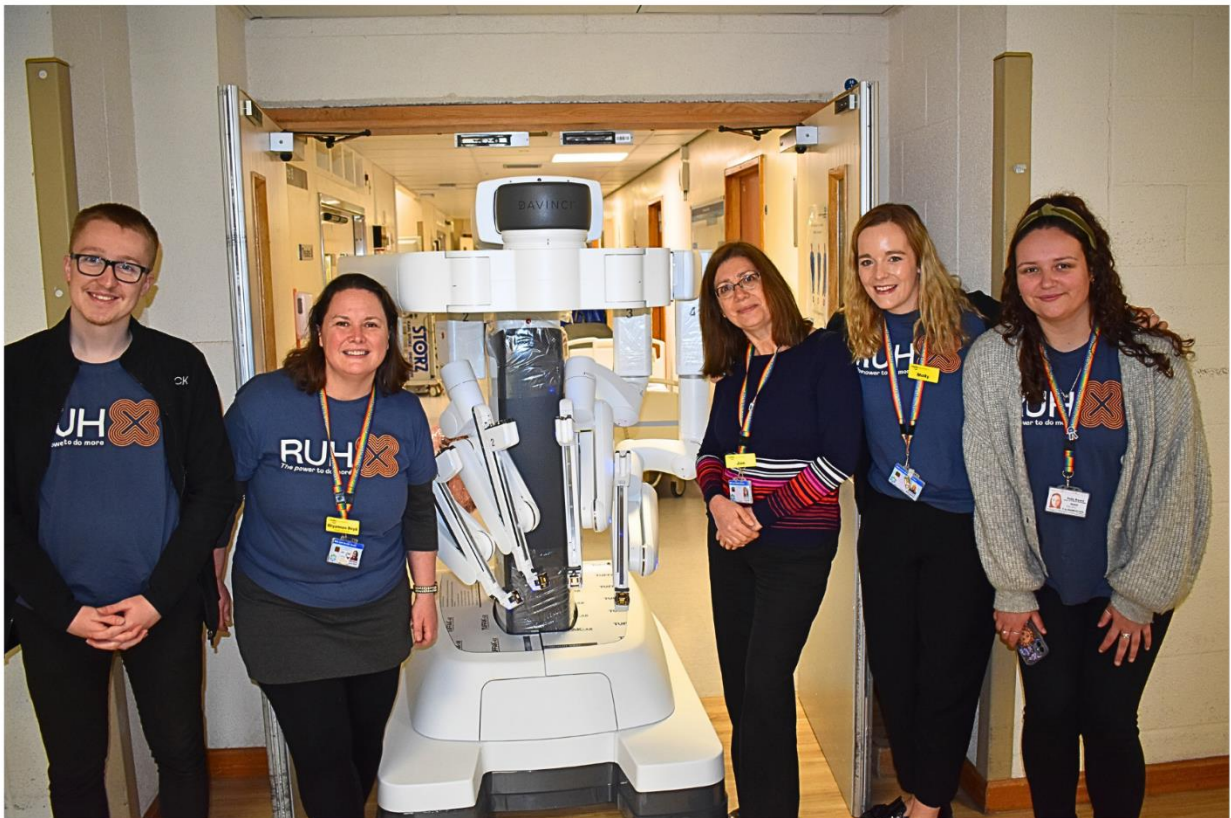


Request for support from
Arcobaleno Cancer Trust

Transforming lives through Robotic Assisted Surgery at Royal United Hospitals Bath (RUH)



Molly Braham
Partnerships Officer
molly.braham@nhs.net
07824836655 / 01225 825900

Executive Summary

RUHX, formerly known as The Forever Friends Appeal, is the official NHS charity of the Royal United Hospitals Bath NHS Foundation Trust (RUH), registered charity No. 1058323. Since launching in 1999 we have contributed £36 million towards improving healthcare provision for over 500,000 people across a range of socio-economic communities in South Gloucestershire, West Wiltshire, Bath and North East Somerset, including isolated rural areas.

We go further to give every patient the extra extraordinary care they deserve, while supporting our 5,000 members of staff to do what they do best and furthering innovation within our hospitals. We are out there in our community, collaborating with the people and organisations who drive real change and we are making sure that every penny we raise goes towards improving health, happiness and wellbeing for everyone in Bath and beyond.

