



A lifetime of specialist care

Royal Brompton & Harefield **NHS**

NHS Foundation Trust

Annual Review

2019





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Introduction from the chair and chief executive

We are pleased to present this annual review. It reflects a year that has seen the Trust's commitment to excellence in patient care recognised across many platforms.

In its 2018 inspection of our services, the Care Quality Commission (CQC) awarded a rating of 'Good' and identified several areas of outstanding practice; recognising our "systematic approach to continually improving the quality of services, and safeguarding high standards of care by creating an environment in which excellence in clinical care flourishes".

Commending our clinical teams for the compassion shown to patients, the CQC reported that: "Feedback from patients confirmed that staff treated them well and with kindness...staff involved patients and those close to them in decisions about their care and treatment...and provided emotional support to minimise their distress".

Three of the four core services inspected were rated good (Children's and Young People's Services, Critical Care and Surgery at Royal Brompton Hospital) and one, Surgery at Harefield Hospital, was rated outstanding.

The Trust's ECMO service for adults with severe acute respiratory failure (SARF), was highly praised at the Extracorporeal Life Support Organisation (ELSO) awards for Excellence in Life Support. Harefield Hospital was presented with the silver award, and Royal Brompton Hospital received the prestigious platinum award. This certification is the highest distinction given by ELSO, and Royal Brompton was the only centre in England to achieve it.

Several of our talented colleagues were recognised for their expertise and clinical leadership.

Professor Anita Simonds, consultant in respiratory and sleep medicine at

Royal Brompton Hospital and Professor of respiratory and sleep medicine at Imperial College, was elected President of the European Respiratory Society (ERS). ERS brings together physicians, healthcare professionals, scientists and other experts working in respiratory medicine. It is the largest respiratory society in the world – covering not only Europe, but forging strong global links, particularly across Asia and Australasia.

Dr Nick Hopkinson, honorary consultant chest physician at Royal Brompton Hospital and reader in respiratory medicine at Imperial College, was appointed medical director of the British Lung Foundation (BLF). The Trust has close links with the BLF – the leading national umbrella charity that funds research into, and supports people affected by, lung disease.

Dr Sonya Babu-Narayan, consultant cardiologist at the Trust and clinical senior lecturer at Imperial College, was appointed associate medical director for the British Heart Foundation (BHF). The BHF funds over £100 million of research each year into heart and circulatory conditions.

Many others were recognised by professional associations, medical colleges and national charities.

But our clinicians are not motivated by accolades. Across both our sites, talented teams of doctors, nurses and allied health professionals strive every day to offer patients the very best specialist care that is available, anywhere in the world.

This year saw pioneering innovation in minimally-invasive heart valve surgery at Harefield Hospital transform the lives of patients. Using a small 6cm incision between the ribs, minimally-invasive techniques mean a quicker recovery time with many patients

returning to work within four weeks. Traditional aortic valve surgery entails cutting through the chest with an incision of up to 30cm, and a recovery time of up to six months.

At Royal Brompton, doctors have treated the largest number of premature babies in Europe with pioneering catheter interventions. Babies with patent ductus arteriosus (PDA) – a life threatening congenital heart defect – have benefited from a new procedure that takes just 20 minutes and avoids the need for open heart surgery, a complex procedure in tiny babies. Babies were referred by 20 different neonatal intensive care units across the country, as the Trust is the only centre in the UK to have a specialist referral team.

Our experts joined forces with the west London cancer alliance, hosted by cancer centre The Royal Marsden, to diagnose patients with lung cancer earlier, by using mobile CT scanners in the community. They recruited 2,284 patients to over 200 research programmes that will contribute towards better patient care and outcomes. They were awarded funding from the National Institute for Health Research Invention Innovation (i4i) Programme to study how artificial intelligence can diagnose a rare inherited lung condition, and launched the UK's first international postgraduate course in heart failure; and received a 95 per cent recommendation score in the annual Friends and Family Test.

So it is not news to us that we have some of the most talented, skilled and committed teams in the NHS within our Trust. We know that clinical leadership is vital if we are to move forward and continue to break new ground in treatment and research, and it is particularly encouraging to see the enthusiasm shown by clinical colleagues for our planned collaboration with King's Health Partners (Guy's and St Thomas' NHS



Our clinicians join teams from King's Health Partners to discuss how best to work together



Patients describe what they would like to see in a new partnership

FT, King's College Hospital, South London and Maudsley NHS FT, and King's College London University).

We already work closely with colleagues at Guy's and St Thomas' in particular, and over the past 12 months it has become apparent that there is a very real appetite among clinical teams to investigate closer ways of working. Although central to our vision is the development of a new purpose-built clinical academic facility on the St Thomas' Hospital and Evelina London Children's Hospital site, which will take around 10 years to complete, clinical and research links with colleagues across King's Health Partners are growing stronger by the day, with joint clinics and services developing in several areas.

We are confident that the greatly enhanced opportunities that this collaboration offers, and the strength of our brand, will attract clinicians and researchers from other countries to this new hub of expertise and opportunity. Training and education opportunities, in particular, will be world-leading, supporting not only recruitment but retention.

Being part of a wider network will provide the opportunity to do things differently, to design new models of care using the best of the best from each partner organisation. Working as one team, at scale, our combined capability will place us in the global top five for world-leading heart and lung research and personalised care.

