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The Ethical and Practical Implications of Artificial Intelligence Adoption in United Kingdom Nursing Practice

Introduction

This report aims to conduct a critical literature review and bibliography of research on the ethical and practical implications of artificial intelligence (AI) over the last five years. A detailed discussion of one of the research articles critiqued will be focused on, and the research philosophy, epistemological, ontological, and ethical issues will also be highlighted. The reliability and validity of this article will also be outlined. Additionally, this report will examine the implementation challenges of integrating AI into the nursing workforce in the United Kingdom. Furthermore, this report will explore the relationship between certain Sustainable Development Goals and artificial intelligence in the nursing workforce.

AI has become the order of the day in most professions, as its usefulness cannot be overemphasised. Arab et al (2025) stipulate that AI is rapidly transforming health care and offering advancements in patient care and clinical workflow. O'Connor et al (2020) indicate that artificial intelligence is progressively expanding in the healthcare sector and is used to stimulate aspects of human intelligence. However, the nature of the kind of work that nurses do can make it complicated and tricky to incorporate AI into the nursing workforce; it can be quite difficult to fully embrace the advanced technology. Bulk et al (2023) explain that many questions need to be answered before artificial intelligence can be incorporated into routine nursing care of patients. Olga et (2025) agree with this line of thinking and express that healthcare has found it difficult to accept AI and the advancement of technology. Park (2025) also expresses that even though artificial intelligence is a possibility in healthcare and the nursing workforce, it is not so straightforward to incorporate it into the day-to-day activities of the nursing workforce. The National Academy of Medicine (2022) advises that AI should stand for Augmented Intelligence, as human beings will always be needed to embrace the care provided to patients. This just shows that it is not a straightforward issue to embed AI into the nursing workforce; nursing is a very hands-on profession, and skills such as empathy can be quite difficult for an AI tool to provide. It is therefore important that nurses are at the forefront in creating AI tools that will affect the care they give to patients and how patients are treated and cared for.

Background

Nurses started exploring AI in the early 1990s. (Nashwan et al 2025) explain that there was a need to incorporate artificial intelligence into health care; hence, the launching of the national strategy on AI was launched in 2021 to support the creation of artificial intelligence tools to benefit the health and social care sector. According to Thornton et al (2024), the huge pressure the National Health Service faces due to workforce shortage makes developing a strategy and taking advantage of this opportunity by artificial intelligence, tackling these shortcomings. AI, therefore, does have a place in the nursing workforce, but it just needs to be incorporated carefully and skillfully so that the desired result is what happens. Thompson and Morgan (2020) express that AI usage remains limited, with little overarching policy guiding its development and application. It was further stated that a survey that was undertaken in a recent study found that 51% (1020/2000) of people surveyed in the United Kingdom were concerned about their data privacy as AI usage increases. This demonstrates that not only are healthcare professionals like nurses concerned, but the potential patients who are on the receiving end are also apprehensive as to how much of their data AI is able to use and what these data that are collected are used for. NHS (2025) explains that health care professionals will always provide advice and allow patients to make the final decision on the care and treatment they receive. Patients have evolved over the years and are encouraged to ask questions regarding their care, and they are given the option to make informed choices. AI needs to be correctly implemented, as patients will ask and give their opinion regarding its existence.

What Is AI

AI is an application or tool that human beings can operate to carry out duties that human beings would have carried out. It is often known to work faster than human beings. Hamad et al (2020) define AI as an application that allows machines to carry out tasks that require human intelligence, including decision-making, learning, and reasoning. AI is becoming very relevant in the nursing workforce, and it is important that its implementation is carried out in such a way that staff nurses can receive and be happy to work with it.