Our aim is to advance healthcare at the RUH. Through extraordinary commitment and exceptional generosity of our fundraisers and donors we provide exceptional care for patients, improving on the already incredible work of the NHS. Most notably:

- In 2010 we raised £6.1m to develop our pioneering and global award winning Dyson Neonatal Intensive Care Unit (NICU) transforming the delivery of care for 500 premature and sick babies each year.
- In 2018 we raised £2m towards our RNHRD (Royal National Hospital for Rheumatic Diseases) and Therapies Building, designed with staff and patients in mind.



RNHRD & Therapies Centre



Dyson Cancer Centre

In 2021, we completed a £10m capital campaign for our new Dyson Cancer Centre set to open in the new year. This pioneering new building will bring the majority of the RUH's cancer services, including research teams, under one roof and will be a hub for 500,000 people in the South West. The expectation will be that as a leading provider of cancer services, the RUH will be able to offer a wide range of up-to-date treatment options. To provide the best possible outcomes and care for our cancer patients, it is necessary for us to take the next step in an evolutionary journey and include Robotic Assisted Surgery (RAS) in our future vision.

A robotic surgical system will benefit over 400 patients a year, giving them access to minimally invasive surgical options in the heart of their community. With this being the fastest, safest and most precise form of surgery used today, RAS offers a plethora of benefits over traditional surgical methods, such as causing less damage to surrounding tissue and nerves, whilst drastically reducing a patient's hospital stay and their risk of infection.

Bath and North East Somerset, Swindon and Wiltshire (BSW) was, until recently, one of the few remaining integrated care systems (ICS) in the country without robotic provision; this meant we were at a significant risk of being left behind as RAS continues to be implemented at pace in the NHS. Combined with the current financial climate, the decision was made in March 2023 to invest in a Da Vinci Xi Robot and Dual Console System. A partial payment to our supplier was made and a financial agreement set out to complete the purchase by the end of March 2024. We have secured £1.75 million towards this project so far, leaving a further £550,000 to fundraise to cover the cost of the project in full.

Failure to adopt robotics locally will not only affect our patients and population adversely but also threatens the sustainability of our surgical workforce and services. This means the RUH has limited time to respond before we fall further behind trends in surgical practice and importantly surgical training.

To address overwhelming needs for improved care and outcomes for cancer patients in Bath and beyond, we would like to request the support of Arcobaleno Cancer Trust with a gift of £5,000 which will help to fund a top of the range Da Vinci Xi Robot and Dual Console System.

The need

Each year over 400 of our patients face long surgical recovery times due to outdated surgical methods. For example, where prostate cancer surgery is almost exclusively delivered robotically in the UK, the RUH is within the last 2% of hospitals nationally to still undertake this procedure laparoscopically (keyhole surgery).

Before the pandemic, the RUH was consistently enabling more than 80% of patients to begin their cancer treatment within 62 days. This performance has been challenged more recently due to a combination of growing demand and reduced capacity during COVID. The Trust is currently experiencing an 8% growth in demand for cancer appointments. Reducing cancer waiting times remains a priority for 2023/24, in respect of both diagnostics and treatment, and in preparation for the opening of the Dyson Cancer Centre. With the help of a surgical robot, we can help transform the experience of surgery for hundreds of patients every year. This new technology will enable our patients to get home quicker, subsequently freeing up hospital capacity, which will reduce waiting time and cancellations, all whilst easing the pressure on surgeons with shorter procedures that are less physically demanding to carry out.

“Robotic surgery will play a pivotal role in reducing patient waits for surgery as we go forward”.

Professor Stephen Powis, Medical Director, NHS England

There are a number of RUH patients who currently opt to travel to areas outside of the Bath and North East Somerset, Swindon and Wiltshire Together (BSW) integrated care system (ICS), such as the West Midlands or Oxford for robotic surgery and approximately 10 urology patients are referred to North Bristol Trust each year to undergo robotic prostatectomy. Bringing RAS to the RUH presents a great opportunity for our patients by giving them the option to access robotic surgery in their local area. It will reduce travel time for patients and improve access to services, which is an important step towards tackling health inequalities.

