



Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

Digital Skills and Research Methods (BMHP4003)

Assessment Component 2

Research - Written Report

Student name: Jean Doreen Maclellan

Student number: 2028905

Module Leader: Barbara Chinyani

Tutor: Joy Botu

Word count: 2066

Learner declaration

This assignment is my own original work. No part of this work has been copied from any other source or person except where due acknowledgement is made, and no part of the work has been previously submitted for assessment at this or any other institution.
I have read the Student Academic Integrity Policy and understand its implications.

Student signature: Jean Doreen Maclellan

Date: 27/8/2021

Contents

The Impact of Technological Advancement on the Quality of Service Delivery in Care homes.....	2
Rationale.....	2
Objectives.....	2
Methodology.....	2
Literature review.....	3
What drives technology growth in care homes?.....	3
Technology used in care homes.....	3
Impact of technology on service delivery.....	4
Secondary Data Analysis.....	5
Conclusion.....	6
Recommendations.....	7
References.....	7

The Impact of Technological Advancement on the Quality of Service Delivery in Care homes

Rationale

The nature of operations in the modern world has since changed from analog to digital due to the rapid growth of technology ranging from primary sector to service sector of the economy. It does not matter the kind of job one does because we all use technology in our daily lives to work, learn, research, communicate and entertainment among others. The technologies used in our day to day activities depending on the nature of operation include; tablets, smart phones, laptops, communication Technology labs, Interactive whiteboards, Robots, 3-D Printer, Digital Cameras, and Video cameras among others. In a similar way, care homes also use technology to deliver health care in various ways. Therefore, the rational of this study is find out “The Impact of Technological Advancement on the Quality of Service Delivery in Care Homes” by looking at the use of technology to deliver care, how information is shared, and how operations in care homes are handled. This study also intends to find out how technology is a huge benefit to the people who need care services, their families, and the care providers in care homes.

Objectives

1. To find out the drivers of technological growth in care homes

2. To find out how technology is used to monitor health, to communicate, and how information is shared in care homes.
3. To find out how technology has impacted on service delivery in care homes amidst the legal, ethical and security issues.

Methodology

This study has adopted qualitative exploratory research method based on the topic: "The Impact of Technological Advancement on the Quality of Service Delivery in Care homes". The research is entirely qualitative in nature collected from secondary sources through a literature review. A literature review was carried out from secondary sources of data like academic journals, scientific journals, books, articles, and other publications about the elements under study. The sources were found electronically through databases like; SAGE, Science Direct, and Research gate among others. Data collected has been analyzed by the use of inductive approach where raw data was read in detail and arranged logically through headings and subheadings according the objectives of the study.

Literature review

What drives technology growth in care homes?

According to Litwin (2020), there are many factors why care homes need to move digital in provision of person centered care so as to help patient reach their maximum capacity. The need for coordinating health care delivery has been the greatest driver in care homes today. (Ahmed, 2019). This is because well-coordinated care helps to improve patient's experiences of care by getting better health outcomes as well as saving time and costs to the care home. (Newbould et al., 2019). Similarly, Wright (2020) also noted that care homes should ensure coordinated health care through technology because it enables the care givers to feel empowered and motivated as they contribute to a successful health outcome. Relatively, Newbound et al. (2017) also revealed that technology growth in care homes and other care centers is driven by the need for integration and correctness in the processes of providing care. This is because of integrated health care contributes to better adherence to treatment, health literacy, patient self-care, improved access to health services as well as contributing job satisfaction of care givers. (Litwin, 2020). According to Chi and Demiris (2015), many care homes have embraced technology to help in the facilitation of chronic disease prevention and management

remotely without having to go to the care home physically through remote patient monitoring. On the other hand, some care homes have adopted to specific software wares and digital tools to ensure that there is accountability in regards to resource allocation and utilization, operations, and proper communication. (Hamblin, 2020). Research also revealed that technology is appreciated in some care homes in preparation for Care Quality Commission inspection that focuses on key lines of enquiry, which usually happens every after two years.

