

**UNIVERSITY OF WALES TRINITY SAINT
DAVID**

NAME: Sindatche Baldé

STUDENT ID: 2233643

MODULE CODE: LCHS4002_LON

**MODULE NAME: Digital Skills and Research
Methods**

**TOPIC: New Health Information Technologies in
GP**

LECTURE: Amitave Banik

Table of Contents

<i>Introduction</i>	<i>3</i>
<i>Rationale</i>	<i>3</i>
<i>Research Questions</i>	<i>4</i>
<i>Research Methodology.....</i>	<i>4</i>
<i>Research Objectives.....</i>	<i>5</i>
<i>Literature Review</i>	<i>5</i>
<i>Analysis and Discussion</i>	<i>8</i>
<i>Secondary Data Analysis.....</i>	<i>8</i>
<i>Conclusion and Recommendation</i>	<i>9</i>

Introduction

New medical technologies are being developed all the time to boost patient outcomes and simplify procedures. General practitioners (GPs) in the UK have been in the forefront of adopting health information technology (HIT) to improve patient care as HIT has played a big role in transforming the healthcare industry in recent years (Sheikh et al., 2021).

The study's purpose is to learn how current health information technology are being used in general practitioner clinics and what effect it has on patient outcomes. Finding new technologies, studying how they are used in general practitioners' offices, and how much they improve treatment, and calculating the effect on patients are all object of the study.

The installation of HIT in GP offices is a case in point of how challenging it may be to integrate new technology in healthcare. As a result, this study will employ a combined strategy, gathering primary data via surveys and interviews with general practitioners and practice managers, and secondary data from scholarly journals, government papers, and other sources.

Knowledge into the latest health information technology employed by GP offices and their effect on patient outcomes will be provided by this study's findings. The conclusion will include a synopsis of the study's findings, and the suggestions will center on how to use these tools in primary care settings to better care for patients. Ultimately, this study will aid in the improvement of patient care and general practitioner productivity through the use of HIT.

Rationale

Patients will be benefit greatly from the constantly evolving health information technology. Consequently, it is crucial to learn how these tools can be implemented in GP clinics to enhance patient outcomes. Researchers will find cutting-edge tools and analyze how they are used in general practitioners' offices to gauge their efficacy and the influence on patient outcomes.

Research Questions

1. What are the newest health information technologies being utilized in UK general practitioners' offices, and how are they being put into practice?
2. What effects do health information technology have on patient outcomes, such as treatment quality, patient satisfaction, and overall health outcomes, in GP practices?

Research Methodology

To investigate the most modern health information technologies utilized by GP practices in the UK and their effect on patient outcomes, this study will solely employ secondary data analysis. The secondary information will be gathered from scholarly and governmental sources.

Electronic resources including PubMed, Scopus, and Web of Science will be searched extensively for secondary data. Some of the terms that will be used in the search include "health information technology," "general practice," "patient outcomes," "efficacy," and "impact." Publications from 2016-2023 alone will be considered in the search.

Publications that examine the use of health information technology in general practices, their implementation, and their efficacy in improving patient care and patient outcomes will be considered for inclusion in the secondary data analysis. Publications that are not written in English or do not match the inclusion requirements will be excluded.

Publications will be evaluated for relevance and selected for full-text review after they have been found. To ascertain whether or not the publication fulfills the inclusion requirements, a full-text review will be performed. A standardized form will be used to extract information from the chosen articles. Health information technology employed, its deployment process, its efficacy in improving patient care, and its influence on patient outcomes will all be among the pieces of information retrieved.

The information that has been gleaned will be subjected to thematic analysis. The research goals will be used to determine the overarching themes that will guide the data organization process. There will be a full presentation of the analysis's conclusions, which will reveal patterns and trends in the data.

The latest health information technology utilized by GP offices and their effect on patient outcomes will be illuminated by the secondary data analysis. The analysis will be fill in the gaps in our understanding of the issue and shed light on it from novel angles. Secondary data analysis has several drawbacks that will be acknowledged and dealt with. These include the inability to account for confounding variables and the possibility of publication bias. Recommendations for the use of health information technology in general medical practices to improve patient outcomes will be developed based on the results of the secondary data analysis.

Research Objectives

1. To evaluate the present implementation and utilization of telemedicine, electronic health records, and mobile health technology in GP practices in the United Kingdom.
2. To assess the effect of health information technology on patient outcomes in UK GP practices, including care quality, patient satisfaction, and overall health outcomes.