Baroness Sally Morgan
Chair

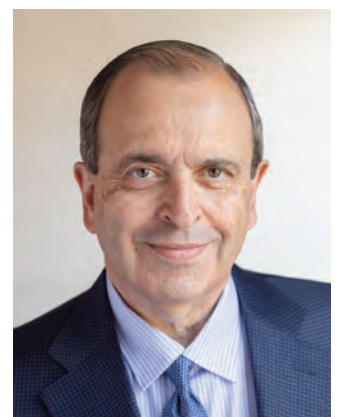
22 January 2020



Our plans will take time to develop and deliver; transformation on this scale requires detailed planning and engagement. But whatever else changes in the environment around us, it is patients who remain our focus, and our commitment to them will continue to guide everything that we do.

Bob Bell
Chief executive

22 January 2020





About us

Royal Brompton & Harefield NHS Foundation Trust is the largest specialist heart and lung centre in the UK and one of the largest in Europe.



The Trust is a partnership of two hospitals – Royal Brompton in Chelsea, West London, and Harefield, near Uxbridge – which are each known throughout the world for their expertise, standard of care, and influential research.

We are a specialist trust, providing treatment for people with heart and lung disease only. This means our doctors, nurses and other healthcare staff are experts in their chosen field, with many of them moving to us from around the world so that they can develop their skills even further.

We carry out some of the most complex surgery and offer some of the most sophisticated treatment that is available anywhere in the world.

Our fetal cardiologists can perform scans at just 12 weeks, when a baby's heart valve is just over a millimetre in size, and our clinical teams regularly treat patients well into their 90s and help them maintain a good quality of

life. Over the years our experts have been responsible for major medical breakthroughs including performing the first successful heart/lung transplant in Britain, implanting the first coronary stent, founding the largest centre for cystic fibrosis in the UK, and pioneering intricate heart surgery for newborn infants.

We treat patients from all over the UK and other countries, many of whom are unique in their medical needs, and demand for our services continues to grow year-on-year.

By recruiting the best clinical and non-clinical staff and investing in their development, we maintain our position as the leading UK provider of respiratory care and a national leader in the specialist areas of paediatric cardiorespiratory care, congenital heart disease and cystic fibrosis.

We work closely with academic and industry partners to play a leading role in pushing forward the boundaries of

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Our values guide and support every decision we make to ensure our care is safe, of the highest quality and available to everyone who needs it.

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medicine through research, and by sharing what we know through teaching, we can help patients everywhere.

Our values (page 9) guide and support every decision we make to ensure our care is safe, of the highest quality and available to everyone who needs it.

Professor Tim Evans

Professor Tim Evans, former medical director, deputy chief executive and director of research, passed away in November 2018. The news of his death was greeted with immense shock and sadness throughout the Trust.

Chief executive Bob Bell paid tribute to a greatly missed colleague who was also a mentor, an inspiration and a friend to many.

"As a physician Professor Evans was respected throughout the world and was a major driver in the maturation of critical care as an independent specialty in the UK, through influences at Royal College level, the Intensive

Care Society, and more recently and importantly in founding the Faculty of Intensive Care Medicine.

"A large number of doctors in critical care the world over have been influenced by him. Some rotated through Royal Brompton's adult intensive care unit or respiratory medicine division, some had the benefit of him as research supervisor. Many of them have gone on to have successful careers in the UK and internationally, counting him as one of the most important influences in their lives.

"Professor Evans won many accolades for his clinical expertise. His interest in acute lung injury and acute respiratory distress syndrome, ARDS, which started in the mid-1980s, led to him rapidly becoming a world authority in ARDS. Research collaborations which followed were the start of Royal Brompton's role as a national referral centre for severe acute lung failure



Professor Tim Evans, former medical director, deputy chief executive and director of research of the Trust

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Put simply, men like Professor Tim Evans come along once in a generation.

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and the reason why the Trust is now a major ECMO (extracorporeal membrane oxygenation) centre.

"The respect of his peers pales into insignificance when compared to the regard in which Professor Evans was held by his patients. The relationship he had with many of his 'long-term' patients was the envy of colleagues.

"It was this genuine focus on patients that, in my view, made him such a brilliant medical director. Tim would never compromise on putting patients first and providing safe and high-quality care.

"It is difficult to summarise the immense contribution he made to the Trust: his clinical expertise and leadership, his passion for research and education, the significant contribution he made over several years on the Trust Board and other management bodies. He was also a highly valued and popular Trustee of the Royal Brompton & Harefield Hospitals Charity.

"Put simply, men like Professor Tim Evans come along once in a generation."

Our vision and values

Our vision is to be the UK's leading specialist centre for heart and lung disease, developing services through research and clinical practice to improve the health of people across the world.

The Trust will achieve this vision by:

- improving patient safety and satisfaction
- providing world class specialist treatments that others cannot offer
- bringing innovation to clinical practice through our research partnerships
- attracting, developing and retaining world class clinical leaders
- investing in services, technologies and facilities to support new service models at both sites.

We are supported in this by active patient and community groups that enthusiastically encourage and challenge us to deliver our goals.

Our values

At the heart of any organisation are its values: belief systems that are reflected in thought and behaviour. When values are successfully integrated throughout an organisation, the result is a shared outlook and consequent strength, from performance through the style of communications to the behaviour of employees.