Problem Statement and Research Gap

AI promises to enhance nursing productivity; however, nurses have not fully understood what role AI has to play in their day-to-day activities as nurses, and there is the fear of artificial intelligence taking over their role as nurses, leaving them jobless. The research gap in this situation is how nurses themselves perceive and interpret AI's role in patient care, particularly in relation to ethical values and professional identity. The implementation of AI in the nursing workforce is an area that also needs to be researched and discussed further, as it is a new area in nursing and for it to be embraced by the entire nursing workforce, more research is needed and more understanding as to how it will be used to support and add value to the quality of nursing care that patients are intended to receive.

Research Aim and Objective

1. To investigate nurses' understanding and experiences of AI use in their clinical environment
2. To identify perceived ethical challenges and facilitators of AI adoption.
3. To explore how AI integration aligns with the values of patient-centred care.
4. To evaluate implications for workforce sustainability and professional development.
5. To discuss the implementation of AI in the nursing workforce

Critical Literature Review (Conceptual Framework)

Research Articles Related to Artificial Intelligence Adoption in the Nursing Practice

The research articles chosen for critique are not only from the United Kingdom, but also from other parts of the world, indicating that the issue of artificial intelligence and its implementation is not limited to the United Kingdom, but is a global issue. It is known that artificial intelligence is used to help and promote effective work output for nurses.

AI In Healthcare: Its Challenges and Opportunities

According to Rony et al (2025), AI is becoming more relevant in the nursing workforce. It is stated that its use may help nurses achieve a better work-life balance, as they often have limited resources to work with. This has led to nurses becoming burnt out, and as a result, their productivity is affected, as they are unable to deliver their best performance consistently. Consequently, patients do not receive the best nursing care they deserve. AI is seen as a possible solution for nurses to be more effective in their duties and make it less stressful to carry out their day-to-day jobs. However, when considering the challenges of the use of AI in nursing care, it could be stated that there is the danger of excessive reliance on AI, which could lead to nurses becoming redundant. Ahmed (2024) highlights that the introduction of AI in nursing could lead to the absence of human touch in patient care and the risks of excessive reliance on AI systems. This shows that even though AI has its place in making the nursing force more effective, there is also the possibility of it taking over the jobs of nurses. This is why AI has to be implemented with caution, and boundaries need to be set so that the human nursing touch remains.

Nursing identity and technological change

Abuzaid et al (2022) carried out an exploratory research survey of nurses employed in the healthcare sector. A survey link was emailed to participants who were nurses working in the United Arab Emirates. The survey demonstrated the nurses' demographic knowledge, insights, and organisational preparedness and difficulties regarding the adoption of AI into practice. 553 respondents were collected back from 650, which was 85%. The results showed that 51% of the respondents stated that the knowledge on AI they had acquired was through self-directed study, 20% gained AI knowledge through various courses, and 8% of the respondents stated that they learned AI through postgraduate courses, while 9% stated they lacked knowledge about AI. 75% of all the respondents agreed that the nursing curriculum should include some basic knowledge of AI. This is because AI has been introduced into nursing, and there is a tendency that nurses have no choice but to be trained and be comfortable in its usage.

Raymond et al. (2025) conducted a cross-sectional survey in Canada from mid-October 2023 through early February 2024. The method used for this research was a qualitative comparative

analysis method, and was used to analyse the survey data. 307 members of the professional order of nurses were used in the research, which found that AI are only observed when nurses perceive AI to have a high impact on their future clinical practice. The research highlights that nurses need to have a positive attitude toward AI to fully understand and embrace AI. When considering the limitations of this study, it can be noted that the response rate was only 10%; therefore, it would be challenging to generalise the results of this study. Secondly, the study was a cross-sectional and observational study, and future research could be conducted on the impact of educational interventions on nurses' evolving perceptions of AI in nursing. Lastly, the study focused on a single Canadian nursing association, hence limiting the generalizability of the results. The study further suggests that when nurses are trained on AI, it is essential to consider nurses' beliefs and attitudes about AI, rather than solely focusing on technical skills. The mindset of nurses needs to be changed to make them feel comfortable with the implementation of AI.

