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PARLIAMENT & HEALTHTECH

ROBOTICS ROUNDTABLE

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ROBOTICS ROUNDTABLE

July 2023 Roundtable: Challenges to, and solutions for encouraging, the adoption of robotics in the NHS

The Parliament & HealthTech Robotics Roundtable brought key players in the sector together to discuss the current environment of robotic assisted surgery in the UK and the role robotics can play in tackling the ongoing challenges facing the NHS, namely the extensive elective recovery waiting list. The discussion explored the barriers to adoption of robotics in the UK and the steps that can be taken by the Government, the NHS and industry to increase adoption, transform care and resources available to the NHS and improve patient outcomes.

This report outlines the core issues raised at the roundtable regarding the use of robotics in the NHS, and concludes with an overview of solutions and recommendations highlighted during the discussion to drive efficiencies, resources and level of care.

ROBOTIC-ASSISTED SURGERY

Robotic-assisted surgery is a form of **minimally invasive surgery** that uses new equipment and technology to make smaller incisions during different operations. Surgeons can use 3D vision and other special instruments on the surgical robot for greater accuracy during surgery, and surgical robots can offer the benefits of minimally invasive surgery to more patients for a wider range of conditions, meaning **less pain and quicker recovery** after surgery.¹

CASE STUDY

Milton Keynes University Hospital saves 450 bed-days annually following adoption of Versius²

MKUH's decision to implement a RAS programme was driven by a desire to offer a minimal access approach to patients who would not have otherwise had access in order to improve patient outcomes and experience, and reduce cancellations in operations due to non-clinical reasons. In England, prior to the COVID-19 pandemic, around 1% of the 8 million yearly elective operations were cancelled at the last minute for non-clinical reasons, including lack of ward or critical care bed availability.

At MKUH, this translated to around 160 patients per year having their elective operations cancelled for non-clinical reasons. By partnering with CMR on the delivery of a multi-speciality Versius RAS programme, following the first 242 procedures with Versius, MKUH has **saved 450 bed days per year** – exceeding the anticipated saving of 175 bed days per year in the original business case. The programme includes multiple surgical specialties, including gynaecology,³ colorectal,⁴ and general surgery,⁵ with a complex patient population including a high proportion of obese patients.

MKUH saw particular success in gynaecological outcomes. Prior to MKUH's investment in a Versius RAS programme, in gynaecology, less than half of the 450 women requiring soft tissue surgery annually were offered a minimal access approach. MKUH was the first hospital to implement a Versius Gynaecology programme in Europe.

1. <https://healtheconomicsunit.nhs.uk/evaluating-robotic-surgery-in-the-nhs/>

2. <https://cmrsurgical.com/news/cmr-surgical-mkuh-case-study>

3. <https://cmrsurgical.com/versius/versius-for-gynaecology-surgeons>

4. <https://cmrsurgical.com/versius/versius-for-colorectal-surgeons>

5. <https://cmrsurgical.com/versius/versius-for-general-and-upper-gi-surgeons>

THE POTENTIAL FOR ROBOTICS IN TACKLING CHALLENGES FACING THE NHS

The adoption of robotic-assisted surgery is not only beneficial for patients, but it has the potential to help overcome several challenges facing the NHS today. Robotics can be used to carry out **complex surgeries** and reduce inconsistencies that can result in high mortality rates or comorbidities. Patients do not often suffer as many post-op complications and infections following minimally invasive robotic surgery.⁶ This can help **ease backlogs in the NHS** by reducing the physical strain on surgeons and decreasing the time patients spend in hospitals, or returning to hospital with follow-up appointments, allowing other patients to be seen sooner.

In addition to this, the use of a digital robot console links the craft of surgery with the modern electronic patient record, and provides data that can be used to understand a surgeon's performance, as well as **quality assure surgical procedures**, alongside patient recovery. This data can then be used for proficiency-based training feedback, which can help address workforce shortages, improve surgical ability and deliver high-quality care.

In terms of surgical training, the digitalisation of training through the use of robotics is a good path forward as it would enable novice surgeons to **improve their training and skills**, whilst keeping a low risk of complication to the patient. This will make it easier to train surgeons to a higher level, meaning a greater number of surgeons can be trained at pace in the workforce.

THE BARRIERS TO ADOPTION OF ROBOTICS IN THE NHS

Despite the aforementioned patient benefits brought by robotic-assisted surgery, and the potential for easing the strain on the NHS and tackling backlogs, there are a number of barriers preventing a uniform adoption of robotics in the NHS. The **lack of central planning** has resulted in an uncoordinated expansion of robotics throughout the NHS with **sporadic adoption** across different Trusts, resulting in gaps in the procurement and usage of robotics. Alongside this backdrop, there will be an **inequality of services** for patients in their access to robotic minimally-invasive surgical procedures, purely based on their geographic location.

