

University of Wales Trinity Saint David, London Campus

Digital Skills and Research Methods (LCHS4002_LON)

The use of technology in the modern healthcare workplace

Student ID: 2233457

Student Name: Roxana Marinescu

Tutor: Samuel Abah

Submission deadline: 3rd May 2023

Table of Contents

1. Introduction	3
2. Technologies used in the modern health care.....	4
2. Research Interest (Motivation)	5
2a. Problem Statement	5
2b. Research Idea	6
2c. Methodology	6
3. Sources	7
3a. Finding credible source	7
3b. Describing the sources	7
3c. Relevant sources for the study	8
4. Conclusion.....	9
5. References.....	10

1. Introduction

Drawing on the concepts of research as described in our lectures, the need for research is owed to the drive of gaining new knowledge and finding solutions to challenges, as an objective and systematic effort, offering an original contribution to available knowledge and further progress.

Equally the use of technology in the healthcare workplace has become common practice as new technologies have been providing the healthcare workers with improved efficacy.

Following the research approach, the report includes a summary of how technology is used in healthcare facilities, then provides strategies for finding an appropriate research topic and introduces the research topic which has been chosen and offers an appropriate justification.

It further describes the research method, and it emphasises the advantages of using qualitative method for conducting research. It has also explained the process of collecting accurate and credible secondary data for the research.

2. Technologies used in the modern healthcare workplace

The Global health app, which only generated \$2.4 billion in 2017, has seen a 35.2% yearly increase and is projected to reach \$125 billion in 2028. Approximately 80% of healthcare facilities are interested in investing more resources in advanced technology to enhance the efficacy of service delivery (Banerjee et al. 2020).

Remote Health or Telehealth is one of the significant inventions of current medical technologies. The patients can consult with their doctors from their homes using telehealth. It has benefited especially the patients who need to travel long distances to reach a medical facility. Additionally, various telehealth apps can assist people in booking their appointments, consulting with medical practitioners, upload medical records history. (Haleem et al. 2021)

The Internet of Medical Things (IoMT) refers to a group of medical devices which can be connected through the internet. It can help medical facilities in storing a large amount of patient data. It also helps the medical staff recognise emergency or chronic conditions swiftly, aiding to improving patient services. (Banerjee et al. 2020).

Artificial intelligence (AI) has been widely used in the diagnosis process through the detailed assessment of patient personal history (Mary et al. 2021). AI helps reduce human error in the process, and it also helps in managing and mining patient data adequately.

The electronic health record (EHR), is also being increasingly used in medical facilities, which is fundamentally a digitised medical chart of the patients. The EHR allows patients to enter a wide range of information regarding their medical history, which is easily accessible by the doctors to make critical decisions (Haleem et al. 2021). It has also reduced the requirement of maintaining a traditionally paper-based process and saved working time and costs.

Moreover, Clinical Decision Support (CDS) is quite similar to EHR, and evaluates the patients' data and helps make relevant decisions. CDS generally assist in indicating a package of tests and standard procedures, which helps implement best practice protocols (Cleto, 2021). CDS helps in improving patient safety and improve medication adherence, including a reduction in medication overuse.

3. Research Interest – Motivation:

The care home sector is constantly evolving and increasingly needed in our societies, which has made various changes in the demand for care workers with various skills. The demand for the caregiver in the UK is very high.

The State of Adult Social Care Sector and Workforce in England has reported that the vacancy of 105000 caregivers is advertised every day (Macdonald et al., 2022).

However, there are skills gaps in the care home industry which led to a negative impact on the quality of the care provided. Counselling skills could benefit the care system as evident from other sectors, empowering patients to more independence and assisting care workers in their wellbeing resulting in higher rates of attraction and retention of necessary talent and better care for the patients.

Equally technology advancements have dramatically affected the everyday life of people, transforming the business, healthcare and education, therefore the topic is significant in comprehending the pressure on the healthcare industry and how effective advanced

technology has been in providing appropriate service and how it can be further employed to drive improvement, such as enhancing counselling skills in the social care workforce.