Our values were developed by staff for staff. We have three core patient-facing values and four others which support them.

Our three core values are:

We care

We believe our patients deserve the best possible specialist treatment for their heart and lung condition in a clean, safe place.

We respect

We believe that patients should be treated with respect, dignity and courtesy, and that they should be well informed and involved in decisions about their care. We always have time to listen.

We are inclusive

We believe in making sure our specialist services can be used by everyone who needs them, and we will act on any comments and suggestions which can help us improve the care we offer.



And the following values support us in achieving them:

We believe in our staff

We believe our staff should feel valued and proud of their work and know that we will attract and keep the best people by understanding and supporting them.

We are responsible

We believe in being open about where our money goes, and in making our hospitals environmentally sustainable.

We discover

We believe it is our duty to find and develop new treatments for heart and lung disease, both for today's patients and for future generations.

We share our knowledge

We believe in sharing what we know through teaching, so that what we learn can help patients everywhere.

A photograph of two surgeons in an operating room. They are wearing blue surgical caps, masks, and red scrubs. One surgeon is holding a surgical instrument, and the other is pointing at a monitor. The background is slightly blurred, showing medical equipment and a clean clinical environment.

CQC report: good overall with some excellent highlights

The Trust won praise for excellence in clinical care and compassion for patients, in a report by the health regulator.



In its 2018 inspection of our services, the Care Quality Commission (CQC) awarded the Trust a rating of 'Good' and identified several areas of outstanding practice.

The CQC recognised our "systematic approach to continually improving the quality of its services and safeguarding high standards of care by creating an environment in which excellence in clinical care would flourish."

Commending clinical teams for the quality of specialist care they provide and for the compassion shown to patients, the CQC reported that:

"Feedback from patients confirmed that staff treated them well and with kindness...staff involved patients and those close to them in decisions about their care and treatment...and provided emotional support to minimise their distress."

Three of the four core services inspected were rated good (Children's and Young People's Services, Critical Care and Surgery at Royal Brompton Hospital) and one, Surgery at Harefield Hospital was rated outstanding. Overall, the Trust was rated safe, effective, caring, responsive and well-led.

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The CQC recognised our "systematic approach to continually improving the quality of its services and safeguarding high standards of care."

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Trust **chief executive Bob Bell** welcomed the CQC report

"This remains an impressive and well-deserved achievement, especially for the surgery teams at Harefield Hospital which were commended for their approach to a number of issues around safety, culture and innovation. I am pleased that their continued commitment to providing exceptional care for patients was recognised in this way.

"'Outstanding practice' was also identified in Critical Care and Children's and Young People's services at Royal Brompton Hospital. Overall, the Critical Care team: 'demonstrated excellent multidisciplinary working practices which enabled collaboration in improvement projects and enhanced patient care,' and the accredited intensive care course for nurses was praised for enabling 63 per cent of nurses to gain the qualification, significantly exceeding national guidance.

"It was a similar story for Children's and Young People's services: 'The service went above and beyond for its patients and patient families; there was clear evidence of research, innovative and outstanding practice; staff spoke very



Surgery at Harefield Hospital was rated outstanding

highly of the culture of the service and the staff survey results were consistently high for workplace satisfaction.'

"It was clear to the CQC that we are an organisation that steadfastly prioritises

one thing above all else; delivering the best possible specialist care. Whatever else changes in the environment around us, patients will remain our focus, and our commitment to them will guide everything that we do."



Performance and achievements

During 2018/19 we:

Cared for more than **210,000 patients** in our outpatient clinics.

Cared for nearly **40,000 patients** of all ages on our wards.

Maintained one of the **fastest arrival to treatment times** for UK heart attack patients – **23 minutes** compared with a national average of 56.

Received **more than 1,000 patient referrals** for our pulmonary rehabilitation programme at Harefield Hospital.

Received a **95% recommendation score** in the annual Friends and Family Test.



Reduced the average length of time children wait in outpatient clinics by **15 per cent**.

Received **100 per cent positive feedback** about Harefield's new day of surgery unit in a patient survey.

Welcomed a rating of **'Good'** in our Care Quality Commission inspection.

Produced **889 peer-reviewed publications**, with our academic partner, Imperial College, London, making the Trust a leading centre for cardiovascular, critical care and respiratory research.

Recruited **2,284 patients** onto **over 200 research programmes** that will contribute towards better patient care and outcomes.

Joined a **new genetic testing network** that is set to revolutionise the way rare genetic diseases are identified across South London and the South-East.



Attracted more than **£10 million** in external grants for research.



Evolution of Darwin

During 2018/19 a Trust-wide transformation programme, Darwin, continued to make progress.

The programme has ambitious goals to transform the productivity and efficiency of clinical services and this year results were encouraging.

As a global leader in cardiothoracic and respiratory care, clinical teams at the Trust deliver excellent patient outcomes, while also investing in cutting-edge innovations and infrastructure. It became apparent in 2015/16, that without transformational change to make operational improvements and stabilise the Trust's financial base, this position was at risk.

Transforming patient-facing clinical services has clearly focused on

ensuring that resources were going into the things that matter most for patients:

- In surgery, reorganising pathways to reduce the length of stay in our hospitals saved £2 million, and resulted in very encouraging feedback from patients.
- In theatres, overhauling the approach to scheduling surgery saved money but also ensured patients were seen faster.

