely and important."

More information: The impact of digital technology in care homes on unplanned secondary care usage and associated costs, *Age and Ageing* (2024). [academic.oup.com/ageing/article/.../1093/ageing/afae004](https://academic.oup.com/ageing/article/52/10/1093/ageing/afae004)

Provided by Health Data Research UK

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