Morrison (2020) conducted a qualitative exploration method to carry out this research, aiming to apply the innovation theory to comprehend the barriers and facilitators influencing AI implementation in the National Health Service. The sampling used in this research was purposive. The research was carried out by using 12 semi-structured one-to-one interviews with participants, and interview data were investigated using thematic analysis. 12 interviews were carried out in March and April 2020. The interviews lasted about 37 minutes. The research findings identified many obstacles and facilitators to the implementation of AI within the NHS, including IT infrastructure and language understanding, various results to overcome the obstacles were suggested by participants, including education strategies and innovation champions. The research was able to state that future research should investigate the significance of IT influence in reinforcing AI adoption, and scrutinise the terminology around AI and explore specialty - specific obstacles to AI implementation in greater depth. Limitations to the research carried out by Morrison (2020), even though data saturation was attained, the sample size was smaller than anticipated, and all the research participants were men. Women were marginalised within senior positions in both the healthcare organisation and health technology. An important indication for practice, which echoes the present literature, is the need for education around AI for healthcare professionals, media and the general public that will encourage comprehension while eliminating fear and myths regarding AI. Further research is required to discover the quality of IT infrastructure that could affect the potential of some NHS

organisations to implement AI. Future studies in this area should attempt to capture a more diverse sample of participants.

Buchanan et al (2020) carried out a research, and it was discovered that AI is created to transform the health system; however, very limited research to date has been undertaken on its influence on nurses. A total of 131 articles, both qualitative and quantitative research articles, were reviewed. It was concluded that nurses have a collective accountability to impact resolutions related to the incorporation of AI in the healthcare corporation. An inductive approach was implemented to categorise the results from the research articles. AI has commenced to form nursing roles and the nurse-patient relationship. The results of the review will aid nurse leaders at all levels and across all divisions to initiate ethical, safe, high-standard and person-centred compassionate caregivers.

Ethical and philosophical debates: human–machine collaboration

When considering Ramadan et al (2024) regarding the qualitative research conducted among, a primary research study was conducted using 48 registered nurses who were selected. The study aimed to explore nurses' perspectives on facilitators and obstacles to AI adoption in nursing practice. The study was conducted by focus groups. 6 - 8 participants were in a group. Primary research data were used in this research. It was explained that despite artificial intelligence being a promising potential, its adoption in nursing practices remains inconsistent and challenging. Studies have not adequately looked at the perspectives of nurses who are critical to the successful integration of artificial intelligence. It is paramount to understand how nurses, as frontline healthcare providers, perceive and interact with AI. The researchers highlighted that there are limited qualitative studies that focus on the experience concerns and attitudes of nurses regarding AI adoption. This could be seen as a research gap, as it is important to have the opinions and thoughts of nurses regarding the use of AI, since they are the ones who are going to be using AI for patient care. This research used a descriptive qualitative design to explore registered nurses' perspectives on facilitators and barriers to AI

adoption. A purposive sampling was used to recruit registered nurses from 4 hospitals in Saudi Arabia. Four domains were considered in this research: which were, the understanding of AI in nursing practice, perceived facilitators of AI and adoption potential barriers to implementation. A combination of inductive and deductive methods was utilised in this research article. Barun and Clarke's approach was used by using thematic analysis. Informed consent was used when recruiting the participants for this research, and compliance with approved protocols was maintained in this research. When considering the results of the research, the lowest figure was the fear of job displacement among nurses. The research demonstrated that the nurses were open to receiving and making sense of what AI was all about and how it relates to their job role.

The Philosophical Aspect

The foundations of research encompass what is known as the 'research paradigm', which serves as a lens through which the researcher views the world. This greatly affects the direction that research takes. (Pretorius, 2024). Considering the philosophical aspect of the research carried out by Ramadan et al (2024), adopting the research onion model. (Saunders et al., 2019, p.108). The outer layer of the onion is a qualitative interpretivist approach. This is because the nurses were able to express their feelings and how they felt about artificial intelligence in relation to their jobs by having focus groups that had open-ended questions to give the nurses the chance to express themselves and not to feel judged or restricted in putting their opinions across. This, in turn, demonstrated and showcased their expertise with AI so far. This gave the researcher robust data that could now be analysed and made sense out of.