By the end of March 2019 – two years after the launch of Darwin, the Trust had over 50 improvement initiatives underway.

For non-patient facing functions, such as a procurement review and modernising back office services, a saving of £6 million was achieved by the end of 2018/19.

**DARWIN
PROGRAMME**
FIT FOR THE
FUTURE

Some examples of initiatives delivered under Darwin:

- Two new day case facilities were set up in cardiology at both hospitals which between them have allowed patients to spend 4,350 more days a year at home with their families – rather than in hospital.
- New one-stop lung clinics are improving patient care. Interstitial lung disease and asthma patients can now get all their care in one visit meaning patients spend 1,950 fewer days in hospital each year.

As one patient explained: "I used to have to stay on the ward once every month. Now I stay for a couple of hours and go home... it really does make a difference."

- Implementing new theatres software has increased capacity to enable 65 more major cardiac cases to be undertaken.
- Reviewing bed capacity in intensive care helped grow our ECMO service (extracorporeal membrane oxygenation) – a highly specialised service for critically ill patients. The Trust is one of only five commissioned ECMO centres in the UK (read more about our ECMO service on page 17).
- A review of bed capacity in intensive care increased bed utilisation from 66 per cent to 80 per cent, meaning 1,200 more critically ill patients can be supported each year.
- Re-designing cardiac surgery processes has meant that:
 - over half of patients now come in on the day of surgery
 - £1 million has been saved.

Once again patient feedback has been positive.

“

This is a really good new service provided by the hospital – it helped with the process to prepare myself before the op. First class treatment fully explained. Nothing was a problem.

”



Clare Denny, senior sister outpatients, talks to a patient at one of the Trust's new cardiology day case facilities



Patient George Coldrake at one of the new one-stop lung clinics



Using the new theatres software, Mr Toufan Bahrami, consultant cardiac surgeon, can view scheduling for all the operating theatres at Harefield on one screen at the same time

A photograph of two healthcare professionals in a clinical setting. On the left, a woman with dark hair tied back, wearing a grey and white striped short-sleeved shirt, is smiling and looking at a large blue folder. On the right, a woman with reddish-brown hair in a bun, wearing a blue short-sleeved shirt, is also smiling and looking at the folder. The folder is open, showing various documents and charts. In the background, there are medical equipment, a blue door, and a patient lying in a bed, slightly out of focus. The lighting is bright and clinical.

Our clinical expertise and specialist services

Teams at Royal Brompton and Harefield are world-leaders in diagnosing and treating a range of conditions, and recently won two major awards for the Trust's life-saving ECMO service (extracorporeal membrane oxygenation). ECMO supports recovery after major life-saving surgery or life-threatening illness by oxygenating blood outside the body and returning it – effectively doing the work of a patient's lungs, or both heart and lungs, until theirs can resume to normal functioning.

ECMO (extracorporeal membrane oxygenation) service recognised as **'platinum' centre of excellence**



Vicky Scollen, staff nurse on the adult intensive care unit, using the ECMO equipment

“

It's fantastic news that our ECMO programme has been recognised with this award. This is thanks to the team's hard work developing our services over the last few years to deliver the best possible care for our patients.

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The Trust's ECMO services were highly praised at the Extracorporeal Life Support Organisation (ELSO) awards for Excellence in Life Support.

Harefield Hospital was presented with the silver award, and Royal Brompton Hospital received the prestigious platinum award. This certification is the highest distinction given by ELSO, with Royal Brompton being the only commissioned centre in England to achieve it.

The Trust's ECMO service, one of only five ECMO centres for adult severe acute respiratory failure (SARF) in England, also provides paediatric care and both were recognised as outstanding by ELSO.

A redesign of the service in 2016/17, supported by colleagues at Guys and St Thomas' NHS Foundation Trust, increased capacity and encouraged greater multi-disciplinary collaboration across sites. Such a range of expertise and streamlined planning helped to

inform decision-making which, ultimately, benefited patients. This led to a 60 per cent increase in referrals within the first year alone, offering highly specialised life support techniques to more patients than ever before.

Having gone from strength to strength, the service has expanded even further to provide more cardiac ECMO for patients suffering cardiogenic shock (a condition where the heart is suddenly unable to pump enough blood to meet the body's needs).

Dr Stéphane Ledot, consultant in critical care and anaesthetics, and Royal Brompton's severe acute respiratory failure and ECMO lead, said: "It's fantastic news that our ECMO programme has been recognised with this award. This is thanks to the team's hard work developing our services over the last few years to deliver the best possible care for our patients."

Bringing **services** to **patients**

Trust experts lead the way in diagnosing and treating diseases of the lungs. Patients from the UK as well as overseas are treated for the full range of respiratory conditions including: asthma and allergy, cancer services, lung inflammation and cystic fibrosis, lung infection and immunity, lung failure (including transplant, COPD – chronic obstructive pulmonary disease – and sleep and ventilation), and lung assessment (including sleep studies, lung function and physiology).

Our teams run the largest interstitial lung disease clinic in the UK, the largest asthma clinic in London and the south east, and the biggest occupational lung disease service in the UK. We are also home to the largest cystic fibrosis clinic in the UK, and the largest centre for surgical treatment of lung cancer.

Our specialists joined forces with RM Partners, the west London cancer

alliance hosted by leading cancer centre The Royal Marsden, to diagnose patients with lung cancer earlier.

