

The use of technology in Nursing Homes

Digital and Research Methods

Abstract

Around UK there are an estimated 5,153 nursing homes and 12,525 residential homes with approximative 426,000 residents whom 80% have some form of dementia or memory problem. The study shows that only 38% of staff working in residential care homes and domiciliary care say they use technology direct with residents. The plan of study was to show advantages and disadvantages of iPad use in 63 care homes with dementia residents, their family/friends and staff develop recommendation based on different ways in which iPad can be used in care sector to make their successful introduction and usage. The result of study based on staff interview family interview and a self-questionnaire, residents case studies, shows that iPads provide easy interaction between staff, residents and families. (S.B. Evans, et al 2017). The iPad project: Introducing iPads into care homes in the UK to support digital inclusion).

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Introduction

Technology is the new key in care homes and there is a great interest in adopting tools including cell phones, computers iPads, trackers sensors to improve the healthcare of residents. Vary of eHealth application in order to help mental health and people with mobility problem such as messaging for prescription refill or mobile device videoconference, are becoming more available. (Christopher J. et al 2016). The need to manage or even reduce healthcare costs while improving the quality of service is high in government agendas.

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 paper notes at the end of shift.

Although, technology has a major role play in achieving these aspirations. (Dohr A, et al 2010). Telemedicine is de new tool available between care homes and doctors especially during Covid 19 pandemic replacing in-person contact. The secondary research report aims to show

the opinion and experience of the care home staff regarding technology in care homes and how this will change residents care and staff will manage time better in resident's interest.

Rationale

I will be managing my report based on secondary data within the healthcare in nursing homes /care homes. The focus will be on collecting information relevant from qualified staff, family member of care homes residents. I believe collecting data will be a better way to understand that the role of technology in healthcare system, avoiding the overload of emergency department, better communication between staff and doctors, family member and staff, family member and residents. The study will focus also to understand the benefits of using trackers and sensor for early health problem detection.

Research objectives

The purpose of this research is to consider the use of technology as care plan templates on iPads and how should be data collected and used creatively and clearly to maximize potential of the system, video communication, digital communication, eHealth, sensors and trackers for blood pressure, diabetes level or heart rate in care homes and the way in which they can help and focus to protect the residents

Providing opportunities as well for care workers to develop new skills and use new technologies can improve job satisfaction and help staff progress towards their career. (Oung C, et al 2021)

Research Methodology

Mixed-Method studies have emerged from the paradigm wars between qualitative and quantitative research approaches to become a widely used mode of inquiry. (Terrell, Steven R. Jan 2012).

Mixed methods approach based on data from staff interviews and a self-administered questionnaire, resident case studies, family interviews and observation of activity sessions. (S.B. Evans, et al 2017).

For this study questionnaire on Google Forms was created and send to qualified care home staff and it will show data collection methods.

Literature review

The literature review shows that over the past decade there has been a gradual increase in the use of digital technology by staff and care home residents.

Policy from the European Commission presents a persuasive argument for the advancement of technology -enabled care to counter the future impact of an increased number of people of advanced age on finite health and social care resources. (Diedre Wild, et al 2016)

Introducing digital technologies into care home system requires careful planning adequate supportive structure with clear roles for care staff and management, and collaborative culture with clinical professionals. (Oung C, et al 2021)

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

Analysis and Discussion

The focus of the questionnaire was to collect data from authorized staff in healthcare to determine the role of technology in care homes and advantages and disadvantages.

1. Figure

1. How old are you?



Question 1. determine the average age of participants to the study case. As we can see in the 1. Figure there were 16 adult people with different average age and the greater influence will have 25-34 as 6 people were in the study, second will be 35-44, 4 people were in the study, third will be above 55 and the last with similarity 2 people for each group age: 18-24 and 45-54.

2. Figure

2. Would you choose to work paperless over the paper-based?



Question 2 will show the positive side (12 adult healthcare workers) prefer paperless instead of using paper and write notes with pen and paper.

3. Figure

3. Do you agree with Digital Care Planning software for residents?



Question 3. we can see from the study 3. Figure the strongly positive answer (8 people strongly agree, 4 people agreed with yes, 4 people with maybe and only 1 answer negative) to implement Digital Care Planning in care homes.

4. Figure

4. What do you think about implementing Care Plan Templates into the software?

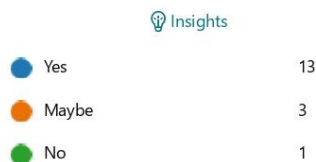


Question 4.

The 4. Figure represent the healthcare workers preferences for implementing Care Plan Templates. 17 adult participated to study. 14 admitted that is great for rapidity, accuracy and better time management, 2 adults disagreed and think staff should use only personalized notes and 1 adult was impartial, templates can be used as a second option.

Question 5.

5. Do you think the use of technology will help the staff to focus more on residents care?



5. Figure show the healthcare workers believe technology in care homes will help staff to focus more on residents. 13 participants agreed, 3 were unsure and 1 negative.

Question 6.

