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Digital Skills and Research Methods Group Presentation



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The Impact of Modern Technology On The National Health Service

Task Carried Out by Each Group Member

Ronke – Introduction and background

Kafayat – Problems facing the NHS before introducing modern technology

Oluyomi – Insights of modern technology

Michael – Positive and Negative Impact of modern technology

Aye – Lessons drawn from the case study

Ronke – Conclusion

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Slide 1 Student Number: 1916047
Student Name : Ronke Olomola



The National Health Service which happens to be one of the biggest health care services in the world started, from a humble beginning , Trigg (2018) states it was established on the 5th of July 1948, by the then, Minister of Health Aneurin Bevan at the Park Hospital in Manchester. This was a great struggle to establish as, it was the first of its kind in the whole world. The main objective was to provide good quality health care to all the citizens no matter their financial status. The National Health Service also brought all health professionals such as nurses, doctors and dentists together under one service [<https://www.bbc.co.uk/news>] (24 January 2018).

Slide 2 **Student Number:** 1916047
 Student Name : Ronke Olomola

Introduction

- ▶ The National Health service was established in order for all classes of people to get very good quality of health care in The United Kingdom
- ▶ The National Health Service is United Kingdom's largest employer 1 in every 35 people are their employee (<https://www.nhs.70.org.uk>)
- ▶ Before the National Health Service Establishment the poor and the rich people in the society had different kinds of health care
- ▶ The National Health Service was launched by Aneurin Bevan (Minister of Health) at the Park Hospital in Manchester
- ▶ The National Health Service Digital is the national information and technology partner to the health and social system they are responsible for transforming the NHS digitally. As cited in NHS Digital, (2020)

The National Health Service took over, other forms of existing health care that were available before its establishment, such as the care of the elderly, mental health patients and clients with learning disabilities, hence this was sometimes a bit of a challenge. (The King's fund 2017). The National Health Service Digital is responsible for all the technology involved in the National Health service it was established on the 1st of April 2013. This department was contacted for the purpose of this presentation and their customer service officer was interviewed over the phone she was able to explain more about their services as regards how they influenced the NHS. It was related to the leader of this group that they work very closely with all the departments in the National Health Service to create all their technology when needed. It was explained that The NHS Digital is a non departmental public body, which is sponsored by the Department of Health and Social Care as cited in (NHS Digital- Gov.UK 24 January 2018).



The problem that the NHS is facing before the modern technology are:

- ▶ The patient clinical results are being transferred manually
- ▶ Disable patients do not get adequate assistance
- ▶ Booking of appointment are done manually
- ▶ Patient die of unknown sickness

Before the modern technology the patient test results are not be easily acquired unlike nowadays the computer is used to transfer result and other needed information as quickly as possible and it is kept in the system for reference purposes.

The disable patients using wheelchairs find it difficult to go for their appointment because of way in and out of the hospital that is not easily accessible to them, but with modern technology lift is provided in every hospital for easy access and some patient now use electric wheelchairs <https://www.bbc.co.uk>.

The NHS hospital appointment is only done through walking in and this gives the staff more patients and loads of writing to do because all appointment needs to be written manually

The Problem That The NHS Faced Before The Modern Technologies are :

- ▶ The NHS is slow in pulling out patients information when consulted
- ▶ Prescription is hand- written on a paper
- ▶ The NHS staff walk-in to check their rota for duties
- ▶ There is difference between the rich and poor
- ▶ The patient do not have enough self management on their illness

The patients die of unknown sickness because they have no idea of what the sickness is and there is no means of managing it by their selves and there is no adequate technology to care for them but with modern technology the actual disease or illness known and necessary treatment given <https://www.kingsfund.org.uk>

The NHS is slow in pulling out patient information when consulted because they are recorded on the paper and some of it get loss while filing but with modern technology information is been typed straight to the computer and it safe for future use.

Prescriptions is free then and it is hand-written on a paper, now it is typed and printed out and order can be made on-line for repeat prescription.

