

# Digital technology linking care homes to clinical advice hubs reduces emergency department attendances

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The use of digital technology in residential care homes can reduce the number of emergency department attendances by 10% each month,

according to new research presented at the European Emergency Medicine Congress today (Wednesday, Oct. 19).

Preliminary evidence from a study that modeled the effect of implementing the U.K.'s National Health Service (NHS) [HealthCall](#) digital technology across the North-East of England showed it had the potential to make a significant impact on attendances by residents of care homes in accident and emergency (A&E) departments.

Alex Garner, a Ph.D. student in the Statistics and Epidemiology program at Lancaster Medical School (Lancaster University, U.K.), working on the Learning Care Homes Project, told the congress that HealthCall Digital Care Homes was an app that could be used in care homes to provide staff with easy access to clinical advice.

"Care homes that are registered with HealthCall are provided with devices on which the staff can use the app. Staff are trained on taking observations of residents' condition, such as body temperature and blood pressure, and uploading these observations to the app. They can also include text about a person's condition. The observations are sent to a clinician at a central hub who has access to the resident's NHS healthcare record. The clinician can then provide advice for staff on next steps in the resident's care. The advice might be to keep monitoring the resident, or for a healthcare professional to visit, or to take them to an emergency department."

Mr. Garner and his colleagues collated data on 8,702 [care home residents](#) in 122 homes from County Durham and Darlington NHS Foundation Trust and linked these with [clinical data](#) from HealthCall. Using this information, they created statistical models to predict how rates of A&E attendances changed over time. The models took account of fluctuations caused by the time of year and also the COVID-19 pandemic.

"HealthCall rolled out in care homes gradually throughout the study period of June 2018 to September 2021," he said. "New homes joined each month, and we can identify when each home started to use the HealthCall system, incorporating this into our statistical models. We assessed whether usage of the app in a care home had a significant impact on expected numbers of A&E attendances. We tested for an immediate change and also for a gradual change over time in emergency attendances.

"Our preliminary models suggest a 10% reduction in the expected monthly emergency department attendances for residents in care homes using HealthCall technology compared to attendance rates before HealthCall was introduced. There is insufficient evidence so far to suggest that the use of HealthCall could result in an additional gradual decrease in emergency attendances for individual residents over time, but we are investigating this further.

"The technology also allows for ongoing monitoring of residents' health as well as providing more convenient and timely access to clinical advice."

The researchers continue to develop their modeling and investigate the impact of HealthCall technology on A&E attendances and admission, length of inpatient stays, number of community nurse visits, rates of A&E admissions compared to transfer back to the care homes, rates of A&E arrivals by ambulance, and whether any of these outcomes are affected by how much the care homes use the app. The technology is now being rolled out to a further 300 [care homes](#) in the north of England, including in North Cumbria, South Tees, Newcastle Gateshead and Rotherham.

"Our study shows that digital technology could bridge the gap between health care and social care in the U.K., provide staff with ready access to

clinical expertise and potentially improve the quality of life for care home residents," said Mr. Garner. "Different systems for care home in other countries may mean health care and [social care](#) interact in different ways, but the opportunities that technology provides to strengthen these links can be a useful tool for improving care for residents, especially when used to bring clinical expertise into day-to-day decision-making."

Previous research has suggested that some emergency hospital admissions of care home residents in the U.K. may have been unnecessary, as well as being detrimental to residents' well-being.

"Care homes look after some of the most vulnerable members of our society. Ensuring residents receive the correct level of care is of utmost importance. It is hoped that having quick access to this type of advice can lead to reductions in A&E attendances and hospital attendances through providing more targeted care in the home," he said.

A strength of the study was the use of large amounts of data that are routinely collected within the NHS, including information from hospitals and other specialist medical settings, community care and HealthCall. The linked data were stored in the University of Durham Trusted Research Environment (TRE), which allows the researchers to access the sensitive data remotely while the data remain stored in a secure system.

Professor Youri Yordanov from the St Antoine Hospital [emergency department](#) (APHP Paris), France, is Chair of the EUSEM 2022 abstract committee and was not involved in the research. He said, "At a time when overcrowding in emergency departments is becoming a chronic issue, and with an aging population due to increased life expectancy, initiatives such as this that help to reduce the number of attendances of elderly patients to A&E are welcome and much needed."

**More information:** Abstract no: OA103, "Impact of digital technology

in care homes on Emergency Department attendances" by Alex Garner, in the Well-being session, 08.30–10.05 hrs CEST, M1-2-3, European Emergency Medicine Congress

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