Wiesner (2022) expresses that qualitative interpretive research carries out several steps that require reflection and consists of analysing the contents. The next layer of the research onion model used in the research carried out by Ramadan et al (2024) was the inductive approach, as the researcher created their own data to analyse. Kim (2021) highlights that the inductive approach begins with research and establishing a theory, then investigating and observing, which was the case in this research article, as the researcher had the nurses express themselves and answer the questions asked them as clearly as they could. ONS (2022) further explains that the inductive approach allows researchers to learn by generating means from the data collected in order to identify patterns and relationships to build theories. The next layer in

the onion research model was the method used in the research by Ramadan et al (2024), was a mono method, which was a qualitative method, as a focus group was used, and open-ended questions were used to gather data.

The epistemological approach used by Ramadan et al (2024) is the interpretivism approach. This means that the data collected in this research were subjective as they were what the participants in this study expressed regarding the adoption of AI alongside nurses, and it was expected to be a smooth transition. Ahmed (2024) highlights that AI offers promising possibilities; however, there are notable pitfalls that must be considered. It was also important to consider addressing challenges related to governance and workforce readiness. Ramadan et al (2024) express in the research article that AI is useful in enhancing the nursing practice. Before the research, epistemology gives the researcher a foundation to build on, as it is the knowledge that is already known about the subject prior to the research being carried out. The ontology used by Ramadan et al (2024) is subjective, which means that the researchers believe that beliefs are socially constructed and are subjective and can vary from individual to individual, as the participants of this research were allowed to express what they felt and their experience regarding AI. It was expressed that this needs to be addressed, as nurses should be at the forefront of implementing AI in the nursing world. With the fact that AI will be working alongside nurses, nurses must understand what the role of artificial intelligence is and how it works, why it has become the order of the day and to what extent its input is going to be.

When focusing on the axiology of the research carried out by Ramadan et al (2024) could be seen that ethical considerations were adhered to. In any research that is carried out, the safety and privacy of the participants must be focused upon and granted at all times. Similarly, the UK Statistics Authority (2022) emphasises that it is important to take time to consider any ethical issues that could arise throughout the life cycle of their research. Ethical consideration must be taken seriously at all stages of the research. When considering the ethical considerations in the research conducted by Ramadan et al (2024) is. It was clearly stated in the article that informed consent was obtained from all the nurses who participated in the research. It was important that each participant had a clear idea of what the research was about, and they had to be comfortable before starting the research. It could be expressed that there is limited exploration of the ethical concerns that nurses might have about AI. The cultural and healthcare context in specific regions, such as Saudi Arabia, influences artificial intelligence adoption in nursing.

The study carried out by Ramadan et al (2024) concluded that AI in nursing practice needs to be looked at holistically for it to be beneficial to the nursing workforce. Educational and organisational challenges have to be overcome for AI to thrive and for its introduction into the nursing workforce to be effective and to contribute positively. This demonstrates that even though artificial intelligence is meant to make the jobs of nurses easier and to give a better patient experience, if not thought through properly may not give the intended and desired result. Ramadan et al (2024) expressed that the implementation of AI into the nursing workforce will need nurses to spearhead its rollout and to be at the forefront.