“Robotic assisted surgery (RAS) represents an important step forward for the RUH and will allow us to extend the benefits of minimally invasive surgery to a greater proportion of our patients whilst enabling us to do more radical surgery more safely”.

Dr Marc Bullock, Consultant Colorectal and Minimally Invasive Surgeon

The benefits of robotic-assisted surgery

Robotic Assisted Surgery (RAS) allows surgeons to see up close and in ultra-high definition the area they will be operating on, using a monitor to televise real-time 3D images. Surgeons operate by controlling a series of precision instruments mounted on robotic arms that move independently from the main robot. These fit through ‘key-hole’ incisions and move like the human hand but with a greater range of angulation and rotation. This means surgeons can operate on several different areas of the body at once, which is often needed when dealing with advanced cancers.

Unlike laparoscopic surgery, RAS gives the operating surgeon complete control over the surgical environment. Coupled with a magnified 3D view inside a patient and highly tractable instruments, it is possible to achieve more measured and precise dissection. This in turn permits surgery to be performed even in highly complex clinical situations (e.g. patients with a high BMI where some gynaecological procedures are technically difficult due to restricted access), further reducing health inequality across patient groups.

“Where we perform operations using the Da Vinci Xi robot, patients recover much quicker. They are able to go home after a day, instead of a week. If you compare robotic surgery to open surgery, there is less pain after surgery, and usually less blood loss as well. The patient is usually back to normal after 2 to 4 weeks depending on previous fitness levels. With open surgery, this is more likely to be 6 to 8 weeks. I would say on average, women lose 500mls of blood during open surgery, whereas with robotic surgery this is usually less than 50ml – so a lot less! Just incredible machines.”

Dr Ellen Nelissen Gynaecological Oncology Consultant

The Royal College of Surgeons has identified RAS as one of the key technologies that will deliver the greatest impact for our patients. There are more than 34,000 independent studies that suggest RAS can produce better patient outcomes in both the short and long term, compared with 'open' surgery involving a large incision into the abdomen. Incisions made using robotic surgery are much smaller, thus minimising scarring, pain and discomfort. Patients can be discharged from hospital within a matter of days not weeks, allowing a quicker return to work and a reduction in negative financial, social and mental health impacts.

"During my dad's surgery, he had the cancer, his prostate and lymph nodes removed. The Da Vinci aided the accuracy of the surgery and amazingly he returned home the day after. Within weeks he was able to get out and about and 3 months later was able to travel to the UK to visit his family".

Rhyannon Boyd, Head of RUHX

Whilst there are a number of benefits to patients, it is also worth noting the significant improvements RAS will bring to the physical comfort of our surgeons. With traditional open surgery, surgeons are often forced to lean or stoop with arms stretched at awkward angles often for hours at a time during complex procedures, often resulting in repetitive strain injuries. By contrast, surgical robots are built ergonomically and the surgeon's hand movements are mirrored in the movements of the instrument.



Rhyannon's parents

"I no longer need to stand up in awkward positions for six hours or so at a time. In fact, yesterday was the first time in a long time I have gone home after an operating list and not just wanted to flop on the sofa".

Dr Marc Bullock, Consultant Colorectal and Minimally Invasive Surgeon

The high-level benefits of robotic assisted surgery through the lens of patients, service, system and population

Patients

- ✓ Improved oncological outcomes and cancer specific survival
- ✓ Reduction in complications, pain, blood loss and infections
- ✓ Improved effectiveness, reduced operating time and less likelihood of surgeon error
- ✓ Reduced likelihood of conversions to open surgery and readmission rates
- ✓ Shorter recovery time and reduced length of stay
- ✓ Quicker return to work/normal activity
- ✓ Preservation of function and improved quality of life

Service/workforce

- ✓ Upskilling and retaining existing staff and attracting high quality surgeons
- ✓ Research, training and development opportunities
- ✓ Improved physical comfort for surgeons and reduction in repetitive strain injury
- ✓ Increased service sustainability
- ✓ Shorter learning curve than laparoscopic, meaning surgeons are independent quicker