Technology used in care homes

There are several technological tools and methods used in care homes to ensure residents and care providers have a great stay in a care home. (McSorley, 2018). Usually care homes adopt to simple technology that is purposely for care delivery, entertainment, and communication unlike hospitals who deal with very complex situations. (Barnett and Livingstone and Margelis, 2020). Computers are used in care homes to capture health records such assessment plans, health history and treatment records of the patient. Computers are also helpful in care homes especially in designing, using, and maintaining care plans of different residents in a care homes (Ahmed, 2019). Through the use of software and internet, the computers in care home are used to ensure that the health records are interconnected digitally. (Craig & Miskelly, 2010). Communication in care homes has been made very easy through the use of; tablets, laptops, mobile smart phones, and digital cameras by sending text messages amongst the colleagues, scheduling meetings and reminders, use of emails for detailed information, and making direct phone calls for urgent information like reporting emergencies. (Krick et al., 2019). In every care, there should exist thermometers that used to capture temperatures of patients regularly for easy monitoring, and corrective action taken incase temperatures are reading contrary to the normal. (Hamblin, 2020). Research by Ahmed (2019) also revealed that most care homes in developed countries have blood pressure machines that helps to monitor blood pressure levels of their residents especially those with chronic conditions like diabetes, heart failure, high blood pressure, obesity and hypertension among others. Residents in care homes have different times of feeding, and this is why microwaves are put to ensure residents get warm foods whenever they feel like having a meal. In regards to feeding, a care home should have a feeding pump (PEG) to allow delivery of food, medications, and fluids directly to the abdomen

thus allowing nutrition. This is for those patients who have issues with feeding through the mouth. (Ahmed, 2019). Most care homes are also equipped with electronic wheel chairs to enable easy movement of residents from one to end. Away from administering care, residents in a care home need to stay informed and entertained by availing them with television and radios to watch and listen to their favorite programs. Making elders entertained and happy through technology helps to combat social isolation and increases social participation. (Baker et al., 2018).

Impact of technology on service delivery

According to Kottek, Stafford and Spetz (2017), use of remote patient monitoring tools like oximeters, heart rate sensors, exercise trackers, sweat meters, and other wearable devices is important because it gives patients control over their health. Similarly, Hex and Wright, (2015) also noted that using wearable devices promotes person centered care, and makes the patients under monitoring to feel independent and in control. Use of technology like computers, laptops, smart phones and cameras have helped in the process of capturing data, comparing data and sharing data in care homes for the betterment of quality care. (Hamann and Bezboruah, 2020). Technology in care homes has also improved on digital communication and sharing of good practices among peers through the use of internet and applications like emails, text messages, WhatsApp, Facebooks and Twitter among others. (Qian, YU and Hailey, 2015). Technology in care homes enhances communication between patients and their family members, and communication between professionals and staff for better service delivery. (Rakjkumari, 2014). Technology tools used in care homes like; feeding pumps, electronic wheel chairs, thermometers, microwaves, and blood pressure machines have helped to provide quality health care that is centered on the needs of the resident. These tools have improved on care and efficiency of the care workers. (Krick et al., 2019). Relatively, the availability of these tools like microwaves, washing machines, feeding pumps, vacuum cleaners makes work in care homes easy hence allowing care givers to achieve job satisfaction. (Wright, 2020). Use of electronic wheel chairs makes the patients feel confident and independent to move from one location to another without being supported by a care worker. Some care homes have installed acoustic listening devices in resident's room which help to keep an ear instead of disturbing their sleep as the care taker keeps going to check in case of any unusual sounds. (Ahmed, 2019). However, installation of these devices

must be agreed upon and allowed by the residents because it raises ethical issues since the residents have a right to their privacy. Issues also arise who makes decisions to purchase and install these devices (Gilbson et al., 2016). In some care homes, digitalized locking systems have been installed to ensure safety of residents, records and other assets of the care homes. This is important because it creates trust between the care home and family members of the residents hence more business for the care home. (Hamblin, 2020).

Secondary Data Analysis

Following data collected through literature review, technology growth in care home is driven by many factors including coordination and integration of health care delivery, need to manage chronic diseases remotely, increasing access to services and information, for accountability reasons, and need to streamline communication inside care homes and between residents with their families among others. However, this study has revealed that the greatest driver of technology in care homes is the need coordinating health care delivery and ensuring that all health records in care homes are interconnected electronically. (Newbound, et al., 2019; Wright, 2020; Ahmed, 2019; Hamblin, 2020). The need for coordinating and integrating health care delivery has driven care homes to acquire various technologies to enable them achieve this objective of providing quality care. Literature has revealed the following technologies used in care homes; desktop computers, laptops, smart mobile phones, microwaves, blood pressure machines, washing machines, thermometers, feeding pump, Televisions, radios, and electronic wheel chairs. (Ahmed, 2019; McSorley, 2018; Hamman and Bezboruah, 2020). These technologies assist in the provision of quality health care by assisting health workers to complete their care tasks and entertaining the residents. By using these technologies, care homes have been able to register improved health care outcomes by; giving patients control over their health, enhancing communication between professionals and staff, capturing, comparing, and sharing good practices with peers, and making the work of care givers easier hence job satisfaction. (Rajkumari 2014; Hamman and Bezboruah, 2020; Qian, Yu and Hailey, 2015; Hamblin, 2020; Wright 2020; Baker et al., 2018).

