

ASSESSMENT 2 IN DIGITAL SKILLS IN HEALTHCARE

TITLE: DIGITAL SKILLS IN
HEALTHCARE

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RESEARCH REPORT

There are an estimated 5,153 nursing homes and 12,525 residential homes in the UK today³ providing accommodation to more than 426,000 people⁴. A significant proportion of the UK's elderly population is resident in these homes - around 4% of people aged 65 or over, and more than 16% of people aged 85 or over⁴. Unless significant changes are made to our health and social care services, this provision of long-term care will be insufficient to meet the needs of our ageing population, which will see one in four people aged 65 or over by 2040, including more than 3.4 million people aged 85 or over (more than double today's number)⁵. Further, the number of care home beds is decreasing; by 2020 it is predicted that there will be demand for 15% more beds⁶, yet it is forecast that it will actually have 37,000 fewer care beds (almost 9% fewer)⁷. The trend for fewer care home beds is not new, and 'only' 1,500 beds were lost in England during 2015⁸, but this trend is expected to accelerate dramatically as the financial pressures on care homes drive more and more of them into difficulties. These pressures are overwhelmingly driven by the tightening of local authority purses: despite demand for state-funded care home places continually increasing, there has been a 6% real-terms reduction in council paid fees since the start of the austerity programme in 2011⁹. This has forced care homes to create a fees structure in which private residents cross subsidise the 52% of care home residents and 61% of nursing home residents who receive either full or partial funding from their local authority¹⁰. The average premium paid by private residents is estimated to be 43%⁴. The second source of financial pressure on care homes is raising costs, mostly caused by increases to the National Minimum Wage (3% for adults and 17% for apprentices in 2015 - the largest real increase since 2006). As about 60%¹¹ of the average care home's income is spent on staff, many of whom are paid the minimum amount, these wage increases will be felt particularly acutely by the care home industry. The combination of these different pressures on care homes will mean that many more frail and vulnerable people will have no option but to move into inappropriate care

If a care or nursing home is being established or upgraded, it is worth considering the contribution technology, and the clever use of data, can make to improve the care and support of residents with dementia living in the care or nursing home.

Technology can offer a timely, efficient and useful way to capture and record care notes. For example, handheld mobile devices with appropriate software, can allow staff to update 'in real time' the care given or information they want to note about a person rather than adding it to the paper notes at the end of a shift. The software could be configured to know what an individual's normal day routine is, so can ask staff applicable questions, and offer a range of quick answers, at the right time, to speed up data entry. It increases what is recorded about the person so that staff and managers have a broader picture of a resident's health and care. This system can also provide a gateway for relatives, so family members can log in from a distance to read information about their loved one's day.

Acoustic listening devices can be installed in the resident's room. With the person's agreement, it can be switched on at night allowing staff to 'keep an ear' on noises in any particular bedroom rather than having to patrol rooms, potentially disturbing people's sleep. Staff can check on a person if they hear an unusual sound is. A similar system of cameras can be installed if deemed appropriate and with the person's consent.

Digital records are held centrally so managers can analyse the information entered by staff to confirm, for example, that a person has received medication. They can also check when incidents such as falls tend to occur and change staffing patterns if deemed helpful.

The data collected should be used creatively and cleverly to maximise potential of the system. It has to be linked and integrated, creating a full picture of an individual such as identifying changes in mobility, sleeping, drinking, and using the toilet or a physical system such as blood pressure or heart rate. The automated highlighting of anomalies needs to be carefully planned, so an alert is only raised when a trend is noticed, rather than for each individual instance of concern.

Technology can streamline business systems such as staff-roistering, text messaging of staff in different parts of the home and automatic scheduling of meetings between staff and management in response to complaints and incidents.

Digitised locking systems can be installed instead of using keys and locks. This ensures parts of the home can be kept secure, when necessary, and access is limited or controlled where necessary.