Benefits

System

- ✓ Development of training programmes and posts in collaboration with University of Bath
- ✓ Reputational benefits for the RUH
- ✓ Increases recruitment and retention of staff
- ✓ Opportunity to share learning
- ✓ Maintaining specialist services locally and increasing patient choice
- ✓ Repatriation of activity back into the RUH

Population

- ✓ Reduces inequalities through increasing cohort of potential patients able to undergo surgery
- ✓ Opportunity to reduce travel time for patients currently travelling out of area
- ✓ Ensuring robotic surgery is available and accessible for our community

Training the next generation of surgeons in robotic surgery

The RUH currently performs approximately 408 complex laparoscopic or open procedures a year that would benefit from moving to a robotic platform. To make this change we 'need' only one console. However, to successfully train others and achieve our strategic ambition of becoming an accredited training centre and 'Robotic Centre of Excellence' we require one of the most advanced pieces of technology available, the Da Vinci Xi Robot and Dual Console System, from Intuitive Surgical.

"The Da Vinci Xi Dual Console will undoubtedly set us apart as a training centre, maximising learning opportunities for surgeons of the future, whilst maintaining quality and minimising surgical risk. It's a game-changer for our hospital".

Dr Marc Bullock, Consultant Colorectal and Minimally Invasive Surgeon

The Da Vinci Xi Dual Console is a powerful teaching tool that enables tandem surgery and training. Surgeons can sit next to their trainees on separate consoles and swap the control of the robotic instruments, immediately at any time. Even though they are physically at a distance, they are always in communication through the microphone system of the consoles. The surgeon can annotate the anatomy on screen, mimic the actions they want the trainee to follow and then hand control over to them to perform the procedure themselves. The Dual Console teaching method is, therefore, time efficient and allows for essential ‘hands-on’ learning.



Surgeon & trainee on dual console

“Intuitive are currently the largest provider of robotic-assisted surgical technology to receive The Royal College of Surgeons accreditation in recognition of outstanding surgery-related education. This is an internationally recognised hallmark of quality and gives assurance to the RUH and to patients that training on this technology is being provided in a safe and standardised approach globally”.

Dr Marc Bullock, Consultant Colorectal and Minimally Invasive Surgeon

Our capacity to deliver over 400 robotic surgeries a year presents us with a unique opportunity to play a leading role in the training of surgeons with robotic skills which will have a wider benefit as the use of robotic surgery continues to develop. The investment of the Da Vinci Xi Dual Console includes access to a whole spectrum of online virtual reality training modules (approximately 25-30 hours), including basic skill hand-eye coordination, using the technology effectively to carrying out full length operations. To have access to the simulation on-site enables the trainee to gain confidence using the system, without having to travel to robotic training centres and means they remain available to assist in emergency situations. Unlimited, repetitive practice helps to standardise training, with the aim of increasing patient safety.

“The ability of the Da Vinci system to record and track progress including how efficiently the trainees’ hands move, whether they are using too much or too little force or whether they have caused unnecessary bleeding is important to support learning over time and manage skills development”.

Dr Jon McFarlane, Consultant Urologist



Hands-on training opportunities

The ‘My Intuitive App’ gives trainees the ability to view operational data and download performance scores during their training, thus allowing them to analyse trends, track their learning and share data with mentors to review and learn from. The learning curve for robotic surgery is said to be shorter overall and has been shown to be less mentally stressful than for laparoscopic surgery. With the ability to train our staff locally and give them access to perform their theatre list on RAS, we can support the continuation of skills development, which in turn, will positively impact retention of staff and service sustainability whilst increasing the amount of robotic surgery we are able to offer to cancer patients across Bath and beyond.

Figure 1 – The RUH is a busy medium-sized provider of secondary care and some specialised services

Our impact and achievements

RUHX supports 500,000 adults and young people across both urban and rural areas of Bath, North East Somerset, North and West Wiltshire, Mendip and South Gloucestershire. In addition to our core local population, we also support people visiting our area, including tourists, students and overseas visitors.