The initiative, which includes patients having access to a mobile CT scanner, is the first of its kind in London and means people in Hillingdon and in Hammersmith & Fulham who have been identified as being at increased risk of lung cancer will be invited for a lung health check. If appropriate, they will then be offered a CT scan in a convenient place on the same day.

Lung cancer is by far the most common cause of deaths from cancer in the UK because the majority of people are diagnosed in its late stages, when treatment has a more limited impact.

Twenty GP surgeries across the two London boroughs are taking part in the pilot and over 7,000 current or ex-smokers between 60 and 75, are being invited for a lung health check.

Hammersmith & Fulham has the highest lung cancer incidence and mortality across west London, and Hillingdon has

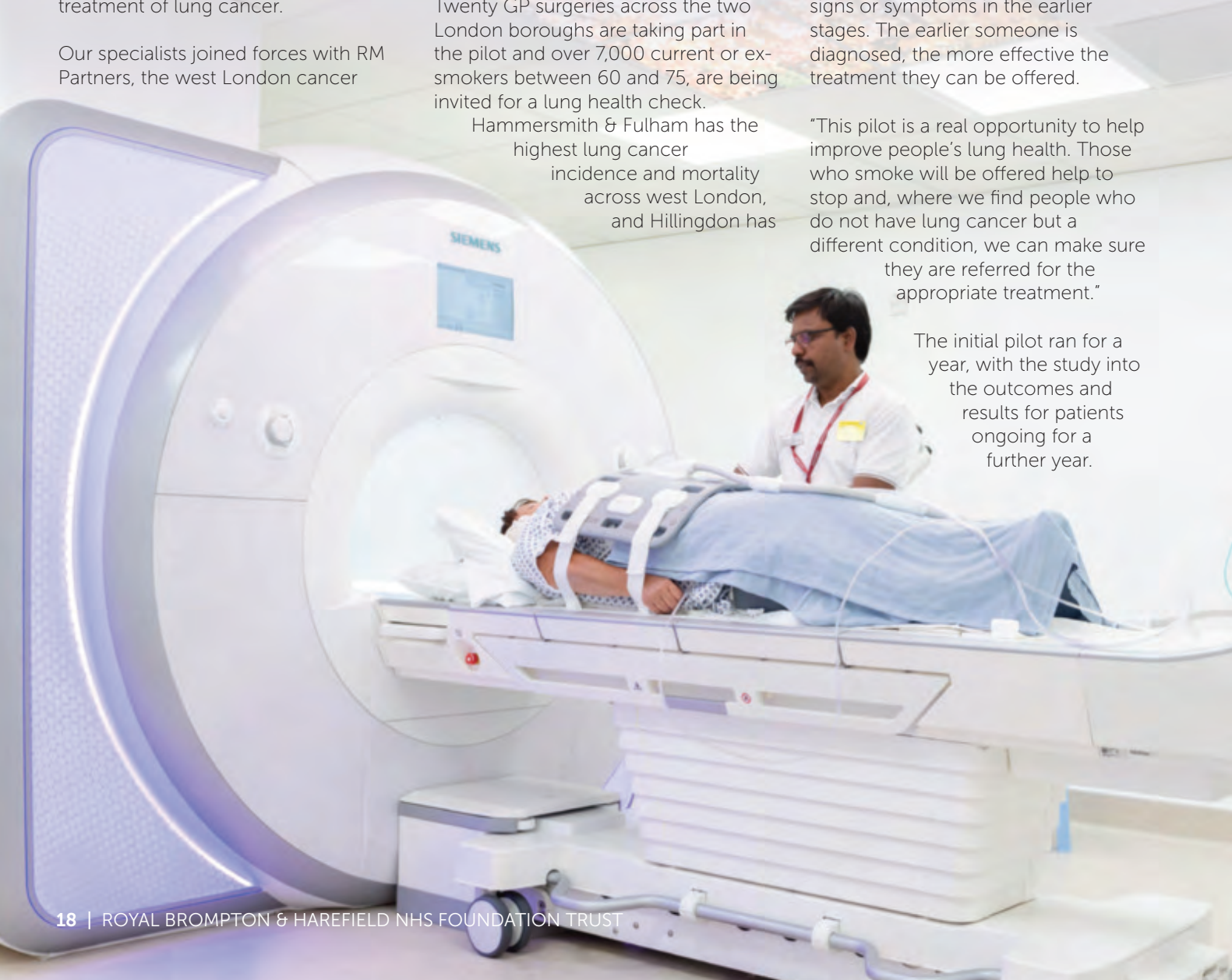
the lowest one-year lung cancer survival rate.

Under the initiative, people in Hammersmith & Fulham are invited to a lung health check at Royal Brompton Hospital, while those in Hillingdon are invited to a mobile CT scanning unit in Tesco or Sainsbury's car parks. The mobile CT unit uses a novel wireless technology developed in the UK which, for the first time, allows scans to be transmitted for remote diagnosis within minutes, rather than being couriered on CDs.

Professor Anand Devaraj, consultant thoracic radiologist at Royal Brompton, is leading the work. He said: "Early detection of lung cancer saves lives, but often people are diagnosed at a late stage of the disease, having been unaware of any signs or symptoms in the earlier stages. The earlier someone is diagnosed, the more effective the treatment they can be offered.