When considering the limitations of research carried out by Ramadan et al (2024) It could be noted that the research article did stipulate how long the research lasted it was not clear if it was a longitudinal study. The research article did not explain whether the nurses were female or male, but the ages of the nurses were explained, as this could have a direct effect on how the participants in the study would perceive AI. The younger generation would probably be more in tune with AI compared to the older generation. The younger generation would probably be more open to changes to how they carry out their day-to-day activities, unlike nurses, who have been carrying out their duties in a particular way. Jaskova and Sochulakova (2024) researched and found that the attitudes of young respondents who took part in research related to AI acceptance were directly related to their age. When focusing on the validity and reliability of the research carried out by Ramadan et al (2024) it could be stated that the fact that nurses were those who participated in this research made it to be valid, as the nurses were discussing about their profession and how AI would affect their working life, it was about them giving their experiences, fears and concerns of the intended change to their working lives. The fact that Ramadan et al (2024) used a theoretical framework, which is The Technology Acceptance Model (TAM) gives the research article more credibility as it shows that the researcher was able to use this framework as a guide as to the perspectives of nurses when it comes to the adoption of AI, as it gives a robust structure when analysing technology acceptance.

Technology Acceptance Model

For nurses to adopt the implementation of AI into their day-to-day activities, healthcare professionals must understand what AI is about, and there is a better chance for them to embrace this new way of carrying out their nursing roles. Olawale et al. (2025) express that although AI offers promising opportunities in health care, its adoption must be underpinned by a governance structure. Enhancing AI literacy among the Information governance team will be vital for a safe and ethical implementation. For nurses to embrace the new changes and the incorporation of AI in their day-to-day job roles, a model must be put in place to create a smooth transition. The technology acceptance model would be a very useful model to get nurses to embrace AI. Ma (2025) ascertain that the technology acceptance model is a very effective way of allowing individuals to accept AI and incorporate it into their jobs.

Many technological innovations have been introduced in healthcare, and their implementations prove paramount in addressing challenges in healthcare. Healthcare workers have been called to adapt and be familiar with technology innovations that are a part of their profession, changing their working schedule (Barchielli et al 2021). It is therefore unavoidable for nurses to be involved with AI in their day-to-day activities as a nurse. Technology innovation would provide more effective care for patients, giving patients a better chance of having the best care and treatment. AI has given patients the choice to understand the care that they receive, and gives patients more autonomy to make informed choices, as this encourages patient-centred care, which enables the patients to have a better understanding of the options that are available to them. Stoumpst et al (2023) assert this and express that patients now have a broader range and are more mindful in their healthcare choices and experiences, which is new in healthcare with a patient-centred culture.

Similarly, Nezamdoust et al (2022) explain that the technology acceptance model has considerable capacity for being integrated in developed model for better perceptions of individuals' behaviour. The perceived usefulness of AI is what will make nurses believe that its use will improve and enhance their job performance. It is therefore important for staff nurses to believe that AI is an important component in their job, other areas and like Nezamdoust et al (2022) further highlight that technology acceptance is concerned with the psychological status of a person regarding the intention to use a specific technology. A user's acceptance of

technology is important at anytime and not only at the design phase but also during the implementation phase.

Methodology and Design

Research Question: The Ethical and Practical Implications of Artificial Intelligence Adoption in United Kingdom Nursing Practice?

The intended methodology that will be used for this research will be interviews and, where possible, face-to-face interviews. Qualitative research will be used as it is the most appropriate way of finding out the views and opinions of staff nurses. 50 to 60 staff nurses will be participating in this research. The research design that will be utilised is a grounded theory. This is because this design will identify the problems and identify the obstacles of why nurses will find it difficult to embrace AI into their day-to-day activities when looking after their patients, and the aim will be to interview various staff nurses from different walks of life. Charmaz et al (2020) express that grounded theory methods help researchers to discover new concepts in their discipline and the larger research literature. The aim will be to interview 30 female nurses and 30 male nurses.

