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introduction

In this report I will be discussing and describing the diverse types of technology used in the healthcare sector, additionally I will be discussing the various healthcare technologies that are used in a rehabilitation centre and why those specific technologies are used for that healthcare sector and will use my research to help support what I have found and how I discovered my sources.

In modern society the healthcare sector has upgraded on how health and medicine is administered to patients. There are variety of different technologies such as telehealth and telemedicine, robots, and AI (Artificial Intelligence), virtual reality and 3D printing. the list goes on, however the technologies stated are the standout to me the most. The quality of health in the healthcare sector is essential as there are many different viruses and illnesses that evolve today in the world, it is essential to be at the forefront of every change that occurs and involve health and medicine.

Tele-health

‘Telehealth — sometimes called telemedicine — lets your health care provider provide care for you without an in-person office visit. Telehealth is done primarily online with internet access on your computer, tablet, or smartphone.’ (Telehealth, June 2022) telehealth is healthcare administrative via smart devices, this allows patients to stay at home and still receive medical advice and medication. It allows reduces the amount of mileage, this helps customers save time and money.

Robots and artificial intelligence (AI)

Robots and AI are artificial intelligence that have been specifically designed to work consistently without breaks and more efficiently than humans. This is because a robot can outdo certain prioritised jobs that a human cannot physical be able to do within the twenty-four hours that we have in a day. ‘AI is getting increasingly sophisticated at doing what humans do, but more efficiently, more quickly and at a lower cost. The potential for both AI and robotics in healthcare is vast. Just like in our every-day lives, AI and robotics are increasingly a part of our healthcare eco-system.’(Pwc,2022) AI and robotics are also at lower costs as there is no pay for manual labour whereas, you would have to pay employee different ranges of salary based on the jobs they are asked to participate in.

Virtual reality

virtual reality also known as VR ‘has attracted attention as a means of managing health and rehabilitation in a wide range of health fields in recent years... it provides patient and service users with sensory simulation, and a more immersive improvements with real time feedback during specific task orientated activities reflecting both motor learning and neuroplasticity’ (Hayre, et al,2020, p.4) virtual reality helps healthcare professionals preform realist surgeries and administered medication for training. This helps employees study the organs, the cells inside the body and any illnesses or diseases and know when to act and what to do when there is an occurrence inside a patient or employees' system.

3D printing

3D printing is the process of turning a three-dimensional digital model, into a physical object. It is typically done by placing thin layers of material in successional Healthcare professionals use this for rapid prototyping and additive. 3d printing is not cheap, each failed run costs time and money, it also is used to make complex body parts that would be costly or impossible to form. 3d printing is a popular solution in the healthcare system as it allows production to commence straight away, it avoids complex design for manufacture requirements and tool set-up time. Very soon 3d printing will be used for various amounts of healthcare issues and have quicker results.

Technology has a crucial role in healthcare, and the quality in which communication tools that were used. it minimises errors by avoiding mistakes in prescribing due to illegible or incomplete forms of dosages, routes, allergies, and physical interactions. This means that all performance of work will be consistent and lack any errors as it will be done by robots and computers, whereas if it was done manually there are more chances of there being a mistake or error of dosage of administered to a patient or not completing patient medical files. Additionally, technology is more efficient than manual workflow as robots can work 24/7 with no breaks or days off with all consistent and perfect replication. One main issue is work colleague's falling asleep whilst working. 'Poor sleep quality is usually characterized by difficulties in falling asleep and maintaining sleep [2], which can easily lead to significant discomfort and thus affect daily life. The prevalence of sleep quality problems in occupational groups varies by region, with 58.2% of employees over the age of 18 years in the United States reporting sleep problems in the past month.' (Paul B.Tchounwou), public health),19(11). This is very risky as one mistake could ruin medication, wrong injection needles, and inflict pain or injury to the patients. Paul b states that the lack of sleep causes stress and affects our daily life. This helps support that technology is more efficient than manual work as a robot does not have feeling or have the personal needs that a human being has.

Justification of relevant issues in healthcare

I will now be discussing and justifying the relevant issues associated with rehabilitation therapy centres and the possible ways to overcome the barriers that they face daily. In modern society everything is based with technology and adapting, however there are minor issues that healthcare professionals encounter whilst working at a rehabilitation centre. There are various daunting challenges that the care system face, with everything that has changed during the last few decades. Individuals are living longer, however often they have complexed health conditions. The function of a rehab centre is to offer patients the tools and aid they need to recover from any addiction or disability. Additionally, the rehabilitation centre helps individual re-join the community and regain their quality of life.' function of a rehab centre is to offer the means by which patients can find the tools that they need to recover from their addiction or disability in order that they can re-join their communities and regain a better quality of life.' (relapseprevention.com). This means that any individual who is or becomes a patient in the rehabilitation centre, will be supported all the way till they are stable and able to adapt.

