

Digital skills & Research methods

BMSW4003_LON

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2.Shelly-ann Williams	1916052	Challenges before modern technology
3.Sesay Rugiatu	1916051	Impacts of modern technology introduced Positive/Negative of Robotic Surgery
4.Mayele Malaba	1917487	Insights of modern technology introduced -Advances in Robotic surgery
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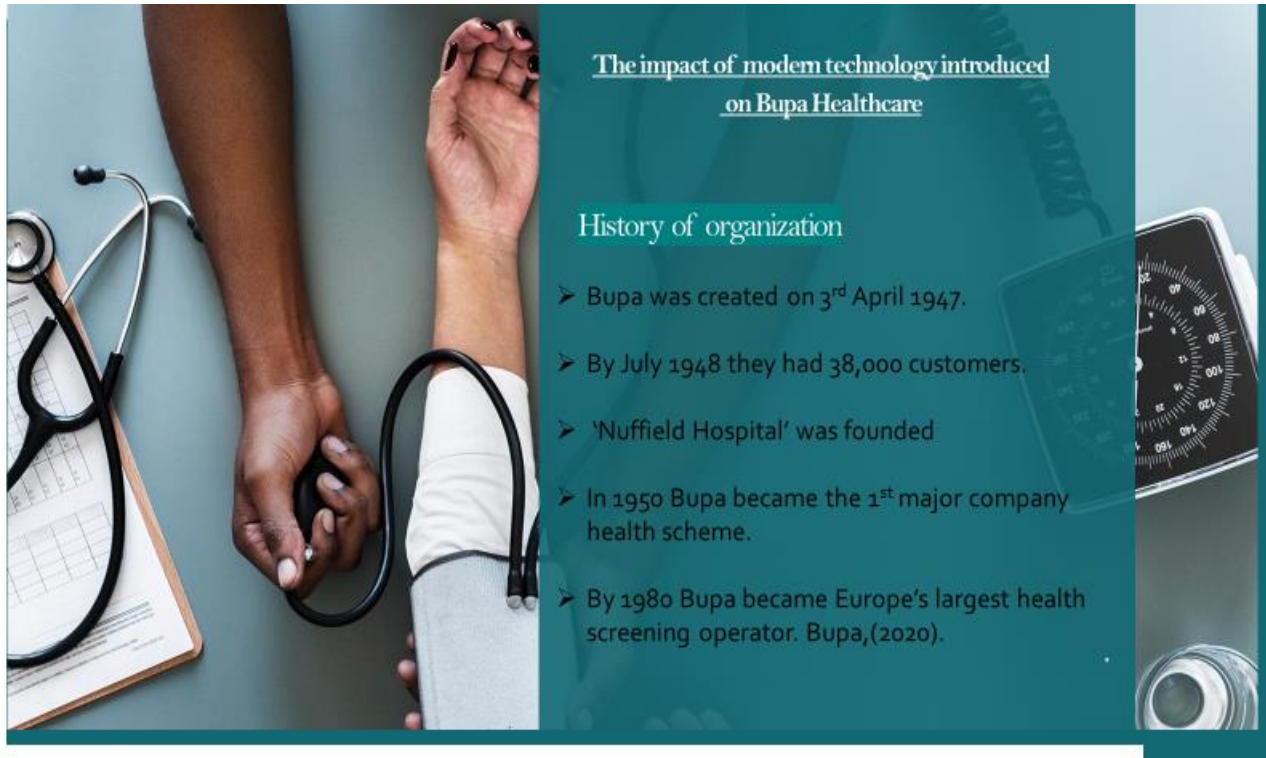
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Slide 01
Carolina Nhongerayi



The impact of modern technology introduced on Bupa Healthcare

History of organization

- Bupa was created on 3rd April 1947.
- By July 1948 they had 38,000 customers.
- 'Nuffield Hospital' was founded
- In 1950 Bupa became the 1st major company health scheme.
- By 1980 Bupa became Europe's largest health screening operator. Bupa,(2020).