Access to tech-enabled health and care services such as telehealth, telecare, telemedicine and tele-coaching help residents and care staff to manage long-term conditions without having to leave the home. Video consultations with local hospitals and consultants can be a useful way to access specialist care and advice between clinical appointments.

Helping to prepare for CQC inspection. Care homes are inspected every two years against the Key Lines of Enquiry (KLOES). To be rated as Outstanding, a care home must demonstrate innovative facilities and solutions which using technology can demonstrate if relevant evidence is provided.

With a good Wi-Fi system, staff can access information about dementia and be encouraged to keep up to date with latest thinking.

Many areas are embracing technological advances in order to reshape how care is delivered, how information is exchanged and how conditions are monitored. The majority of us use advanced technical devices as part of our daily lives, and there is a need to ensure that these types of digital capability are being used to their full potential to support provision of care outside of hospital.

This quick guide highlights a number of case studies from around the country where technology is being used successfully to enhance the delivery of care to support independent living (telecare), to enhance the health and wellbeing information exchange between patients and professionals (telehealth) and to enhance the information exchange between professionals (telemedicine).

Teleswallowing is an innovative use of telehealth enabling Speech Language Therapists to rapidly and accurately assess a person's ability to swallow remotely, without the need for face-to-face assessments, by providing training for individuals, carers, healthcare professionals, care homes, Integrated Care Systems (ICS) and Primary Care Networks (PCNs).

Blackpool Teaching Hospitals NHS Foundation Trust introduced teleswallowing to provide Remote Assessment Providing Interventions for Dysphagia (RAPID).

It enables a speech and language therapist to remotely assess and manage swallowing difficulties by directing staff who are with the patient/ resident to undertake specific tasks

Sunderland telehealth system has been deployed that uses a tablet to aid the care giver to manage the resident's health better. The system has been designed by local experts from primary care, ambulance service and care home staff to fit around the working of the home and health service. The system uniquely uses the National Early Warning Score (NEWS) to monitor on a long term basis the overall wellbeing of each resident such things as weight, fluid intake, health parameters specific to the patient.

Nottinghamshire Regular observations of residents in residential care homes using a telehealth system to prompt community matron intervention. Watch the video here. In Mansfield a combination of software is being used to carry out GP ward rounds in care homes.

London Documentation for assessment, withdrawal and discharge notices, sent between hospitals and social care department were not standardised, mainly handwritten and faxed across London. Following multi agency workshops to improve processes: fax numbers were replaced with generic secure email accounts; a shared directory was created and standardised documentation agreed, leading to the use of structured messages and starting to develop a national standard.

Shropshire and Telford the Health and Social Care Information Centre set up the Care Homes and Secure Email Project to look at improving the flow of information in and out of care homes. It was identified that 90% of incoming information to a care home was sent to a non-secure fax and was often of poor quality. NHS-mail is now being rolled out to care homes in the area. An online toolkit is being produced with the Care Provider Alliance to support national roll out to care homes.

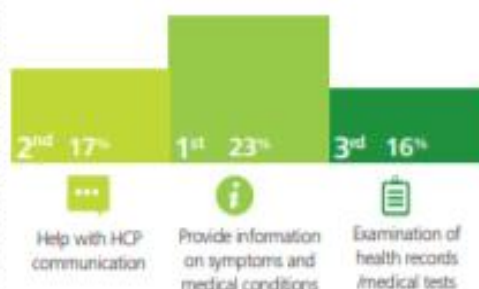
Health provider view

Benefits of digital health for providers



Patient view

Patients single most important use of health apps



Factors that increase the use of health apps:

Trustworthy accurate data: 69%

Ease of use, simplicity and design: 66%

Guarantee of data security: 62%

Evidence of health technology benefit for providers

A mobile working solution for community nurses



A telehealth hub across 210 care homes



Evidence of health technology benefit for patients



Patients using technology to manage their COPD:



The world population is growing, meaning that the individual needs of older generations are becoming more complex. Care homes will therefore need to use greater amounts of, and more intelligent, assistive technologies.