The staff of NHS needs to go to the office to check their rota of duties, but with modern technology life has been easy for them <https://www.kingsfund.org.uk>. Their duties are prepared on the system and it can be checked at any time The patients die of unknown sickness because they have no idea of what the sickness is and there is no means of managing it by their selves and there is no adequate technology to care for them but with modern technology the actual disease or illness known and necessary treatment given

Insight To Modern Technology

- ▶ Electronic Health Records
- ▶ Patients Monitor
- ▶ ECG machines
- ▶ Spirometry
- ▶ Ultrasound
- ▶ Mobile health apps

NOTE

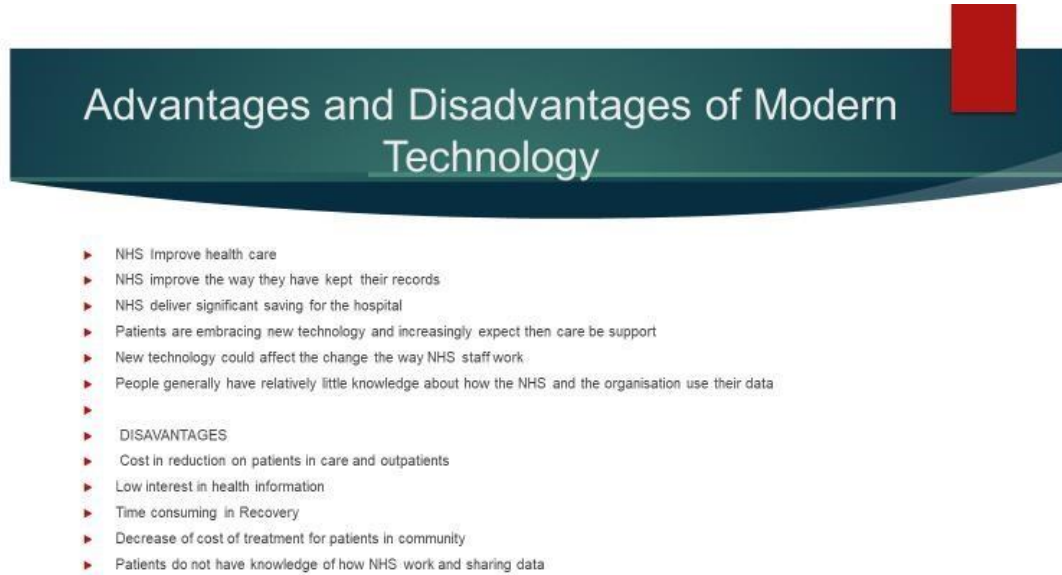
INSIGHT OF TECHONOLOGY ON NHS

Slide 03- Speaker Notes-

- Electronic Health Records is an equipment which nursing used in hospital to access information, log in to see patient full records medical history of the patients included the outpatient.
- Patients monitor is used by nursing to check if the sickness of the patients has gone up or worse. Patients monitor is also used to check if the sickness the patients will get worse in the future.
- ECG machine is called Electrocardiogram that is used to monitor heart in the hospital, the sensors are attached to the patient body to know if the heart is breathing well.
- Spirometry is used to test how lungs is working by breathing in air is also used in diagnose asthma and other disease that affect the breathing.
- Tonometry is used for eye test in the hospital, to see if the patients has fluid pressure inside the eyes, it is also used to detect glaucoma in the eyes.

- Mobile health apps, the patients use this mobile health apps to manage their health issue and their medicine.

Slide 6 Student Name Oluyomi



Advantages and Disadvantages of Modern Technology

- ▶ NHS Improve health care
- ▶ NHS improve the way they have kept their records
- ▶ NHS deliver significant saving for the hospital
- ▶ Patients are embracing new technology and increasingly expect then care be support
- ▶ New technology could affect the change the way NHS staff work
- ▶ People generally have relatively little knowledge about how the NHS and the organisation use their data
- ▶
- ▶ DISADVANTAGES
- ▶ Cost in reduction on patients in care and outpatients
- ▶ Low interest in health information
- ▶ Time consuming in Recovery
- ▶ Decrease of cost of treatment for patients in community
- ▶ Patients do not have knowledge of how NHS work and sharing data

ADVANTAGE OF TECHONOLGY ON NHS

- The NH's improve health care, they equip their nursing and healthcare, provided them training in different area with course that lead it to higher education.
- Some patients like new technology which include their medical details of their full history medical. patient would like to use the video to talk to their GP.
- People only have little knowledge of how NHS used their data for health research, patients have control in managing the data and strong way in helping patient's data for research to improve healthcare.
- New technology changes the way NHS staff work in area requiring new job to create.
- Few patients would like to use the video to talk to their GP about their healthcare, the patient like to embrace the new technology.