3a. Problem Statement

The issue of enhancing counselling skills among the caregivers, can benefit from further research, which generally takes substantial effort and requires time and effort investment to achieve desired outcomes. The research process becomes more relevant if the researcher is interested in the topic.

Considering these issues, it is important to consider the importance of technology and the opportunity for the implementation of technology to play a major role in eradicating skills gap, as technology plays a major role in enhancing skills with the help of invention and innovation (Ertner, 2019). The upgrade in technology and digitalisation can increase the productivity and confidence of the caregiver as well as offer new avenues for professional development and personal growth, such as counselling skills.

3b. Research Idea

Finding a research topic came with the prospective researcher's (myself) interest in counselling, thus the problem is defined as finding out how counselling skills of the care-workers can be enhanced either by direct use of technology through virtual training or indirectly by the diversion of funding to accommodate training, due to rise in investment in technology and the ensuing cost-effective benefits.

The topic needs to be narrowed down to represent the collected data better and become more manageable. If the topic is broad, the wide range of information will divert the focus from the actual topic. The background reading is nevertheless highly recommended as it provides the researcher with in-depth knowledge from which to restrict the scope of the research (Singh et al. 2022).

The lack of adequate information can result in poor performance in research. The researcher also needs to assess the guidelines regarding the specific assignment.

4. Chosen methodology – Qualitative secondary data collection method.

Once the idea of counselling skills gap has been identified the research will conduct a wider analysis by evaluating different sources of articles and journals, where the issues of the skills gap in counselling will be considered. (Newman and Gough, 2020).

The researcher will analyse the inclusion and exclusion papers in the conduction of the future research which will be evaluated based on counselling skills need among the employees of the care home. The online journals will be used by the researcher for taking adaptive information from different sources of online websites (Sürücü and MASLAKÇI, 2020).

Justification:

The research modalities are generally divided into primary and secondary, where the primary methods require the collection of first-hand data from surveys, interviews or polls. Primary research generally takes significant time and cost as it requires the researchers to collect participants to acquire their opinion.

On the other hand, secondary research generally uses existing information to conduct a study (Wernhart et al. 2019). The secondary data can be easily sourced compared to the primary data and is readily available, facilitating the accumulation of relevant information in shorter time.

The secondary research data collection process often requires no financial resources as it can be easily collected from the library and various online sources. Websites like ProQuest and Google Scholar can provide various research papers and articles containing authentic information.

Hence, the secondary research's data analysis process is more straightforward than the primary method and the researcher will gain benefit from the secondary data collection method as the analysis process is authentic and it is obtained from different reliable sources.

Qualitative secondary analysis (QSA) is the use of qualitative data that was collected by someone else or was collected to answer a different research question. Secondary analysis of qualitative data provides an opportunity to maximize data utility, particularly with difficult-to-reach patient populations (Tate et al., 2017)

5. The Sources

5a. Finding credible sources are an integral part of conducting research as they provide authentic and relevant information. Credible sources are generally free from bias and supported with substantial evidence which proves their authenticity. Credible sources are generally published or written by trustworthy authors or organisations.

One of the best ways to find credible sources is to conduct a CRAAP test which is the abbreviation for “Currency”, “relevance”, “authority”, “accuracy”, and “purpose”. (Lib Guides com, 2022) The currency is analysing whether the included information is up to date, while the relevance tests if the data can provide enough information regarding the topic. Authority checks the authors and their credibility, and accuracy analyses the appropriateness of the information. Purpose analyses the objective of the research papers collected, relevant to the topic.

Peer-reviewed journals are also a great way to collect authentic information, as they generally undergo an evaluation process, including various expert scholars and journal editors who critically assess the scientific merit and the quality of the research. After the

evaluation process, articles that pass specific criteria can be published. (Badawy and Radovic, 2020).

5b. Collecting credible sources is achieved by analysing and studying websites, books and various publications.