The reason for choosing a qualitative research method is that the interviewees will be given open-ended questions to answer, this is so that they can view their opinions about artificial intelligence within the context of the nursing workforce. The reason for selecting 30 staff nurses is that it will give a view of what nurses feel about AI being incorporated in their day-to-day activities as staff nurses. In order to get a very well-rounded opinion, hospitals from different parts of the United Kingdom, which are in London, Ireland and Wales, will be utilised. The reason for selecting 30 male and female participants is so as not to create data saturation. As the selected amount for this research will give an adequate amount of information and data required, and due to limited time, the number of participants chosen will be adequate. An interpretive approach will be used for this research, as it is a form of research used quite often. Burdine (2020) agrees with this line of thought and expresses that interpretive description is a qualitative approach with epistemological roots from within nursing science. The validity of results that are acquired from this research is paramount, as they are trusted; hence, the importance of making sure the data collected is well analysed and transparency is maintained at all stages of the research. Karnia (2024) asserts this and explains that the proper evaluation of a research design and assessment tool's reliability and validity are important steps, as it helps

ensure that the research will have a greater level of generability, which in turn means that the research can be replicated in another area and get similar results. Policy documents relating to AI and the nursing workforce will also be used to give rigour to the research as this could be used as a basis for the importance of carrying out this research, that will be undertaken in making sense of the information. NHS (2025) identifies that policies in health and social care settings promote the interests of patients and service users by carrying out research that is bound by ethical conduct.

A thematic analysis will be utilised in carrying out a systematic analysis of the data collected in order to identify the trends, patterns and codes that are deduced from the research. Barun and Clarke (2020) express that thematic analysis is used with qualitative paradigms. Researchers using thematic analysis inductively need to identify and ideally articulate in their reporting. The reason why thematic analysis is going to be used is that it has been one of the most popular tools used in analysing research. Similarly, Fryer (2022) explains that thematic analysis is one of the most popular methods in social science. Several different approaches to thematic analysis are informed by very different ontological and epistemological assumptions. Thematic analysis gives the researcher the ability to give meaning to the information collected from their participants.

Ethical Consideration

Ethical consideration in any research is very important as it protects both the researcher and the participants taking part in the research. WHO (2025) explains that it is paramount to adhere to ethical principles to protect the dignity, rights and welfare of research participants. It is therefore important that the nurses who will be participating in this research are convinced that their personal data will be kept and nothing that will be able to identify them will be revealed in the research.

Informed consent will be obtained from each participant, as this is essential for any researcher to ensure that each participant is provided with accurate information about the research and receives a full disclosure of the research's purpose. Additionally, the researcher will explain any questions that the participants may have. Klykken (2021) establishes that informed consent aims to safeguard people's freedom to decide whether or not to participate in research. The

participants will be provided with all the necessary information, and reliability and validity will be taken into consideration, as researchers must be honest and transparent. O'Sullivan et al (2021) stipulate that informed consent depends on disclosure of pertinent information capacity to give consent, and a voluntary decision.

Data Protection

Data protection in research is very important as it helps and assists to make sure that both the researcher and the participants are kept safe. It is therefore paramount that this qualitative research will be mindful that no personal data will be revealed. Quinn (2021) establishes that the use of data is central to all forms of research. The ability of research to access personal data plays an important role in research; hence, it is important at all times that such information is protected and used in an ethical way. No names or personal details of the participants will be disclosed, as the researcher must make sure that details of the participants are kept confidential. Participants must be given the assurance that their identities are always kept anonymous at all times. Kang and Hwang (2023) explain that anonymity and confidential strategies by a researcher are paramount, as it impacts the overall critical appraisal of the research outcomes. This shows that it is important that researchers do not overlook the importance keep the confidentiality of participants. Bos (2020) expresses that in research ethics, the crucial principle of confidentiality entails an obligation on the part of the researcher to ensure that any use of information obtained from or involving human subjects respects the dignity and autonomy. Participants' dignity is maintained at all times throughout the research process, as it is important for the research to be authentic and to meet the ethical considerations. UK Statistics Authority (2022) highlight that researchers should be transparent in their approach to data security and confidentiality to help participants understand how their data is being protected