DISVANTAGE OF TECHNOLOGY ON NHS

- Cost in reducing on patients in healthcare and outpatients, the treatment cost of patients is costly. Patient cannot afford to pay for their surgeries because some of the patients are poor.
- Low interest information healthcare, patients are lack of information. Some of the patients do not have access to technology system that store their details on the data. This can affect the change of patients details in the medical full history.
- Recovery in time consuming the technology machine and gadget use in the hospital for the treatment. If technology get spoil, no on will be able to fit or repair the machine **The King's fund (2020)**.

NEGATIVE IMPACTS OF DIGITALIZATION

- ▶ The lack of digitally trained NHS staff and those with low experience in handling IT related functions has been found to be having a negative effect on improving the NHS.
- ▶ Insufficient investment on the NHS because of greater demands in other pressing areas has also had a negative effect and poor NHS staff experience.
- ▶ There are also fears that digital technology might lead to a widening of the health inequalities. (Digital health care, 2020)
- ▶ Cyber-attacks (mayor, 2018). Implanted medical devices susceptible to hacking. (Best, 2020)
- ▶ Fear of marketing of data, data misuse (Sterckx, Rakic, Cockbain and Borry, 2015)
- ▶ Slow system changes and the speed of digitalization
- ▶ Public engagement to digital technology

SPEAKER NOTES SLIDE ONE

NEGATIVE IMPACTS

- Untrained staff and those stuck to old ways negatively impinge on the smooth running of the NHS and affect services to the public
- The diversion of funds to other areas which successive decision makers deem more pressing is harmful. The 'Going paperless' objective had also been affected by lack of funds.
- Access problems, lack of interest, insufficient NHS engagement methods, the Elderly's need for greater medical attention and people with disability have an increased possibility of being digitally left out. (Digital health care, 2020).
- Hackers can gain access to heart implants with fatal results. (Best, 2020). The WannaCry cyberattack of May 2017 cost the NHS millions (mayor, 2018).

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Data misuse fears and the threat of hackers getting access to implanted devices represent a clear and present threat which could lead to fatal consequences to the patients concerned. Health data could be diverted, sold to third parties, including commercial companies, and that commercial and for-profit activities will be developed on the basis of their personal health data without their knowledge and approval. The 'care- data' scheme and the Carruthers report showed that hospital data have not been used for purely health related reasons (Sterckx, Rakic, Cockbain and Borry, 2015).

- The transmission period from old to new forms of digital technology can be leisurely which can affect the overall progress of digitalisation.
- Apathy, distrust, lack of awareness and poor information dissemination can dampen public interest in the activities and innovative technologies introduced by the NHS.

Slide 8 Student Name Michael



POSITIVE IMPACTS OF DIGITALIZATION

- ▶ Telemonitoring has benefitted patients with heart problems. (Ahmed et al., 2020)
- ▶ Mobile health technology benefits consumers
- ▶ Aid advances in precision medicine and new treatment alternatives.
- ▶ Innovative technology attracts patients to a hospital to seek treatment
- ▶ APPS. (Livingston, Shingleton, Heilman and Brief, 2019), (NHS Apps Library - NHS, 2020).
- ▶ Computerised constant reports from electronic health records improve antipsychotic prescribing and monitoring in people with dementia.
- ▶ Isolation note and coronavirus.

POSITIVE IMPACT SLIDE TWO

- It offers a feasible and clinically useful monitoring tool for HF patients. Obtain clinical data remotely (Ahmed et al., 2020).
- Cost effective and takes away the discomfort of physically being in the GP surgery.
- Through the application of intelligent AI computers and the application of gene selection.
- Hospitals with the most modern facilities preferred.
- Information, decision, and health control from anywhere. Self-help phones used to study PTSD, anxiety etc. (Livingston, Shingleton, Heilman and Brief, 2019). Health related APPS are available on the NHS library online (NHS Apps Library - NHS, 2020).
- A reasonable number of patients prefer video conferencing and remote access to computerized health data assist dementia sufferers.
- Coronavirus has demonstrated the crucial importance of digitalization of the NHS and other services as isolation notes can be printed online without the need for physical appearance in a GP's surgery.