The Google Scholar is a useful and accessible tool to collect existing research papers and journals. The articles, journals and research papers which are more than 5 years old are not collected. The collected sources are analysed to determine if they are peer-reviewed or not. The peer-reviewed journals have been included in the research. Later the CRAAP test was conducted to evaluate the appropriateness of the collected information.

5c. Relevant sources for the study

The keywording searching process has been used to collect a wide range of sources related to counselling skills in healthcare.

The screenshot shows the Google Scholar search interface. The search bar contains the text "counselling skills in healthcare". Below the search bar, there are filters on the left side: "Articles" (selected), "About 14,200 results (0.09 sec)", "Any time", "Since 2023", "Since 2022", "Since 2019", "Custom range...", "Sort by relevance" (selected), "Sort by date", "Any type", "Review articles", "include patents", "include citations" (checked), and "Create alert". The search results are displayed in a list format. The first result is "Genetic counselling in the era of genomic medicine" by C Patch, A Middleton, published in the British Medical Bulletin, 2018. The second result is "Challenges and perspectives in nutritional counselling and nursing: A narrative review" by MF Vasiloglou, J Fletcher, KA Poullia, published in the Journal of clinical medicine, 2019. The third result is "[HTML] Community health worker-delivered counselling for common mental disorders among chronic disease patients in South Africa: a feasibility study" by B Myers, P Petersen-Williams, published in BMJ open, 2019. The fourth result is "Barriers and facilitators among health professionals in primary care to prevention of cardiometabolic diseases: A systematic review" by PE Wandell, AKM de Waard, MJ Holzmann, published in Family, 2018.

Google Scholar

counselling skills in healthcare

Articles About 14,200 results (0.09 sec)

Any time
Since 2023
Since 2022
Since 2019
Custom range...
Search

Sort by relevance
Sort by date

Any type
Review articles
☐ include patents
☒ include citations
☐ Create alert

Genetic **counselling** in the era of genomic medicine [PDF] oup.com
C Patch, A Middleton - British Medical Bulletin, 2018 - academic.oup.com
... **counselling skills** and practice, ie will all **health** professionals be 'doing' genetic **counselling** to ... As yet it is unknown what, of genetic **counselling skills** and theory, will and should be ...
☆ Save ⓘ Cite Cited by 100 Related articles All 9 versions

Challenges and perspectives in nutritional **counselling** and nursing: A narrative review [PDF] mdpi.com
MF Vasiloglou, J Fletcher, KA Poullia - Journal of clinical medicine, 2019 - mdpi.com
... **counselling** may be used by nurses, or other **healthcare** professionals to improve nutritional status and meet **healthcare** ... For these reasons NNSs must develop effective **counselling skills**...
☆ Save ⓘ Cite Cited by 50 Related articles All 16 versions ⓘ

[HTML] Community **health** worker-delivered **counselling** for common mental disorders among chronic disease patients in South Africa: a feasibility study [HTML] bmj.com
B Myers, P Petersen-Williams... - BMJ open, 2019 - bmjopen.bmj.com
... the designated CHWs' enhanced **counselling skills**. Several designated CHWs noted how they now routinely used their new **counselling skills** in their interactions with other patients: ...
☆ Save ⓘ Cite Cited by 52 Related articles All 10 versions ⓘ

Barriers and facilitators among **health** professionals in primary care to prevention of cardiometabolic diseases: A systematic review [HTML] oup.com
PE Wandell, AKM de Waard, MJ Holzmann... - Family ..., 2018 - academic.oup.com
... of **counselling**, sufficient logistic/practical support and cooperation with allied **health** staff/...
(Professional (barriers: insufficient **counselling skills**, lack of knowledge and of experience; ...
☆ Save ⓘ Cite Cited by 63 Related articles All 17 versions ⓘ

6. Conclusion

Drawing again from the Digital Skills and Research Methods lectures, it can be concluded that the objectives of research are to familiarise with new awareness into a phenomenon, to examine and detail the characteristics of specific situations or populations, as well as to inspect the periodicity and the interconnectivity of some occurrences with other factors and the causal relationship between different variables.