Slide01
speaker notes

Good Afternoon my name is Carolina Nhongerayi & myself, Shelly-Ann, Sesay, Mayele are today going to present a presentation on the impact of modern technology introduced in Bupa Healthcare.

On the 3rd of April 1947 in the United Kingdom, the now successful private limited company known to everyone today as Bupa was founded by a mixture of large and small associations and hospital schemes. They are a company without Shareholders which means their customers are their focus, they reinvest profits into providing more & better healthcare that benefit their customers.

By 1948 Bupa had gained 38,000 customers and successfully had 80% shares of the private health insurance market.

As Bupa's membership continued to grow and demand for their services increased dramatically, to keep to the demands they decided to create the Nursing Homes charitable trust, now named the 'Nuffield Hospitals'.

Fast forwarding many years later to 1980 Bupa successfully became Europe's largest health screening operator. Bupa (2020).



Slide02
Speaker notes

Bupa's aim & objectives are to promote a positive inclusive working environment, enabling people to manage their health & wellbeing creating opportunities for customers to grow & develop.

Their purpose & mission is to help people live longer, healthier & happier lives by helping to prevent & cure sickness & illness of every kind.

Today the international health provider & insurer serves around 17.5 million patients in their clinics, residential homes, hospitals & dental centers. Bupa currently employ around 83,000 people in the United Kingdom & overseas providing services ranging from

Shelly- Ann Williams
Slide 03



The impact of modern technology introduced in Bupa Healthcare

Challenges before introducing modern technology in BUPA hospital.

The health and social services had faced several challenges in relation to technology over the years. Listed below are a few:

- No instant access to test results
- No electronic records
- Difficult to share data between organisations
- No artificial intelligence

Source: <https://www.bupa.com/corporate/jobs/our-people-in-health-and-care>

Source: <https://www.bupa.co.uk/>

Slide03
Speaker notes

There was no instant access to test results, which made it difficult for delivering quality care to individuals as they may had to wait a longer time for results which would've then made it more difficult for them to receive medication or advice on what they may need to do if they have a health problem.

No electronic records were able to be kept and paper trail were easily lost and could be altered by anyone. This could result to wrong information being shared or adapted which could create a lot of different problems when it comes to patients and their health.

The data gathered was difficult to be shared between organizations and meant that individuals would have to travel long distances to share data face to face. This could easily affect if information can be shared at the time as some workers could be off sick or is off work due to other problems then they will not be obtaining important information.

There was no artificial intelligence to help guide the process meaning workers would go off their own natural intelligence and what they know.

Slide 04

Shelly-Ann Williams



Source of image: Bupa(2020)

The impact of modern technology introduced on Bupa Healthcare

Challenges before introducing modern technology in BUPA hospital.

- Poor data collection for analysis of trends
- No video conferencing for consultations with patients or clinicians.
- Poor communication per SE especially between especially between secondary care and primary care.

These are generic and would apply whether private or through NHS.

Slide 04

Speaker notes

Poor data collection for analysis of trends (Hynam, 2014)

There was no video conferencing for consultations with patients or clinicians which could've made it difficult if there was any issues for a client to not be able to leave their house they wouldn't be able to get seen or to receive any advice.

There was poor communication between primary care e.g. your GP, practice nurse, pharmacist and optician and secondary care e.g. hospital clinic, specialist doctor and physiotherapist. As there was poor communication between the two that could have resulted to again patients not getting the correct help needed and if there was any important information to be logged down it may not of.

Advances in Robotic surgery technology in Bupa



Source: <https://www.bupa.com/newsroom/our-views/medical-innovations-2019>

The impact of modern technology introduced in Bupa Healthcare

ROBOTIC SURGERY ADVANTAGEES AND RISK

- Fewer complications like surgical site infections
- Quicker recovery
- Less blood loss and pain
- Less noticeable scars (Mayoclinic, 2020).

Slide 05 **Speaker notes**

Robotic Surgery also known as robot-assisted surgery permits doctors in performing series complex procedures using more flexibility, precision and control than is possible using conventional techniques.