Ethical Issues in AI

Nurses are used to carry out their jobs physically; for example, nurses are used to administering medications that have been prescribed by the doctor to them. For AI to carry out these kinds of tasks, it will be the nurse and AI that will carry out this job. Nurses must know that they have to work in collaboration with AI for the job to run smoothly. Dornan (2025) expresses that in 2018 The Royal College of Nursing in the United Kingdom declared that every nurse is an e-nurse, which shows that the need for all nurses to embrace digital health technologies is increasing in the digital environment. This shows that nurses are encouraged to come on board and accept AI as part of their day-to-day activities and job roles. Similarly, Sides et al (2025) express that in recent years, the adoption of AI in healthcare has increased significantly, predominantly focused on secondary care settings. Nurses have a duty to make sure that they carry out the usage of AI ethically and having full understanding of what they are doing so that patients' safety is not compromised. ANA (2022) explains that it is paramount that AI does not replace nurses' decision-making judgment or critical thinking. Nurses consider the needs and respect the values of each person. Nurses are responsible for being informed about ensuring the appropriate use of AI. It is therefore important that nurses are well-trained as to how to use AI most appropriately without compromising their duties of care for patients or affecting patient-centred care.

The research ethics committees have a duty to care for participants who are involved in research projects. According to the NHS (2025) report, the research ethics committees have a duty to provide an efficient and robust ethics review and have a duty to protect the rights, safety, dignity and well-being of research participants. It is therefore imperative that, depending on the kind of research that is carried out, approval from this kind of ethics committee may be applied for, and this would involve the committee assessing whether the research is safe, meets the standard required and would not be harmful to the participants. In the case of this qualitative research, this would not be applicable, as the participants in this intended research are to discuss the ethical issues and implementation of AI in relation to staff nurses; it would mean that they would be giving their opinions and their views regarding the usage of AI in their day-to-day activities.

Intended Questions To Be Asked The Research Participants

If you don't mind, what age group do you fall into: 20 years to 30 years, 31 years to 40 years, 41 years to 50 years, 51 years to 60 years, or over 60 years?

How long have you been a staff nurse?

What do you understand by artificial intelligence?

Do you think artificial intelligence will help in your day-to-day roles as a nurse?

How would you suggest AI be implemented in the nursing workforce?

What do you understand about AI as it relates to nursing?

How confident do you feel using AI in your day-to-day activities as a staff nurse?

Inclusion Criteria for selecting research participants

Staff nurses working in London, Ireland and Wales Hospitals

Qualified nurses who have worked as nurses for at least a year

Staff nurses who are working in the hospitals as Bank Nurses or Permanent staff nurses

Exclusion Criteria for selecting research participants

Staff nurses who have worked for less than a year

Staff nurses who work as agency nurses

Staff nurses who do not work in hospitals

Connection to Sustainable Development Goals (SDGs) As Regards AI and Nursing Workforce

According to Vinuesa et al (2020), Artificial Intelligence may assist in achieving the 134 targets across all Sustainable Development Goals through technology improvement. Especially SDG 6, which relates to clean water and sanitation, if these two factors are in place, the population are more likely to be healthy, and this will lead to less revenue being allotted to fighting sicknesses and illnesses, and the revenue could be used in other areas. When considering SDG 8, which is decent work and economic growth, if AI is properly established in the nursing workforce, it

would bring a better and more effective working environment. AI has not been introduced to take on the role of nurses, but to assist and make their jobs more effective. Krein and Aigner (2022) explain that SDG 8 is one of the important SDG which focuses on decent work and economic growth. This SDG is seen to be a critical first step to making the SDGs more intentionally coherent and meeting the goals of Agenda 2030 (Krein and Aigner,2022). When considering SDG 3, which is good health and wellbeing, it could be linked to AI and the nursing workforce, as the use of AI, if utilised effectively, could make the jobs of nurses easier and less physical, which in turn could lead to helping their mental health and wellbeing. Mariappanadar (2024) explains that SDG 3 is important because it can be used in developing prevention strategies for health issues. When the jobs of the staff nurses are made easier by introducing AI, there will be a better working environment, and this would lead to a healthier working environment, and patients would receive the best possible care, as nurses would not feel overwhelmed due to the ward being understaffed or feeling that they are overworked.