"This pilot is a real opportunity to help improve people's lung health. Those who smoke will be offered help to stop and, where we find people who do not have lung cancer but a different condition, we can make sure they are referred for the appropriate treatment."

The initial pilot ran for a year, with the study into the outcomes and results for patients ongoing for a further year.



National recognition for Trust experts

Many of our specialists hold important positions in professional organisations and win national and international recognition for their work. During 2018/19 examples include:

Professor Anita Simonds,

consultant in respiratory and sleep medicine at Royal Brompton Hospital and professor of respiratory and sleep medicine at Imperial College's National Heart and Lung Institute, was elected president of the European

Respiratory Society (ERS). ERS brings together physicians, healthcare professionals, scientists and other experts working in respiratory medicine. Its mission is to promote lung health to alleviate suffering from disease and drive standards for respiratory medicine globally.

It is the largest respiratory society in the world – covering not only Europe, but forging strong global links, particularly across Asia and Australasia.

Professor Simonds said: "I see this as a real opportunity to forge closer ties with our respiratory colleagues in Europe, at a time when many conversations seem to be about the UK going in the opposite direction. It is critically important to maintain our EU research links, which are hugely productive.

"The ERS genuinely effects change – it has a compelling voice on the environment, on smoking and chronic respiratory disorders for example, which has acted as an important lever on EU policy-makers. It works closely with the European Lung Foundation and has strong engagement with patients, working alongside them to prioritise the

research and training the society focuses on.

"We want to see the society become even more international, fostering links with low-income countries, for example, and running international exchange programmes for clinicians and researchers.

"I'm also very keen to encourage multidisciplinary team members to take active roles in the society: nurses, clinical scientists, physiotherapists and speech and language therapists, have such vital roles in treating

patients with respiratory conditions and carrying out research."

Professor Simonds has been instrumental in developing respiratory and sleep medicine at Royal Brompton since she joined in the 1990s, including leading the first team in the UK to use non-invasive ventilation in children and young people with inherited neuromuscular disorders, in turn influencing the care delivered to patients all over the world.

Dr Nick Hopkinson, honorary consultant chest physician at Royal Brompton Hospital and reader in respiratory medicine at Imperial

College, was appointed medical director of the British Lung Foundation (BLF).

The Trust has close links with the BLF – the leading national umbrella charity that funds research into, and supports people affected by, lung disease.

Dr Hopkinson said: "Lung disease is the third biggest killer in the UK, so it is important that we are able to support the delivery of the best possible care, ensure timely diagnosis, and take the necessary preventative steps to deliver good lung health – cutting smoking rates further, addressing air quality and challenging child poverty."

Welcoming Dr Hopkinson as medical director, Dr Penny Woods, chief executive of the British Lung Foundation said: "Nick has supported the BLF as an honorary medical adviser, health information expert and media spokesperson for many years. We are very glad that he is joining our team on a formal basis, to continue his tireless work on behalf of the people affected by lung disease that he sees every day."

Dr Sonya Babu-Narayan, consultant cardiologist at the Trust and clinical senior lecturer at Imperial College, has been appointed associate medical director for the British Heart Foundation (BHF). The BHF funds over £100 million of research each year into heart and

circulatory conditions.

Dr Babu-Narayan said: "It's a real honour to be joining the BHF. I know how the charity is trusted and valued by the heart and circulatory disease research community, as well as patients and their families', who are at the very centre of everything we do."

Dr Babu-Narayan is internationally recognised for her research to improve the care and quality of life of adults who were born with congenital heart disease. Associate medical directors provide leadership and strategic direction to the vital research mission of the BHF, helping to ensure every pound donated is used to support research with the potential to make the maximum impact for those affected by heart and circulatory diseases.



Professor Anita Simonds



Dr Sonya Babu-Narayan



Dr Nick Hopkinson

Transplant patient hits the high notes on national TV

Harefield Hospital transplant patient Charles Michael Duke debuted his new lungs on BBC1 – by singing a spellbinding version of Ella Henderson's Yours.

The 23-year-old, who has cystic fibrosis (CF), starred on This Is My Song, a two-part TV series that gives members of the public a chance to make a record of a song that's special to them.

At the time of filming, Charles had just received a double lung transplant at Harefield after three years on the waiting list.

He learned to play the song Yours on his guitar while recovering in hospital. Charles wanted to record his own version to celebrate the moment he was given a new lease of life.

The Southampton-based singer and actor has always tried to live life to the full despite having CF. But he accepted that he needed a transplant

after his lung collapsed while he was on stage performing in a Christmas show in 2014.

Charles said: "I was still recovering at the time of recording the song, but considering it was only 12 weeks post-transplant, I'm really happy with the way it turned out. And, it was more about marking the end of this journey for me than sounding like Beyoncé."

He added: "Singing with my new lungs was amazing, I could reach the end of sentences and hit notes I couldn't before."

Charles continues to visit Harefield Hospital for regular check-ups. He commented: "I've met people who have had heart transplants over 30 years ago.

"It makes me think if these people have managed to keep going over three decades with a transplant, I should feel optimistic."

“

I've met people who have had heart transplants over 30 years ago.

It makes me think if these people have managed to keep going over three decades with a transplant, I should feel optimistic.

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Innovative surgery attracts national attention

Experts at Royal Brompton and Harefield hospitals care for patients with a wide range of complex cardiac conditions, both congenital (present at birth), inherited and acquired later in life.