This is always associated with minimal invasive surgery-procedures that are performed using tiny incision. It is sometimes made use of in specific traditional open surgical procedures (Mayoclinic, 2020).

This slide shows some of the advantages, fewer complications like surgical site infections, quicker recovery, less blood loss and pain, less noticeable scars (Mayoclinic, 2020)

Robotic surgery comes with certain risks as some could be similar to conventional open surgery like small infection risk as well as other complications.

Robotic surgery is been made use of and adopted by hospitals in Europe and the United States to treat wide range of conditions and the usual used clinical robotic surgical system entails a Camera arm as well as mechanical arm that has surgical instrument attached as the surgeon controls the arm as they seat at a computer console which usually nears the operating table (Schurr, et al, 2017).

Slide06
Mayele Malaba



Source: <https://www.bupa.com/newsroom/our-views/medical-innovations-2019>

The impact of modern technology introduced in Bupa Healthcare

**ADVANCES IN ROBOTIC SURGERY TECHNOLOGY
IN BUPA**

Series of predictions has been made as regards advances in Robotic Surgery In Bupa, some of the advancement are:

- Immunotherapy emerging of age in treating cancer
- Development of AI mainstream healthcare
- Improvement in Robotic Surgery
- The presence of 3D printing (Zollinger,2019)

Slide06
Speaker notes

Biological therapy or cancer immunotherapy entails is when the body is capable of its own defense mechanism and made use of in attacking cancer. Cancer are known to manage cloaking themselves, also, generally not visible to the immune system, this system makes the cancer to be visible, also, ensure the immune system sees it and attacks.

Development of AI mainstream healthcare:

Bupa embraces the chances of AI as this allows faster and easier access to anybody that requires psychological assistance. Also, in the United Kingdom, Bupa has been partnering with Babylon in giving ranges of AI-powered services usually for corporate customers that will as well be made visible and available or SME customers.

Improvement in Robotic Surgery: this has been assisting surgeon as it enables them in extreme precisions as well as assisting them in moving from traditional open surgery that has been used overtime to minimally invasive surgery (Zollinger,2019).

Slide 07

Sesay Rugiatu



Source: <https://www.bupa.com/corporate/jobs/our-people-in-health-and-care>



Source: <https://www.bupa.com/newsroom/our-views/medical-innovations>

The impact of modern technology introduced on Bupa Healthcare

Positive Impacts of robotic surgery

- Due to the nature of robotic surgeries, medical and healthcare professionals would be protected from getting infections especially during a pandemic outbreak thereby reducing further casualties. (Tsui & Yanco 2007).
- Optimize workflow, greater precision, reduced staff burden for medical professionals, reduced stress, tiredness and distractibility due to ergonomic benefits of robots. (Randell et al 2016).
- Support the demanding work of the individual professional and offset the looming staff shortages, increase efficiency in providing better healthcare. (Quresh and Syed 2014).
- Less post-operative pain, less blood loss, shorter hospitalization, lower incidences of some surgical complications, faster return to normal function and improved cosmetic effect of patients. (Randell et al 2014).

Slide 07

Speaker notes

Several impacts of robotic surgery have been widely discussed in different articles including impacts on the environment, social and psychological impacts, communication, collaboration, and decision making, employment and motivation of employees, human resources, patients, and economic burden.

Bupa UK and other healthcare providers around the world have incorporated some of these robotic surgeries in their healthcare system especially in hospitals and nursing homes ranging from curative treatment and management of rectal, colon and prostate cancer, gynecologic malignancies, hysterectomy, thoracic procedures, nasal, hernia, hip and knee replacement, perianal and dermoid disease. (Nick and Ramirez 2011).

Robotic surgeries allow surgeons to have an extended working life as issues previously faced due open surgery including wrist, shoulder or back problems are averted, thus reducing possibility of early retirement.