Expected Contribution of AI in the Nursing Workforce

Academic Contribution

O'Connor and Devane (2023) explain that NHS England launched an AI laboratory to foster collaboration on AI in healthcare and bring together and address barriers to developing and applying AI in different healthcare settings. This demonstrates how the NHS values AI as a part of health care. AI is important in the nursing workforce as it assists in broadening the horizons of staff nurses. It is paramount for nurses to be abreast with the latest technologies, as this will enable them to carry out their jobs more effectively and practice evidence-based care, which is always encouraged in nursing. Park (2025) thinks that AI in the nursing workforce necessitates a well-grounded philosophical framework to safely guide the ethical decision-making process in healthcare. Similarly, Yakusheva et al (2025) explain that AI has been making revolutionary changes in care delivery, from improving health surveillance to more efficient patient scheduling and triage. It is therefore imperative that nurses are probably trained and understand how AI is incorporated into their job roles to get the full benefit of these latest improvements to healthcare.

Practical Contribution

If AI is introduced into nursing in the proper and effective way could be of help to the nursing workforce, as AI has not been put in place to replace nurses but to augment nurses' workload. Hazarkia (2020) agrees with this line of thought and highlights that AI has the potential to enhance and augment provider performance in delivering efficient, effective, and quality care. Hassan et al (2024) rightly express that the rise of AI in health has brought about many new and exciting opportunities, but it can also bring about challenges and concerns. AI needs to be used with caution to make sure that the right data is fed into it and that nurses play an active role in the introduction, right through to the implementation stage. It needs to make sure at all times, all ethical and legal aspects of it are looked at and correctly configured

Social Contribution

AI has always been promoted as a tool that will help and assist the nurse workforce and never replace them. Nurses need to have an open mind to this new norm and embrace these changes, and AI costs the National Health Service millions of pounds to be implemented. Nurses should trust that AI is not an enemy, but it has been introduced to make their lives easier as regards their day-to-day activities as nurses. For nurses to be able to take the stand of seeing AI in a positive light, they will need to understand how it is used and receive regular updates on any changes that are to be made in the role of AI when it comes to augmenting nurses' roles. Hoelscher and Pugh (2025) have similar thoughts to this and express that nurses should not only understand AI, but they must be prepared to lead its responsible integrations and updates as AI's role evolves. Over the years, AI has slowly been introduced into the nursing workforce. The implementation of AI in the nursing workforce has to be handled properly, and the translation has to be carried out slowly and efficiently.

Conclusion

This report has discussed the issue of AI in connection with the nursing workforce. The report gave a brief background regarding AI and how it has become the order of the day in many other disciplines; nursing is also going to be one of the disciplines in which AI will play a major role. The study carried out a literature review focusing on research articles that were related to the

nursing workforce and AI. The philosophy of research was also discussed in one of the research articles, and the importance of ethics, both for participants when conducting research and patients when they are in various healthcare settings. A brief mention was made regarding some of the SGDs in relation to the nursing workforce and AI, as there are a few of them that directly relate to this topic. The report also explained that nurses do not need to only understand how AI works, but they need to be a part of have stage of the process of implementing AI. The AI tools are created to assist nurses, so it would be easier if nurses have a voice and express their concerns if they have one or give valuable suggestions to make AI user-friendly and make it as uncomplicated as possible, as nurses should be the ones at the forefront in AI's implementation in AI, as it relates to the nursing workforce. AI is a technology that has come to stay, and due to its complexity and the expensive nature of putting such projects in place when installed in hospitals, nurses should be ready to use it without having issues or not wanting to use AI in any capacity.

Finally, this report was able to establish that AI has come to stay; it has been shown that the healthcare system in the United Kingdom and globally needs AI, and it has a part to play in the advancement of patient treatment. It has not come to replace human beings but to assist and make healthcare more efficient, smooth and effective.

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