The charity was established in 1999 and has secured over £36m towards projects that go above and beyond what the very finite resources of the NHS can provide alone. At RUHX we are more than a hospital charity. We are dedicated to putting the ‘extra’ in extraordinary care for everyone who needs it – whether that means funding innovative new technologies or collaborating with groups tackling health inequalities. We are supporting our 5,000 members of staff to



do what they do best, taking care of the people who take care of our community. We are helping people to live healthier, happier lives, reducing the pressure on our hospitals by empowering positive change. And we are working closely with community partners to ensure the most positive future for all in Bath and beyond.

Examples of the difference we make

In 2011, with the support of our generous donors we raised £6.1m to open 'The Dyson Centre for Neonatal Care' (NICU) in which the RUH can care for over 500 premature and sick babies. This ground-breaking facility is internationally recognised for its design, sustainability and holistic approach to healthcare.

"In 2020, we were awarded Unicef's prestigious Baby Friendly accreditation, one of only six neonatal units in England and Wales to achieve the accolade. This was presented to the unit in recognition of its work to protect, promote and support breastfeeding while strengthening mother-baby and family relationships".

Kirstie Flood, Senior Sister, Dyson Centre for Neonatal Care

We have also raised £10m towards our state-of-the-art Dyson Cancer Centre, a hub for 500,000 people in the South West. This pioneering new building together with our close partnership with Macmillan Cancer Support will help transform the care we provide for patients, families and carers and provide a nurturing and therapeutic environment, reducing stress and anxiety and promoting health and wellbeing.



Dyson Neonatal Intensive Care Unit (NICU)

Partnerships



The RUH, in partnership with local universities and colleges, plays a major role in education and research. We are recognised as one of the most research-active medium sized acute Trusts in the country. We host Bath Academy as a teaching hub for Bristol University Medical School, supporting the education and training of nearly 400 medical students, equating to 9,000 student weeks, per year.

We have a long-standing collaboration with the University of Bath to improve cancer patient outcomes through fostering links between Bath's scientists and clinicians. Projects range from developing novel technologies for early cancer detection, to lifestyle intervention studies. We are expanding our offering to include training of the highest of standards in RAS, designed to train the next generation of surgeons, empowering them to become tomorrow's leaders.

Partnering with a Top 10 University which has molecular oncology and medical engineering centres of excellence, will undoubtedly bring significant opportunities to the RUH in terms of attracting the highest calibre of people. Surgeons from around the world are among those who will take advantage of the training and research opportunities on offer at the RUH. The purchase of the Da Vinci Xi robot and strong collaboration with the University of Bath cements our commitment to remain relevant and protect the hospitals' excellent reputation and further supports our vision of being a recognised centre of excellence for robotic treatment, training and research.

"There are plans to use the robot in research studies that look specifically at patient quality of life, surgical training, longevity, expertise of the workforce and training, as well as in more traditional areas such as molecular oncology".

Dr Marc Bullock, Consultant Colorectal and Minimally Invasive Surgeon

The Da Vinci Xi Dual Console will be a key catalyst when it comes to facilitating interaction between academics, clinicians, students and others with an interest in cancer. The new technology will enable us to promote opportunities for collaborative interdisciplinary research combined with clinical activity that will, in turn, support the NHS in improving outcomes and productivity. This will not only ensure delivery of innovative and efficient high-quality patient care but will help us achieve status as an employer of choice, supporting our recruitment and retention capabilities and ensuring future service sustainability.

Robotic surgery first at the RUH

The first ever robotic colorectal surgery to be performed at the RUH using the new Da Vinci Xi robotic system was successfully completed on 13 June 2023. Since bringing this life-changing technology to the RUH, many more patients have benefited from the latest technology with robotic surgery often performed multiple times a day across three specialities: gynaecology, urology and colorectal. The Trust carried out its first gynaecology oncology and radical prostatectomy surgeries at the beginning of July this year. This is a fantastic milestone in our robotic surgery programme and means that the RUH now has a number of specialities that can operate on the people it cares for with greater precision and perform complex procedures with minimal access, while ensuring the highest levels of patient safety.