Slide 08

Sesay Rugiatu



The impact of modern technology introduced on Bupa Healthcare

Negative Impacts of Robotic Surgery

- Prospective mistreatment if robots' function as a substitute for human exchange thereby leading to loss of human interaction and loss of jobs (Tsui & Yanco 2007).
- Associated costs for initial purchase, maintenance and insurance reimbursement and additional training are costly. (Tsui & Yanco 2007)
- Inadvertent consequences may jeopardize patient's safety and increase patients' risk of complications as a result of inability to use the technology appropriately, prolonged operation period and difficulty to maneuver robot if swift alteration to open surgery becomes essential. (Randell et al 2016).
- Communication failure as a result of spatial configuration as the team lacks face to face communication can lead to adverse events, surgical errors, harmfully impacting the team's capability to compensate for a major event thereby compromising patient safety. (Randell et al 2016)
- Contribution to an increase in yearly greenhouse gas emissions (CO₂ emissions), smog, energy use, ozone depletion, acidification and respiratory impacts as a result of hysterectomy surgeries for example and produces more wastes especially disposable electronic devices (Thiel et al 2015)

Slide 08

Speaker notes

Robotic surgeries are operated by machines, this however will tend to replace professionals and staff as they will require a smaller number of medical professionals to conduct surgeries. As in the case of El Camino hospital in California, the administration is looking at firing up to 140 staff while investing intensely on robots (Quresh and Syed 2014).

In addition, the level and quality of personal relationships between the medical personnel and patient tend to decrease because of the loss of the human element in the use of robotic surgeries. These opinions create an obstacle for human-robot teams, connections, and extensiveness of robots in the medical and healthcare fields. (Tsui & Yanco 2007).

As a result of the sociotechnical coupling nature of performing robotic surgery, medical personnel may tend to use the technology differently from previously expected use by designers of this technology thus resulting in repercussions for patient's safety.

Three-dimensional alignment of the patient, surgeon and OT team is common in robotic surgery as the surgeon is functioning at a distance from the patient and the rest of the team making it harder for the team to hear the surgeons' oral instructions and impact surgeon's situation awareness.

This could hypothetically impact communication and decision making during robotic surgery. (Randell et al 2016) Extended operation times may lead to complications because of longer use of anesthesia. The higher costs of purchase, maintenance and running costs makes it difficult for an organization to acquire a group of devices difficult. (Platis and Zoulias 2014).

Slide 09
Carolina Nhongerayi



The impact of modern technology introduced
on Bupa Healthcare

Lesson's drawn from case study

Differences between traditional & modern technology

- Engaging with people more efficiently
- Empowering more people
- Aligning structures

Source: www.crforum.co.uk

Slide 09
Speaker notes

Bupa delivered a greater change in understanding of how people are feeling but more importantly how they can address areas of improvement, giving the right tools, resources & development to deliver a greater service.

They can now care for their patients even more efficiently comparing to when they did not have modern technology (Sullivan, 2019)

Slide 10
Carolina Nhongerayi



Source: [www.crforum.co.uk](https://www.bupa.com/corporate/jobs/our-people-in-health-and-care)

Slide 10
Speaker notes

Newly empowered health literate patients can take control of their own healthcare at the touch of a button or click of a mouse.

81% believe it is important to improve the quality of health advice available online.

Technology can have the ability to make objective assessments, freeing up the time for medical professions to focus on decisions that technology cannot understand. The separation of responsibility gives doctors a greater opportunity for more empathic conversations that empowers patients to understand better and control their own healthcare (Sullivan, 2019).

Slide 11
Carolina Nhongerayi



Source of image: Bupa(2020)

The impact of modern technology introduced on Bupa Healthcare

Consequences of not using modern technology in Bupa

- Less patient focus
- Difficulty to liaison with other organizations
- Challenges of accessing health information

Source: (Clark, 2015)

Slide 11
Speaker notes

I quote Dr Paul Zollinger Read (CMO, Bupa) he said 'healthcare has previously been structured around institutions, but digital is enabling us to switch focus to the individual. In addition, digital technology is helping to meditate the progression from treatment to prevention focused healthcare (Clark, 2015).

Thank you for listening to our presentation.

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