In addition to a lack of central planning, no guidance or strategy from either Government or NHSE advising on the use of robotics raises many questions for Trust and clinical leaders, such as how to determine which specialties other than the commissioned ones should have robotic surgery and what the best way to integrate this into the current offering, to deliver the best service for patients.

In terms of **financial barriers**, the capital purchase and revenue is higher in robotics than it is for an established open procedure. Hospitals can have different priorities, and since robotics is expensive, Trusts that are struggling to finance performance are less inclined to adopt robotics. Furthermore, NHS Trusts with robotics tend to have more capital to spend, which raises the issue of financial differences between different Trusts and the level of care provided at each geographical location. There is also no requirement for Trusts to use robotics, and there are no incentives for Trusts to innovate.

6. <https://www.ucl.ac.uk/news/2022/may/robotic-surgery-safer-and-improves-patient-recovery-time>

WHAT NEEDS TO BE DONE TO ENCOURAGE THE ADOPTION OF ROBOTICS

To encourage the adoption of robotics within the UK healthcare system, there are several actions that must be taken by Government, NHSE and industry.

1 - A NATIONAL STRATEGY

Firstly, a **national strategy** should be implemented that provides an overview of what the adoption of robotics would look like across different specialties, as well as what should be done at a national, regional and local level. This goes alongside the need for a dedicated leadership team to help with the implementation and roll-out of robotics to help ensure greater coordination on the adoption of robotics, as well as provide guidance and advice.

2 - A RECOGNITION THAT ROBOTICS IS NOT UNIFORM

Important to a national strategy is also the recognition that robotics surgery is not one uniform thing, but that it is separate across different levels of care and has different benefits depending on what disease area it is focusing on. This may mean **separate guidance** is provided for different levels of care and disease areas to ensure both patients and clinics receive the full benefit of robotics. There also needs to be **greater collaboration** between NHSE and industry to consider what the total patient pathway impact will be when robotic-assisted surgery is adopted.

3 - STANDARDISATION OF SURGERY AND TRAINING

Surgery and training **standards need to be standardised**, particularly for robotics and minimally invasive surgery, in order to maintain a consistent high quality of care across the NHS, and training should be modernised, with the use of AI to support ability training. The provision of surgeons who are equipped with the skills and training to carry out robotic surgery goes hand-in-hand with ensuring the entire patient population are able to access minimally invasive robotic surgery. Alongside standardised training for surgical robotics, a more modern regulatory framework needs to be implemented that is better equipped for regulating the technology.

4 - TARGETED AREA OF INVESTMENT

Regarding the financing and funding of robotics, UKRI directs a lot of research and funding into digital health, but there should be a great adoption of robotics into this strategy. A **targeted area of investment** should be looking at how digital health can be expanded within robotics. There is a need to build on education and collaboration, as the more data that can be shared collaboratively across the supply chain and with academia can help with robotising the data. Finally, in clinical trials, the way evidence is gathered needs to be progressed and advanced in order to evolve with the technology on trial as well, as in randomised trials that take several years, the technology can become out of date.

FUTURE PLANS AND STRATEGIES FOR THE ADOPTION AND USE OF ROBOTICS

As part of the roundtable, discussion centred on some of the documents expected to be published in the future looking at the use and adoption of robotic-assisted surgery.

- **GIRFT** is looking to introduce a robotics strategy that develops a coordinated approach to the adoption of robotics, and is looking at how to introduce these pathways all across the NHS and UK.
- The **Royal College of Surgeons** is producing a guidance document on robotic assisted surgery and is looking into expanding and including more players in the market into the future documents.
- The **NHS** is expected to publish a document providing information on how to transition from an established surgeon to a robotics surgeon.

HEALTH TECH ALLIANCE

About HTA

The Health Tech Alliance is a coalition of health technology companies and stakeholders from across the NHS and wider health system. It exists to bring together members from industry and health organisations to conceive of feasible solutions and bring them to the NHS and Government.

Our ambitions



Accelerate innovation: Address the current market access and reimbursement obstacles that limit the take up of innovation.



Drive collaboration: Work with the NHS and other key health and care stakeholders to find tangible solutions to the current healthcare challenges.



Improve outcomes: Drive up the adoption of health technologies, devices and diagnostics that are proven to benefit patient outcomes and deliver cost savings to the NHS

Our members



AliveCor



AposTherapy



B BRAUN

Boston Scientific



Dexcom



firstkind
living science



INTUITIVE

GETINGE *

GLAUKOS
TRANSFORMING VISION

iRhythm



Johnson & Johnson

LivaNova
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NORDIC

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If you are interested in learning more about our organisation, please contact secretariat@healthtechalliance.uk