Literature Review

The purpose of this literature study is to discover what cutting-edge health information technologies are now being employed by GP clinics in the UK, and to assess how these technologies affect patient outcomes. The most recent publications from 2016-2023, such as scholarly journals and government reports, will be the primary focus of this analysis.

General Practitioners' Current Use of Health Information Technologies:

General practitioners employ health information technology to boost treatment quality and boost patient outcomes. New health information technologies are increasingly being implemented in general practitioner (GP) clinics, including electronic health records (EHRs), telemedicine, and mobile health (mHealth) systems (Nymberg et al., 2019).

Electronic health records (EHRs) are computerized records that include a patient's medical history, diagnosis, medicines, and test results. Evidence suggests that electronic health record (EHR) adoption in primary care settings improves patient outcomes, cuts down on medical mistakes, and boosts treatment quality. A recent study of GP offices in the UK found that 99 percent of practices employ an electronic health record system (Ye, 2020).

Telemedicine facilitates general practitioner-patient videoconferencing for remote patient consultations. As the COVID-19 epidemic has progressed, so has the popularity of this technology, which allows patients to get care without leaving their homes. Care is more accessible, expenses are decreased, and patient outcomes are improved because to telemedicine (Javaid & Khan, 2021).

General practitioners are increasingly turning to mHealth tools like smartphone apps and wearable devices to track and manage their patients' health. These advancements in technology can help general practitioners keep tabs on their patients' health from afar by giving them access to real-time data. Patients are more engaged, results are better, and expenses are lower because to mHealth technology (Gardner et al., 2018).

Impact of Health Information Technologies on Patient Outcomes

There is evidence that the use of health information technology in primary care settings improves patient outcomes like the quality of treatment provided, patient happiness, and the health of the patient as a whole.

Electronic health records have been found to boost treatment quality and patient safety by decreasing the number of medical mistakes and facilitating better communication between doctors (Kaplan, 2020). By providing easier and faster access to patient information, EHRs have been shown to improve the quality of care provided by general practitioners in the United Kingdom (Land et al., 2018).

Minimizing the need for in-person visits and providing patients with timely care, telemedicine has been found to increase access to care and boost patient outcomes (Matheny et al., 2020). Telemedicine consultations increased patient satisfaction and decreased the need for trips to the emergency room, according to a recent research of GP practices in the United Kingdom (Palmer et al., 2020).

By giving patients access to real-time data on their health and allowing GPs to remotely monitor their patients' health state, mHealth technologies have been found to increase patient engagement and improve patient outcomes (Shrivastava & Kumar, 2022). Patient self-management was shown to be enhanced and healthcare expenses decreased in a recent research of general practitioner (GP) offices in the United Kingdom (Kraus et al., 2021).

The latest health information technologies employed by GP practices in the UK and their effect on patient outcomes are highlighted in this research review. Care quality, patient outcomes, and healthcare costs all increase with the use of electronic health records (EHRs), telemedicine, and mobile health (mHealth) technology. Further study is required to assess the long-term effects of these technologies on patient outcomes and to determine the most effective methods for incorporating them into primary care settings. General practitioner (GP) adoption of health information technology is an encouraging development with the potential to revolutionize primary care in the UK.

Analysis and Discussion

There is universal use of health information technology in GP offices in the UK, especially in the form of electronic health records (EHRs). There is an urgent need for increasing levels of standardization and interoperability in order to fully enjoy the benefits of electronic health records (EHRs), which come with a diverse variety of capabilities and degrees of interaction with other healthcare IT systems.

While some UK GP practices have begun using telemedicine, the practice is still in its infancy there. The means through which telemedicine's benefits—increased accessibility to care and reduced healthcare costs—might be realized were investigated. Electronic health records (EHRs) were found to have a positive effect on both treatment quality and patient safety in the research of primary care physicians. However, more study is needed to fully grasp the impact of health information technologies on care outcomes.

Health information technology has been shown to have the ability to promote patient safety, decrease healthcare costs, and improve the quality of treatment offered in general practitioner (GP) clinics. Concerns about the privacy and security of the data, as well as the necessity for standardization and compatibility among the many types of systems, remain open questions. More investigation into the effects of these technologies on patient outcomes and the identification of best practices for their use in general practitioner (GP) offices is necessary.

Secondary Data Analysis

Analyzing information that has previously been gathered, either for study or some other reason, is known as secondary data analysis. The information may be collected from a wide variety of public and private organizations. When compared to collecting primary data, secondary data analysis can be a significant time and money saver, making it a valuable research method. As a result, researchers may be able to look at more extensive datasets and test alternative ideas.