The difference between modern and traditional technology in nhs.

- Modern technology is the advancement of the old technology
- Traditional technology are the old methods that have existed for long without changing. Swalih, M., (2017)
- Modern Technology has the potential to deliver significant savings for the NHS
- Technology in the NHS has the potential to transform health services and patient experience. A Liddell.et al (2008)

Modern technology is the advancement and addition to the old way changing and making impact. Traditional technology is the old way which has not changed and a good example of this is manual writing or logging of patients records in the hospital or a clinic services, in NHS. Swalih, M.,(2017)

A Liddell.et al (2008) said that modern technology has improved the delivery of health care services delivered, it is transforming and saving lives and effectively enhancing the service delivery of the NHS. Some of these improvements can be seen with Patients with minor ailment booking their appointment via telephone or on the internet and the GPs and professionals responding by consulting through the video and audio call. It has also changed or improved the health service and Patient experience. Modern technology has changed the way NHS staff work and effectively evolved their roles as some have changed to new roles or new job description.

Why Modern Technology is important to the NHS

- ▶ Modern Technology helps the NHS to meet its objectives .
- ▶ Patients are utilizing the modern technology for GP consulting and also for minor ailments via video and audio channel
- ▶ It has also enhanced NHS workers to work innovatively and effectively
- ▶ It improves data management and the use of Patients details for research as the security and confidentiality is more secured to improve health care.

NHS generates billions of data from diagnosing, treatment, and its used for research to improve treatment and data is also stored. For administrative and security purposes, data needs to be stored in a secure safe place, modern technology has enabled data storage via electronic cloud storage which preventing the loss of patient information. NHS would also be able to make some financial saving with enhanced service. Clarke.

C S (2018) Consequences of not using modern technology by the NHS will lead the NHS 's inability to meet its objective of providing comprehensive health care service for all. It would take longer time to treat and manage patient ailments as due to lack of modern equipment to treat patients.

CONSEQUENCES OF NOT USING MODERN TECHNOLOGY IN THE NHS

- NHS will not be meeting its objectives
- Longer time for treatment of patients
- Lack of experienced and professional staff
- Higher rates of infections and disease and higher rate of patient deaths
- Lack of equipment and training and lower staff rates
- Manual data management and loss of patient's data
- More lawsuits and loss of funding

It would data storage used for research and administration. The NHS would have inexperienced and untrained staff as they won't be availed to standard education to carry out their roles and this could lead to high rate of infectious diseases and death rate due to lack of trained staff and modern equipment. Manual data management can lead to loss of data and this can affect treatment, research and treatment of patients, as they are done manually and stored in folders or filing system of cabinets which can get loss of data due to fire, theft or mismanagement . Lack of modern technology in the NHS would spring up more lawsuits against the NHS by the patients due to a bad experience of receiving a bad service and this will affect the NHS in making loss of their funding. Clarke. C S (2018)

Conclusion

- ▶ The above arguments show that digital technology has improved the National Health Service.
- ▶ In order for the National Health Service to perform more efficiently and effectively it became necessary to incorporate modern day technology.
- ▶ The National Health Service invested greatly in training and buying digital equipment to improve the quality of care given to patients.
- ▶ NHS staff welcome the new innovations of carrying out their care for patients

Technology has created a lot of advancement to the care that has been provided to patients, in the National Health Service. The fact that staff are now able to assess their work rotas on-line has been welcomed. A small survey (informal) was carried out for the purpose of this presentation in two hospitals in London, which included 30 members of staff both nurses and health care assistants and they were asked which one they preferred, the new form of rotating or the old fashion way in which they had, to obtain their working rota from a sheet of paper. 100% of those interviewed preferred the on-line rota. All of them stated that what they liked most was the fact that they could assess their rotas on any computer device even when they were on holiday hence if they needed to swap with another member of staff they could see from the online rota who would be free on the said days. The National Health Service continues to advance in digital advancement as the importance of technology cannot be over emphasized.

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