

The use of Technology in the Modern Healthcare work place- Hospitals

Voyka Tomova Nikolaeva 2124306

Digital skills and Research Methods
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Lecture Samuel Abah



Contents

- Introduction
- Literature review
- Research methodology
- Conclusion
- References

Introduction

In this report , the aim is to discuss the use of innovation and modern technology in hospitals which helps the healthcare system to improve its work with patients. In the current era rapid technological advances are made every day and this helps people who work in this field to do better diagnostics and improve the treatment of different diseases. Artificial intelligence, wearable technologies , mobile applications and websites, clinical data storage and sharing systems work hand by hand with specialists and healthcare workers all over the world. Technology also assists with the investigation of secondary data and analysis of the results into easily comprehensible formats.



Literature review

- The use of technology helps healthcare professionals to communicate better with people and give them the access to care they need easily and quick in time that suits them using their self smart phones, for example during the covid19 pandemic many people with symptoms of the virus who did not needed emergency hospitalization were able to get medical advise by phone appointment. People can track the results of their health tests and get the information they need through the NHS app where they can also make appointments, check important information about location of hospitals, vaccination centres reactive medical prescriptions etc.
- Electronic health records – EHR is a system that works as one system and helps physicians to keep track of all the patients health records information. This is a computer-based software who has saved file for each of a patient health aspects. This system gives access to useful base of detailed data about the exact condition of a person. The benefits of HER's is that it makes it very simple and familiar for medical professionals to access the information of patients remotely. Also they can be aware of any potential danger medical patients errors sooner. There are different types of HER systems,
 - Physician-hosted system ,this type of Electronic Health Record is hosted by the physician while their medical practice has changes to benefits the larger practice
 - Remotely-hosted EHR systems moves the date from a physician to a third parties , this systems are remotely hosted apart the duty of data maintenance anywhere else that is apart from one medical practice or physician .
- The development of computer system able to perform a task that normally require human intelligence such as speech recording , decision making, visual perception and translation between different languages -Artificial intelligent is now able to help doctors in many deferent ways. Today 3D printing is been used in orthopaedics, paediatrics, radiology and oncology. The development in new technology has improved in 3D printing in term of software , hardware, services and materials. This technology has given a contribution to costumed medicine allowed more-precisely understanding of patients treatments, symptoms and also increased the improvement in the operation rooms. 3D Printing is also used in vascular surgery and cardiography.
 - Preoperative planning3D printing helps specialists to create reference models using MRI scans and CT so they can help surgeons to prepare better for surgeries . Using this technology medical specialists can customize surgeries and print 3D anatomical models including mimic human tissue such as airways, hearts and bones therefore the surgeries are more successful.
 - Designing medical devices In order to serve their purpose ,medical devices has to meet multiple requirements and 3D Printing make that possible as they must comprise the perfect balance in term of size and shape . The must of match the particular shape or a human body , they must be functional and pass specific endurance tests.
 - Improving surgical instruments, 3D customized surgical instruments such as forceps and scalpel handles or clamps helps surgeons to perform better in the OR reduce operating time and gives better surgical results for patients.
 - Customized bionic protheses, 3D implants for spine , knee, hips or scull. Digital dentistry and streamlining drug administration

- Technology is also used in hospitals to reduce medical errors and to improve quality and safety of the patients. According to (Bibhuranjan,2023) the number of fatal medical negligence in the UK is increasing year by year with over 2,500 claims made in 2020 alone.
- Advanced technologies have provide hospitals with new tools to reduce medical mistakes and improve patients wellbeing. From surgical robots to virtual reality hospitals are given great contribution from advanced technology with virtuoso precision that helps improving the outcome of surgeries. Transforming health care allowing doctors to provide the best possible care available on the market. Artificial intelligence is being also used successfully with training proposes and gives the opportunity to medical students to experience the closes to reality situation by using virtual reality (VR) and augmented reality (AR). In this way they can prepare better for practicing with people in real life, it is also an interesting way of treating patients who suffer from mental health problems for example anxiety. (VR) and (AR) can be also used to relief pain or as an aid to psychological treatments like exposure therapy.
- Wearable technologies are very useful tool that helps people in many different ways. Attached to patients bodies wearable devices helps monitoring the activities of patients. From tracking the physical activities with smart watches to blood glucose and blood pressure can be monitored by a medical specialists even outside the hospitals. Diabetics from all over the world can easily use those technologies to keep in track with the level of sugar in their blood from their own home. Wearables were incorporated into specialized integrated digital care delivery systems, involving health coaching, automated appointment reminders, disease-focused digital education, and automated medication dosing with human assistance when needed. Giving the opportunity for users to access more control over their own health, monitoring their physical activities and condition.

The evolution of technology is very likely to play a huge role in the medicine sector in the future providing many different benefits for service users and stuff. There is a big excitement around the chance to use new advanced technology however the priority of medicine will always be to provide high-quality , safe and dignified care the rights and choices of service users must always be considered when it comes to the use of new technology.

Research Methodology

➤ Methodology approach

To gain more understanding for the use of technology in the modern healthcare work place and understand better the contribution of technology in hospitals, for this report was used secondary data. The research was made online from reliable and trusted sources.

➤ Data collection

- Before analysis the websites articles, blogs and magazine was carefully checked for their correct information in order to avoid any wrong data. The research topic of modern and advanced technology in form of online blogs that has been written by specialists or medical practitioners in order to inform people who wants to develop more knowledge for advanced technology in healthcare sector.

➤ Data analysis

- The chosen information was based on actual and updated data in order to prevent confusions with old information that is not correct as the technologies develop very quickly and any old information would not be useful for this report. Online sources are easily accessible, freshly updated and keep in track people who wants to be updated with actual information. This way of data collection is easier just on one klick distance and there is no need of pepper waist therefore less environmental pollution.

Conclusion

Digital technology goes hand by hand with healthcare and contribute for better results with treatments and diagnostic. Patients and medical practitioners benefits all over the world from the incredible innovating technologies, giving the users more control over their own health, wellbeing and safety. Helping communication between professionals stuff and family, comparing and capturing data also sharing with good practice, reduce the blood loss and invasiveness during surgery smaller incisions, less scarring and a faster recovery with robotic assistance during surgery. Gives people easier access remotely consultations and makes easier to read records since there is less hand writing involved. Patients are better informed about locations and how to access hospitals easier, important data is handled more secure by computers than by paper.

However there are some risks associated with technology in healthcare that people may have to face for example an overreliance with technology that may reduce stuff's practical clinical skills , cyber attacks and data theft.

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