This research looked at how general practitioners in the UK are now utilizing and adopting health information technology through a process of secondary data analysis. The information came from a wide range of places, including scholarly journals, government papers, and trade magazines. Data were analyzed using synthesis and interpretation to reveal patterns and trends pertinent to the study's aims.

Large datasets are readily available for secondary data analysis, and the capacity to compare data from diverse sources increases the likelihood of seeing trends and patterns that were missed in the primary study. However, there are also some drawbacks to this approach, including a lack of command over data collection and the possibility of bias in the primary study.

In conclusion, secondary data analysis is a viable research strategy for studying how GP practices in the UK utilize and adapt health information technology. Researchers may learn more about the present level of health information technology usage in GP offices and pinpoint areas for future study and improvement by synthesizing and evaluating data from several sources.

Conclusion and Recommendation

The research shows that health information technology may increase the quality of treatment, improve patient safety, and decrease healthcare costs in United Kingdom GP offices. Although widespread use of EHRs is promising, further progress toward interoperability and standardization is required. Some primary care clinics have begun implementing telemedicine, but its use is still relatively uncommon. Health information technology has the potential to improve patient outcomes, but more study is needed to determine how effectively to apply this technology in primary care settings.

Based on the findings of this study, it is recommended that

- Health information technology, like as electronic health records (EHRs) and telemedicine, should continue to be adopted and used by general practices in the UK.
- In order to fully reap the benefits of these technologies, there has to be system-wide standardization and compatibility.
- Health information technology has the potential to improve patient outcomes, but more study is needed to determine how effectively to apply this technology in primary care settings.
- In order to protect the privacy and security of their patients' information, primary care clinics need to employ health information technology.

References

- Gardner, R.L., Cooper, E., Haskell, J., Harris, D.A., Poplau, S., Kroth, P.J., and Linzer, M., 2018. Physician stress and burnout: The impact of health information technology. *Journal of the American Medical Informatics Association*, 26(2), pp.106–114.
- Javaid, M., and Khan, I.H., 2021. Internet of things (IOT) enabled healthcare helps to take the challenges of covid-19 pandemic. *Journal of Oral Biology and Craniofacial Research*, 11(2), pp.209–214.
- Kaplan, B., 2020. Revisiting Health Information Technology Ethical, legal, and Social Issues and evaluation: Telehealth/telemedicine and COVID-19. *International Journal of Medical Informatics*, 143, p.104239.
- Kraus, S., Schiavone, F., Pluzhnikova, A., and Invernizzi, A.C., 2021. Digital transformation in healthcare: Analyzing the current state-of-research. *Journal of Business Research*, 123, pp.557–567.
- Land, K.J., Boeras, D.I., Chen, X.-S., Ramsay, A.R., and Peeling, R.W., 2018. Reassured diagnostics to inform disease control strategies, strengthen health systems and improve patient outcomes. *Nature Microbiology*, 4(1), pp.46–54.
- Matheny, M.E., Whicher, D., and Thadaney Israni, S., 2020. Artificial Intelligence in health care. *JAMA*, 323(6), p.509.
- Nymberg, V.M., Bolmsjö, B.B., Wolff, M., Calling, S., Gerward, S., and Sandberg, M., 2019. ‘having to learn this so late in our lives...’ Swedish elderly patients’ beliefs, experiences, attitudes and expectations of e-health in primary health care. *Scandinavian Journal of Primary Health Care*, 37(1), pp.41–52.
- Palmer, K., Monaco, A., Kivipelto, M., Onder, G., Maggi, S., Michel, J.-P., Prieto, R., Sykara, G., and Donde, S., 2020. The potential long-term impact of the COVID-19 outbreak on patients with non-communicable diseases in Europe: Consequences for healthy ageing. *Aging Clinical and Experimental Research*, 32(7), pp.1189–1194.
- Sheikh, A., Anderson, M., Albala, S., Casadei, B., Franklin, B.D., Richards, M., Taylor, D., Tibble, H., and Mossialos, E., 2021. Health Information Technology and Digital Innovation for National Learning Health and Care Systems. *The Lancet Digital Health*, 3(6).
- Shrivastava, M., and Kumar, D., 2022. The potential of artificial intelligence in public healthcare industry. *Impact of Artificial Intelligence on Organizational Transformation*, pp.349–360.
- Ye, J., 2020. The role of Health Technology and Informatics in a Global Public Health emergency: Practices and implications from the COVID-19 pandemic. *JMIR Medical Informatics*, 8(7).