Conclusion

Digitalization of health and social care has recently grown rapidly due to the benefits

that are associated with technology. The health and social care has/ and is adopting the use of digital technologies to change the care model and provide quicker and better health and social services. Digitalization of health and social care is driven by the need to improve processes by using digital technologies and digitalized data. The technologies used in care homes include but not limited to; computers, wearable devices, thermometers, remote control beds, electronic wheel chairs, pressure machines, smart phones, feeding pumps, laptops, and video-conferencing tools. In conclusion therefore, use of technologies in health care through; Telehealth, Telemedicine, Electronic health records, and use of other technologies to provide care has come along with several benefits; improved quality of health care, streamlined communication, people are given control over their health, better recording, improved accessibility to health care, enhanced research and learning, as well as improved efficiency and productivity of health workers.

Recommendations

Government through the department of health should establish and implement provider-to-provider and patient-to-provider telemedicine services to increase accessibility of health services especially for those people living in deprived areas with health care inequalities.

Government in partnership with other agencies like non-government organizations should support smaller health care agencies like care homes to enable them procure and use modern technologies with an objective of ensure provision of quality health and social care.

Health and social workers should be trained occasionally and continuously on how to use a variety of digital tools and technologies. This should be accompanied with workshops where they are taught ethics of technology like internet to ensure they are efficient while assessing and providing health care.

Health care providers like care and nursing homes should adopt more technologies to help facilitate health care by replacing some workers with machines. For example, buying more remote control beds, standing hoists, electric wheel chairs, and washing machines among others. This will help in saving time and costs to the care home.

References

Litwin, A.S (2020). Technological Change in Health Care Delivery: Its Drivers and Consequences for Work and Workers. U C Barkley Labor Center.

Ahmed, R.G. (2019). New Technology in Nursing Education and Practice. *Journal of Nursing and Health Science*. 6(6). Pp. 29-38

Newbound, L.; Mountain, G.; Ariss, S. et al. (2019). Remote health care provision in care homes in England: An exploratory mixed methods study of Yorkshire and the Humber. *Technology*, 7(1). 24.

Barnett, K., Livingstone, A., & Margelis, G. (2020). Technology Ageing and Aged Care: Literature Review Developing of a technology Roadmap for the Australian Aged Care Sector.

Baker, S., Warburton, J., Waycott, J. et al. (2018). Combatting social isolation and increasing social participation of older adults through the use of technology: A systematic review of existing evidence, *Austrian Journal on Ageing*, 37(3): 184-193

Brownsell, S., Bradley, D., Blackburn, S., Cardinaux, F., Hawley, M. (2011). A systematic review of Lifestyle monitoring technologies. *Journal of Telemedicine and Telecare*, 17(4): 185-189

Chen, Y.R., & Schulz, P. (2016). The effects of information communication technology interventions on reducing social isolation in the elderly: a systematic review. *Journal of medical internet research*. 18(1): e18

Chi, N.G., & Demiris, G. (2015). A systematic review of telehealth tools and intervention to support family care givers. *Journal of Telemedicine and Telecare*, 21(1): 37-44

McSorley, K. (2018). Inspiring Innovation in digital health: Realizing the potential-lessons learned. Presentation at "Inspiring Innovation in Digital Health", UK Telehealth care event, Lisburn and Castlereagh, Belfast.

Hamblin, K. (2020). Technology and Social Care in Digital World: Challenges and Opportunities in the UK. *Journal of Enabling Technology*, 14(2): 115-125

Wright, J. (2020). Technology in Social Care: a review of UK Policy Landscape. Pp.4-14.

- Hex, N., Wright, D. (2015). Evaluation of Telehealth Interventions for care homes in Airedale, Wharfedale and Graven; York Health Economics Consortium: York, UK, 2015.
- Newbound, L., Mountain, G., Hawley, M.S., Ariss, S. (2017). Video-conferencing for health care provision for older adults in care homes: A review of the research evidence. *International Journal of Telemedicine Application*.
- Kottek, A., Stafford, Z., Spetz, J. (2017). Remote Monitoring Technologies in Long-Term Care: Implications for Care Team Organization and Training. University of California San Francisco.
- Krick, T., Huter, K., Domhoff, D. et al. (2019). Digital technology and nursing care: a scoping review on acceptance, effectiveness and efficiency studies of informal and formal care technology. *BMC Health Service Research*. 19, 400.
- Rajkumari, N. (2014). Impact of Technology in Better Dispersal of Health Care Methods and Improving Health Care Systems. *Occupational Medicine and Health Affairs*. 2(3): 162
- Hamann, D. J., and Bezboruah, K. C. (2020). Outcomes of health Information technology utilization in nursing homes: Do implementation Processes matter? *Health Information Journal*, pp. 2249-2264
- Qian, S., Yu, P, Hailey, D.M. (2015). The Impact of electronic medication administration records in a residential aged care homes. *International Journal of Medical Information*. 84(11): 966-973