RUH Surgeries team



The expense of maintaining a robotic platform reduces with increasing caseload, thus we recognise the importance of fully utilising this pioneering technology. Experience from other robotic centres shows a financial breakeven point with a workload of over 300 cases per year. Current estimates show that we will greatly exceed this level of activity with 408 procedures that would initially be appropriate to move to a robotic platform. The life expectancy of the Da Vinci Xi Robot is on average a minimum of 10 years, meaning we can continue to bring minimally invasive surgery to many more patients and retain a leading role in patient access to innovation for many years to come.

"I'm delighted that we can now offer robotic surgery to even more of the people we care for and I'm so proud of our teams who have worked tirelessly to make this happen. The fact that we have this cutting-edge technology is not just great news for our community, but everyone who works in our surgery teams – both now and in the future."

Cara Charles-Barks, RUH Chief Executive.

Case Study

Suzanne was the first patient to undergo robotic assisted surgery at the Royal United Hospitals Bath. Her operation was carried out on 13 June 2023 by Colorectal surgeon Dr Marc Bullock.

Talking about her surgery, Suzanne said: "I was delighted to be told I was going to be the first patient to have received robotic surgery at the RUH. It meant I could have my operation a lot quicker than what was being offered via the traditional route of open surgery. I had, in fact, arranged to have the surgery done privately in Bristol because I thought the waiting time would be less but then the option to have robotic surgery at the RUH was suggested. This was a real bonus as it meant I could be much closer to home.



Suzanne, RUH patient

My mother died of bowel cancer so I was feeling very anxious before meeting with Dr Marc Bullock who reassured me completely. He went through all of the benefits of robotic surgery vs open surgery and he told me how he would use the robot in my operation. I felt very comfortable with what was going to happen.

Dr Marc Bullock phoned me a week after the operation to see how I was doing. He asked me if it was a good time to speak and I said yes it was but that I was actually on the golf course. I wasn't playing golf but I was driving the buggy for my husband. It was only a week after the operation!

I was advised if I went the traditional route of open surgery I would be in hospital for about four to five days after the operation but I was painting doors within a few days and on the golf course within a week.

I've got two incisions that are about an inch long and I've got a few tiny holes that really don't bother me, I am just grateful to know that I have had the operation and that I am fit and healthy. What I would say to anybody waiting for surgery is that if you get the opportunity to have it done robotically then do so".

"There wasn't really any pain. My recovery has been excellent, I had my operation on the Tuesday morning and I was back home by Friday evening, just three days I couldn't believe it!"

Suzanne, first patient to undergo robotic assisted surgery at the RUH

Current Funding Position

Due to the current financial climate the decision was made in March 2023 to invest in the Da Vinci Xi Robot and Dual Console System in order to save the charity £250,000 (a cost increase was expected on 1 April 2023) and secure a promotional benefits package worth £243,250.

A partial payment (£1m) to our supplier was made and a financial agreement (0% interest is applied to the payment schedule) set out to complete the purchase by the end of March 2024.

We have secured £1.85 million towards this project so far and we have a further £450,000 left to fundraise to cover the cost of the project in full.

In committing to purchase the robot in March 2023, we ensured that:

- Our patients had access to cutting-edge treatment and better outcomes much sooner
- The RUH's position as a leading institution in robotics including training surgeons was advanced imminently.
- We are retaining and attracting the very best new surgical talent, while making procedures more comfortable and safer for our surgeons in the long-term.



Dr Marc Bullock greeting the robot on it's arrival!

Cost breakdown

The total cost of the Robotic Surgery Campaign is £2.3million. The cost breakdown is as follows:

Da Vinci XI Robot	£1,849,000
Specialist Tilt Table	£102,531
Other equipment	£76,566
Training costs	£64,800
Sterile Services set-up	£207,103
Total	£2.3million

Our request

We would like to request the support of Arcobaleno Cancer Trust with a gift of £5,000 which will help to fund a Da Vinci Xi Robot and Dual Console. This will enable us to fulfil our commitment to ensuring that across the RUH we have the infrastructure, technology and capability to offer the surgeons that practice with us, and the patients we care for, access to the latest in innovation and the breadth and depth of treatment options to support their individual needs. Thank you for taking the time to consider our request.

To watch our 'Robotic surgery at the RUH' campaign video please visit:

<https://youtu.be/HM9arM86mu0>