Pioneering innovation in minimally-invasive surgery was highlighted in the national media this year.

Secondary school teacher Mike Adamson, 62, enjoyed an active lifestyle of cycling and jogging, but sought medical advice after he experienced breathlessness and a dull ache when out running.

Doctors discovered Mike's aortic valve had stiffened due to a build-up of calcium. Not enough oxygenated blood was being pumped around the body – hence the shortness of breath. The valve would need replacing, or Mike would risk heart failure.

Traditional aortic valve surgery entails cutting through the chest with an incision of up to 30cm, and a recovery time of up to six months. Minimally-invasive techniques mean a quicker

recovery time, because the 6cm incision goes between the ribs. With the new valve, no stitches are required and many patients are back to work within four weeks.

The operation takes 90 minutes to two hours, around an hour faster than the usual procedure.

Mr Bahrami told the Daily Mail: "At Harefield we now implant most valves, including mechanical ones, minimally invasively – usually we only need a

6cm incision. Because the new Edwards Intuity valve doesn't need suturing, patients spend just 15 to 20 minutes on a heart-lung machine, so the risks are lower."

Mike said: "Three weeks after the surgery I could walk 15km and by four weeks, I was able to go for my first gentle jog, which was amazing. Now just three months after the operation I can run 10km non-stop with no ill-effects – and I was back at work after six weeks."



The theatre team at Harefield

Royal Brompton hosts heart charity conference

Congenital heart charity The Somerville Foundation held its annual conference at Royal Brompton Hospital.

More than 120 delegates from across the UK attended the event and one travelled from Canada. The event was designed to bring people with congenital heart conditions together to share their experiences and provide them with a range of expert information, including treatments and future models of care.

It was supported by leading members of the Trust's congenital heart team led

by Professor Michael Gatzoulis and included talks by Drs Natali Chung and Harith Alam, consultant cardiologists at Guy's and St Thomas'.

Opening the conference, new Trust patient governor Paul Murray, said: "Having The Somerville Foundation at Royal Brompton Hospital brings two organisations that are so close to my heart, metaphorically and literally, together.

"If you're able to meet people with the same conditions, or who face similar issues, it's beneficial. I have attended Harefield and Royal Brompton for 47

of my 50 years. I've benefited from the fantastic care they provide and their adult congenital heart disease (ACHD) unit is cited as the most influential in the world."

Speakers from Royal Brompton Hospital included Professor Gatzoulis, Dr Kostas Dimopoulos, consultant cardiologist, Richard Grocott-Mason, medical director and consultant cardiologist, Lynda Shaughnessy, clinical nurse specialist in ACHD, Professor Wei Li, consultant in echocardiography, and Professor Alain Fraisse, consultant and director of paediatric cardiology.

Harefield team shortlisted for **leadership award**

A prevention programme that identifies people at high risk of coronary heart disease and intervenes early to save lives, was a finalist in the UK's leading medical awards.

Familial hypercholesterolemia (FH) is a common genetic condition that causes an increase in harmful LDL cholesterol in the blood, causing narrowing of the arteries – even in healthy and active people. It is one of the major causes of cardiac events, and it is estimated that more than a quarter of a million people in England are living with the condition undiagnosed.

Celebrating its 10th anniversary this year, Harefield's FH team spearheads a prevention programme using a combination of detective work and genetic testing technology, to find people who are at risk, test them and their family, and get treatment started early to reduce the chance of premature cardiovascular disease in later years.

The project, which was shortlisted as a finalist in the BMJ awards' "clinical leadership team" category, started by offering testing to heart attack patients and their families, but has since expanded into the community and

involves GP practices and hospitals across Hillingdon and Slough. Programme lead, consultant cardiologist Dr Mahmoud Barbir, said: "Early prevention is by far the best way to manage this condition – treating the underlying problem before the person experiences a serious cardiac event, and preventing premature deaths. Yet FH is vastly under-diagnosed and under-treated.

"When someone comes to us with a heart attack that we treat, we offer their siblings and other family members a test to see if they have FH, but this is the tip of the iceberg. We knew we could identify and treat more people by getting out into the community."

The team works closely with GPs to identify, from blood tests and other evidence, people who could be at risk of FH and offer them genetic testing. When someone is found to have the condition, their siblings and children are offered a test. This "cascade" approach has enabled the team to identify young children with FH and start their treatment as early as possible.

The programme first expanded into the community in 2014 with British Heart Foundation funding, after which

“Genetic testing for FH was almost unknown in England before we started this programme. We couldn't have got to where we are without the support we had from management – who also encouraged us to put ourselves forward for this award.”

the Trust decided to make it a permanent service, with FH clinics at Royal Brompton as well as Harefield, and various community hospitals. Jane Breen, clinical nurse specialist in FH cascade, said: "Genetic testing for FH was almost unknown in England before we started this programme. We couldn't have got to where we are without the support we had from management – who also encouraged us to put ourselves forward for this award.

"It's especially rewarding when you see three generations of the same family coming to clinic: we've identified something that could have had a serious impact on these families across the years, but with the right treatment they can all expect to live longer and healthier lives."