In the long-term, staff and care home providers will need to prepare for a more sustainable living environment to house patients that require round the clock care and supervision.

With doubts surrounding the future of care homes due to a lack of government funding, Media Works has assess how care homes will be run in the future

Care homes are keen to promote quality as the heart of their ethos in the next 20 years, as research has suggested – and that stands for both private and public-sector care homes.

With residents requiring an exposure to sunlight, care home designs will have to reflect this infrastructure with housing being implemented onto a turntable. As well as this, connectivity will also be a priority to help combat loneliness. To do this, care villages will use small bridges intersecting various gardens so that residents will closer to both their natural environment and other residents within the community.

Technology is becoming more advanced across the board and the future of care homes is no exception. Technology is implemented to help to ensure that patients remain safe within care homes while allowing them to live longer, healthier lives. For example, care homes are now beginning to utilise sensors in rooms and systems within the building that alert staff when a patient has fallen, or when they have stopped moving.

To help those living with dementia, clusters within buildings can be coloured variously with different lighting so that they are able to recognise their own living quarters.

Whilst sensors aim to improve the security and safety of patients living within care homes, sensor technologies can also be swallowed when combined with drugs in pill form. Once the pill has been swallowed and dissolved in the stomach, a signal is transmitted and data can be sent to a smartphone app.

Cleverly, this technology allows patients and clinicians to track how well patients are adhering to their medication; if they aren't taking well to a certain type of medication, then this can be rectified as early as possible and the medication can be changed to benefit the patient's health and needs.

Other versions of this technology include an automated dosage system developed by the Massachusetts Institute of Technology. Small, implantable devices can release medication from inside the body, controlled by an embedded microchip. For people with long-term conditions – or for women on contraception, dosages can be given for up to ten years without patients having to physically induce medication.

These types of technologies are specifically designed to ensure patient comfort, and help to guarantee their safety while living in care.

The majority of older people are keen to keep hold of their independence and technologies of the future are enabling those with specific care requirements to live their life in a more self-sufficient way.

Wearable technologies are currently used by patients and residents to monitor heart rates, steps, and distance covered – but in the future, they will help to monitor fluid retention and respiratory rates. This will help lower hospital admissions, allowing patients to understand their own symptoms more effectively before they require medical assistance.

Known as hospital-level diagnostics in the home, portable x-ray machines and blood-testing kits alongside other technologies provide those who require care with a better quality of life by giving them the independence to self-diagnose themselves without having to leave their homes or point of care.

Robotics

For dementia sufferers, robotics can be used to help deal with extreme stress – used within robotic pets that can respond to human touch and respond in an intelligent way. To help with specific care tasks, robots will provide general tasks such as helping patients get in and out of bed, whilst wearable robotic suits will be used to help sufferers from arthritis stand and

walk, and they will also help those with severe mobility problems get around more comfortably.

Technological accessories such as robotically controlled curtains and lighting that respond to voice commands can also be fitted within a patient's room. Other devices will be used to help those who are blind and have visual impairments.

Some of these technologies aren't quite there yet but the future of care homes looks bright – for both patients and staff. The technologies that are already being utilised, and the systems that are being proposed, will help patients lead more independent and comfortable lives so that they can live a happier and healthier life for longer.

<https://www.nhs.uk/NHSEngland/keogh-review/Documents/quick-guides/quick-guide-technology-in-care-homes.pdf>

<https://teleswallowing.com/>

<https://www.longwoods.com/articles/images/deloitte-uk-connected-health.pdf>

<https://healthcareglobal.com/technology-and-ai-3/how-will-care-homes-look-future>

<https://www.sehta.co.uk/cms-data/depot/sehta/Technology-Innovation-in-Care-Homes-The-SEHTA-Review.pdf>