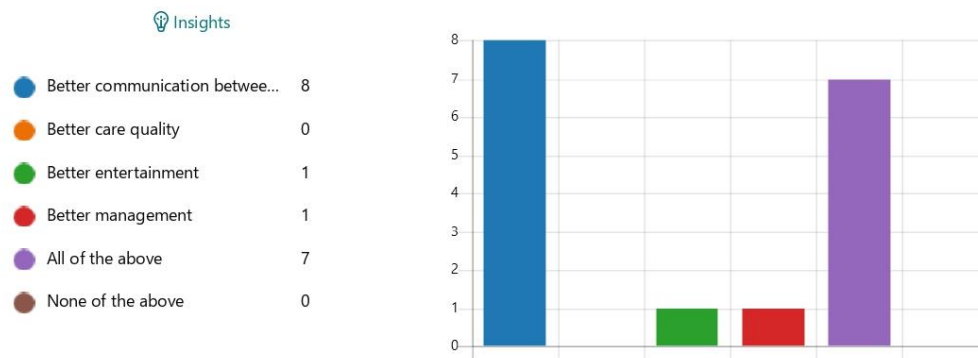
6. Does the telemedicine contribute for an effective communication between residents-staff-doctors, especially during Covid-19?



6. Figure shows the healthcare workers opinion regarding contribution of telemedicine in care homes to be an effective way for residents-staff-doctors to communicate especially during Covid-19. 16 paticipants admitted this is a easy way for communication and doctor advice in case of non emergency.

7. Figure

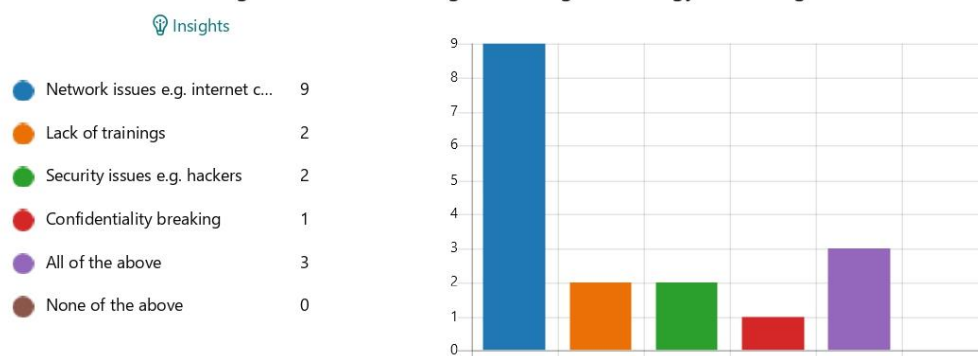
7. Which of the following are the best advantages of using technology in nursing homes?



Question 7.

7. Figure shows the advantages of technology in care home in participants opinion: 8 participants agreed that technology is the way for better communication between staff-residents-families-professionals, no participants agreed with better care quality, 1 participant believes technology helps for better entertainment, 1 participant agreed for better management and other 7 participants to the study agree with all the above advantages.

8. Which of the following are the disadvantages of using technology in nursing homes?



Question 8

8. Figure shows the disadvantages of technology in care home in participants opinion: 9 participants agreed that network issue e.g internet connection, 2 participants believes that lack of training, on the same side 2 participants agreed with security issues, 1 participant agreed with confidentiality breaking, 3 participants agreed with all the above being an disadvantage for technology in healthcare sector.

Secondary Data Analysis

The earliest reference to the use of secondary data analysis in the nursing literature can be found as far as the 1980 when Polit and Hungler (1983), in the second edition of their classic nursing research methods textbook, discussed this emerging approach to analysis. At that time rarely used by nursing researchers.

Over 40 years later it seems nursing science has come full circle with secondary data analysis. (Aktan, 2012; Naef et al. 2017)

Secondary Research data is a research method that involves using already existing data. Existing data is summarized and collected to increase the overall effectiveness of research.

Secondary Data Analysis is based on data collected from previous researchers.

Secondary Data Analysis is based on tried and tested data which is previously analysed and filtered. Not always data is according to the requirements.

Secondary research is cost effective and this is why it is one of the popular research as data is already available.

Secondary data research can be found from different sources such as:

1. Data available on internet
2. Public Libraries
3. Educational Institutions
4. Government and nongovernment agencies
5. Commercial information sources: local newspapers, journals, radio, TV station

Conclusion and Recommendation

It is obvious that the care sector (care homes, nursing homes) has adopted the use of current technologies such as iPads, smart home system, patient monitoring equipment software solution, in order to become more efficient.

The use of technology for care sector has expanded significantly during pandemic Covid-19.

Care homes needed to adopt and implement and manage new solutions for all the internal sector. Residents will keep in touch with their families via video call, phone calls, having virtual appointments with GP's, multidisciplinary teams, internal communication between staff and residents, staff and family members.

If a care or nursing home is being established or updated, 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 care or nursing home.

Technological technologies offer continual assistance, close patients with remote supervision and provide smoother and more effective patient health services, all while reducing needless visits to doctors or clinics.

Overall, technology can also be challenging, privacy being the most vulnerable. Coordinate this research helped me to understand the role of care workers feedback regarding the role of new technologies with advantages and disadvantages. New technologies can decrease the change of human errors.

Recommendation

More significantly for a better relation between technology and staff it will be to providing adequate trainings including software and hardware for staff working in the care homes and offer competitive pay rate. In this way staff will focus more on their jobs resulting increase care and wellbeing of residents.

Nurses who work long hours or have understaffed units are at high risk of making mistakes. With new medical technologies routine procedure are simplified.

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