The study has shed light on the process of choosing an appropriate research topic and offered a brief discussion on the technologies currently used in healthcare.

Choosing a study topic is difficult, but it is necessary and doable because research also entails gathering pertinent facts. A suitable research topic typically has a manageable and accessible amount of related research.

The report also informs on the strategies for finding an appropriate research topic and introduces and offers justification for the chosen research topic.

Attempting research concerning the counselling skills necessity and applicability in health care can provide scope for improved services and patient care, building on the existing technological advancements in the sector.

Furthermore, it is highlighting the rationale for using secondary research and providing a detailed description of collecting accurate and credible secondary data for the research.

7. References

Badawy, S.M. and Radovic, A., (2020). *Digital approaches to remote pediatric health care delivery during the COVID-19 pandemic: existing evidence and a call for further research.*

JMIR pediatrics and parenting, 3(1)., p.e20049

Banerjee, A., Chakraborty, C., Kumar, A. and Biswas, D., (2020). *Emerging trends in IoT and big data analytics for biomedical and health care technologies.* Handbook of data science approaches for biomedical engineering., pp.121-152

Cleto, B., (2021). *Learning Systems and Gamification: Blending Augmented and Virtual Reality With Gamification Strategies.* In Handbook of Research on Solving Modern Healthcare Challenges With Gamification., pp. 54-67. IGI Global

Ertner, S.M., (2019). *Enchanting, evoking, and affecting: the invisible work of technology implementation in homecare.* Nordic journal of working life studies, 9(S5)., pp.33-47.

Evaluating Sources: CRAAP Test (2022). Available at: https://uws-uk.libguides.com/evaluating_sources/craap_test (Accessed: April 29, 2023).

Haleem, A., Javaid, M., Singh, R.P. and Suman, R., (2021). *Telemedicine for healthcare: Capabilities, features, barriers, and applications.* Sensors international, 2., pp.100-117.

Haleem, A., Javaid, M., Singh, R.P., Suman, R. and Rab, S., (2021). *Blockchain technology applications in healthcare: An overview.* International Journal of Intelligent Networks, 2., pp.130-139.

Macdonald, M., Weeks, L., Moody, E., Martin-Misener, R., Iduye, D., Ignaczak, M.,

Delahunty-Pike, A., Caruso, J., Simm, J. and Rothfus, M., (2022). *Experiences of residents of long-term-care homes with the use of socially assistive technologies and the effectiveness of these technologies: a mixed methods systematic review protocol.* JBI Evidence Synthesis, 20(11)., pp.2751-2759.

Mary, A., Jegan, R. and Evangeline, S., (2021). *Modern healthcare with wearable sensors and wireless technology.* In Optimizing Health Monitoring Systems With Wireless Technology., pp. 175-195, IGI Global.

Newman, M. and Gough, D., (2020). *Systematic reviews in educational research:*

Methodology, perspectives and application., pp.3-22.

Singh, K., Kumar, A. and Gupta, M.K., (2022). *Applications and analytics of*

bioinformatics, healthcare informatics for modern healthcare system. Romanian Journal of Information Technology and Automatic Control, F32(4), pp.69-76.

Sürücü, L. and Maslakci, A., (2020). *Validity and reliability in quantitative research.*

Business & Management Studies: An International Journal, 8(3), pp.2694-2726.

Tate, J. and Happ, M. (2017) *Qualitative Secondary Analysis: A Case Exemplar.* Available at:

<https://www.sciencedirect.com/science/article/abs/pii/S0891524517303279#:~:text=Abstract,%2Dto%2Dreach%20patient%20populations>. (Accessed: April 28, 2023).

Wernhart, A., Gahbauer, S. and Haluza, D., (2019). *eHealth and telemedicine: Practices and beliefs among healthcare professionals and medical students at a medical university.* FPLoS one, F14(2), p.e 0213067.