World health organisation (WHO) states that rehabilitation is essential as it promotes good health, prevention of diseases, however one current issues with rehabilitation centres is that virtual physical therapy is not available for other patients who cannot travel or afford rehab therapy 'Inpatient rehab costs in the UK can run between £1,650 and £20,000 for a month-long programme, whereas outpatient rehab can be free or cost up to £8,250. Medical detox

costs between £250 and £750 per day, depending on the facility. Medicine used during detox and after can be a significant contributor to rehab costs.'(uk-rehab.com) Uk-rehab state that the Uk can run programmes that can cost up to 20,00 a month. In modern society especially after covid there was many deaths and issues with health and raspatory system in patients and people affected by Covid-19.' A virus infects your body by entering healthy cells. There, the invader makes copies of itself and multiplies throughout your body.'(Webmd.com). The main issue that I crossed was that during covid, there was no physical contact allowed additionally I have chosen this topic in particular because of the numerous deaths that occurred during the two-year pandemic. Covid-19 took a toll on multiple individuals' life, motor skills and mental health. Individuals suffered different severe and mild symptoms with covid and cognitive abilities. Cognitive skills are essential as cognitive skills are the core skills that are for your brain to think, learn, read, and pay attention. They are essential as they work together and take information and store them in the bank of knowledge that is used daily.' Cognitive skills are the core skills your brain uses to think, read, learn, remember, reason, and pay attention. Working together, they take incoming information and move it into the bank of knowledge you use every day at school, at work, and in life'(mindmatterjo.com) this to me means that without a functional brain the body cannot respond, as it is the brain that sends signals to the body for a response in movement or thought.

Research idea and methodology

This research was conducted because the main assignment is to find key issues in the rehabilitation sector and show that I have knowledge in technology and the healthcare sector combined. The methodology used is qualitive research, this research focusses on people as individuals and the experience that they go through. They are shown in our thoughts, behaviour/attitudes ideas and perceptions. This means that qualitive research is done by observation of daily life. I have chosen this methodology because qualitive research has a lot to contribute toward the healthcare sector. This is because there has been a lot of rapid change and developments in the healthcare sector and the qualitive method helps fully develop an integrated theory base and research agenda. Rehabilitation outcomes are also like qualitive care as the outcome of rehabilitation are dependant and people's attitudes, thoughts and motivation regarding the rehabilitation process they had experienced.' Qualitative and quantitative methods can be complementary, used in sequence or in tandem. The best qualitative research is systematic and rigorous, and it seeks to reduce bias and error and to identify evidence that disconfirms initial or emergent hypotheses'(pubmed.gov). Pubmed.gov states that good qualitative care is systematic, this is essential as rehabilitation work must be systematic, which is a contributing factor to progress in rehabilitation.to conclude I have chosen this research method as qualitative method are a more suitable method for health and social care settings.' Qualitative methods have much to contribute to health services and health policy research, especially as such research deals with rapid change and develops a more fully integrated theory base and research agenda. However, the field must build on the best traditions and techniques of qualitative methods and must recognize that special training and experience are essential to the application of these methods.' (pubmed.gov) to round up everything qualitative method and care is the best methodology for healthcare and rehabilitation centres as they focus on the brain and the way how the mind processing thoughts.

to conduct my research, I was taught to always use google scholar or the university library as the information provided through these sources are more accurate. This is because majority

of the information found online is not all accurate and definite. Conducting my research, I had used google scholar to gather my information. This helped me at first however when researching for points and sources on rehabilitation. However, I, while searching on google scholar the results for articles and journals on rehabilitation was very lengthy. I had then decided to use the university's online library to see if there are any articles or journals with more specific key points on rehabilitation and the different approaches that the healthcare sector use with rehabilitative care.

Conclusion

To conclude, I have gathered information and fully understand why technology is essential in healthcare also what the key issues are with healthcare and administration. Additionally, I have shown knowledge of collecting and receiving data and information and how to use it efficiently and correctly. I also have knowledge of the different methodologies used in the healthcare sector and have shown my knowledge of the various healthcare technologies and additionally acknowledge that working in the healthcare sector has many rapid changes in current day and daily life.

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