

Report:

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Research Topic: The use of technology in the modern hospital workplace

Finding credible sources for your research methodologies is important when you want the most up-to-date and reliable information for your research. When separating the relevant sources from the untrustworthy sources, it is vital to check numerous factors. Some of these factors include the date of publication of the article, the relevance that the article holds to your research, the trustworthiness of the author/organisation (the authority they have on the subject), and the level of bias found in the article. When choosing a research topic, it is important to consider the availability of information for your research, so it is best not to choose a topic very narrow. For example, avoid searching for articles that have a very restricted information, such as how nanotechnology has helped care-homes in the past.

The topic I have chosen to research is the impact of technology in Hospitals, as I believe that the introduction of newer and more developed technology has significantly improved the efficiency of the working environment in hospitals and emergency healthcare. Hospitals have one of the largest influences on emergency healthcare and therefore many technological advancements and innovations are bound to make a major contribution to the progress of saving lives around the world. Hospitals have faced many challenges in recent years, with the deaths caused by cancer higher than any other decade, the recent outbreak of COVID-19, and of course sick patients resulting in daily entrants. Due to this I have selected hospitals as my area of research.

Technology has been instrumental in drastically improving the effectiveness of saving lives in hospital workplaces. There are numerous examples of recent progressions in the complexity of machinery, IT, and robotics that have been applied to day-to-day hospital visits. Due to this, many vulnerable humans have the aid they could not have received previously, both communicable and non-communicable diseases are being identified with more proficiency, and more effective medications are being diagnosed. Even technology not designed to be exclusively for hospitals, such as social media, have benefited patients that cannot reach the hospital building, by either raising awareness to threats to their health (which was particularly useful during the COVID-19 pandemic) or by prescribing medications via online video calls.

For example, the introduction of EHR (Electronic Health Record) systems has a digital version of a paper chart. These contain a patient's medical history, diagnoses, medications, treatment plans, allergies, etc. These records allow doctors to recognise issues with patients, make more accurate diagnoses, and identify diseases they may have. Similarly, the incorporation of artificial intelligence in recordings and medical procedures allows professionals to gather more valuable information for the advancement of drug development. This type of technological advancement has allowed hospitals like the NHS to provide new analytical capacity for diagnosing patients, effective triage and logistics.

Another example of newer technology benefiting hospitals is robotic surgery. Robotic surgery uses mechanical "arms", which are each specialised to hold pieces of medical equipment, as well as other appliances like magnifiers and flashlights. This benefits the surgeon as they have more control and dexterity when accessing the area of operation, better visualisation of the patient's organs, a more magnified scope of the operating area, all leading to a more successful and efficient result. The patient also benefits from the use of robotic equipment, as their procedure is completed faster, with faster recovery, less blood loss and with less risk of infection.

3D Printing has also helped medical environments since it allows biomaterials to be printed, like human body parts (ears, nose, hands, etc.) and prepare 3D models of tumours. Making 3D models of tumours will allow medical professionals to better their understanding on both benign and malignant tumour structures and better their understanding of cancer, which will allow them to combat it more effectively. They can even be used for making prototypes for demonstrations, for example lungs and artificial heart valves. It can also be used to produce custom-made implants and medical equipment, which will possibly open a path to curing cancer.

I have chosen to base my research on articles provided by trusted professionals that have conducted first-hand observations on the impact of technology. I will take key information from these documents to create credible, up-to-date, and relevant comments on how the hospital workplace has benefited from the implications of technology. I have chosen this methodology as it will grant me control over the areas of the document I would like to collect for my research, increasing the accuracy of my results.

When searching for credible primary sources to base your research on, it is important to first be aware of how current the source is. The margin for what I consider to be outdated information should be around 10 years, as that is when the newer information technology, specifically used in hospitals, has not been completely developed. It is also necessary to check the relevance the source holds to the topic you are researching, or else the research will not be as strong as it could be. The source should be covering topics and ideas highly similar to that of your research topic, so in my case how technology is used to enhance the working environment of hospitals.

It also helps to check the author/authors of the source and how reliable and reputable they are in their field. If the articles or documents used are open source, meaning that users can legally edit the information, it is best not to use them for your own purposes. It is better to search for published documents or articles made by authors who are well-educated in their field. There is particular importance in ascertaining the credibility of web articles and information found online, as there is typically more than one author or date of publication, along with the purpose of the publication of the article being hard to identify.

A source that I have used for my research is an article named "The Future of Healthcare Facilities: How Technology and Medical Advances May Shape Hospitals of the Future," written by Sanaz Litkouhi from the Iran University of Science and Technology, and Mohsen Vatandoost, from the University of Tehran. Both are well-educated in the medical field, and their article is based on how technology can help in hospitals, which is relevant to my research. As this article is a primary data source, they have used many references and citations in their article. I found this article when searching online for credible sources that are based on the benefits of technology in healthcare.

Another source I used for my research is an article made by Sophie Castle-Clarke, named "What will new technology mean for the NHS and its patients?", outlining technological trends that will improve the NHS. The production and publication of this article have been funded by members of charities such as 'The King's Fund' and 'The Health Foundation'. Expert advice has also been provided during the writing of the article from specialist organisations such as the Imperial College Health Partners, and the Institute for Fiscal studies. The author of the article is Sophie Castle-Clarke, an author from the Nuffield Trust, which is a charitable trust with the mission of improving health care in the UK through evidence and analysis. When looking at how technology influences hospitals and healthcare on a more local scale, I found this article describing how the NHS benefits from the advancements of technology.

In conclusion, over the past couple of decades technology has drastically improved how efficiently hospitals save lives, and as time passes and inventions become more developed, it is not hard to imagine the future of hospitals and emergency healthcare being aided substantially by AI, mechanics and robotics. When it comes to locating information on your research and finding reliable sources, it is of highest importance to check the motive behind the source, and to research the author to check if they are themselves or are receiving advice from trusted professionals in the field you are basing your research on.

References:

Mohsen Vatandoost & Sanaz Litkouhi, (2019), [The Future of Healthcare Facilities](#)

Iran University of Science & Technology

Sophie Castle-Clarke, (2018), [What will new technology mean for the NHS.](#)

The King's Fund and the Nuffield Trust,