Members of the familial hypercholesterolaemia team whose project was shortlisted in the BMJ awards







A dedicated service for children and young people

Royal Brompton doctors treat the largest number of **premature babies** in Europe with **pioneering catheter** interventions

More than 80 premature babies with patent ductus arteriosus (PDA) – a life threatening congenital heart defect which causes a leak between blood vessels from an opening in the heart – have been treated at Royal Brompton Hospital using a pioneering catheter procedure.

Professor Alain Fraisse, consultant paediatric cardiologist, carried out the first of this type of catheter intervention at the Trust.

The procedure involves inserting a small device made from wire mesh into the heart (through a catheter inserted via a vein in the baby's leg) to block the opening in the heart to stop the leak. It is guided into place using echocardiography imaging, which uses sound waves to capture moving images and is the most widely used technique for non-invasive imaging of the heart.

The procedure takes just 20 minutes and avoids the need for open heart surgery – a complex procedure in tiny babies.

Professor Fraisse said: "This procedure offers young paediatric patients and their families hope through a less invasive treatment than surgery, with a shorter hospital stay with no chest scar."

Babies sent to Royal Brompton for treatment were referred by 20 different neonatal intensive care units across the country, as the Trust is the only centre in the UK to have a PDA referral team, which was set up and is led by paediatrics matron Claire Buckle.

Claire said: "The numbers show that we really are leading the way for the treatment of patent ductus arteriosus and we have successfully treated infants weighing as little as 800g."

The large number of babies treated at the centre has been facilitated with help from Royal Brompton & Harefield Hospitals Charity, which funded the purchase of a new incubator, allowing the team to treat twice as many babies.

Gill Raikes, chief executive of the charity, said: "It's wonderful to be able to support the work Professor Fraisse and his team are doing for premature babies and their families, as without their interventions many of these infants would not survive."

Professor Fraisse added: "We're extremely grateful to the charity for

More than 80 premature babies with patent ductus arteriosus (PDA) have been treated at Royal Brompton Hospital using a pioneering catheter procedure to treat the largest number of premature babies in Europe.

providing funds for another incubator, allowing us to treat more babies.

"Our success has been a real team effort, combining the talents and expertise of cardiologists, anaesthetists and nurses. It's thanks to this that we have been able to use this pioneering procedure to treat the largest number of premature babies in Europe."

Professor Alain Fraisse, consultant paediatric cardiologist, examining the small device inserted into a baby's heart to stop a leak

“Our success has been a real team effort, combining the talents and expertise of cardiologists, anaesthetists and nurses. It's thanks to this that we have been able to use this pioneering procedure to treat the largest number of premature babies in Europe.”





Using **artificial intelligence** to diagnose rare conditions

Professor Claire Hogg (right)
and research associate
Andrea Pinto with
COSMONiO NOUS

Professor Claire Hogg, paediatric respiratory consultant, is leading a study to enable artificial intelligence to diagnose primary ciliary dyskinesia (PCD), a rare, inherited condition.

The Trust has been awarded funding for the project from the National Institute for Health Research Innovation Innovation (i4i) Programme, which aims to cultivate new techniques or technologies into innovative interventions for the NHS.

In patients with PCD, the microscopic hairs found in the nose and airways – cilia – fail to adequately remove bacteria and particles from the respiratory tract.

This leads to recurrent infections in the nose, ears, sinuses and lungs which, if left untreated, can cause lung damage. Early diagnosis is important to help

prevent lung damage in childhood and to keep the lungs working as well as possible.

Diagnosis of the disease is complex and relies on expert scientists looking at cilia with a powerful electron microscope, together with other tests. Professor Hogg's study aims to use artificial intelligence computing techniques to identify both healthy and abnormal cilia from electron microscopy images to provide a faster, more accurate diagnosis.

Artificial intelligence is increasingly used in medicine and self-learning systems and has already been trained to recognise a range of medical conditions.

Professor Hogg and her team hope to be among the first in the world to use a new interactive machine learning

technology, known as COSMONiO NOUS, that allows clinical experts to train the self-learning systems in real-time. If successful, such technology could revolutionise diagnosis and medical research.

Professor Hogg said: "We hope that the technology will enable us to confirm or exclude a diagnosis of PCD in the vast majority of patients who are referred to within one month – it currently takes around three or four months for a diagnosis. As well as producing more rapid diagnosis, our aim is to create a more accurate system.

"PCD is an excellent model disease for testing this technology and success in this field may pave the way for other rare diseases where time-consuming and expensive diagnostic pathways often lead to delays in starting treatments."

First information day for **young heart** patients

Young patients with inherited cardiac conditions (ICC) face greater challenges than many other teenagers during adolescence. Among them are moving from children's to adult services and taking greater responsibility for their own health and wellbeing.

Recognising this, our specialist ICC nurses help young people to plan and prepare for the move to adult services, and for the first time this year (2018), held an information day offering them support and breakout sessions for family members or guardians.

The goal of event held at Chelsea Football Club with the support of The Brompton Fountain charity was to educate and inform young people aged between 14 and 19 years old about how lifestyle choices can affect heart health.

Lucy Green, paediatric ICC nurse specialist, explained: "The idea came out of a research project I did. Patients with inherited heart conditions – such as cardiomyopathy and arrhythmias – said they would really appreciate a day

“

There is a lot of pressure from peer groups and wider society to drink, or even try drugs. We try and give young people the right information to equip and empower them to make the right decision.

”

that wasn't too formal, where they would get to meet other people facing similar issues. We thought we'd make it feel less hospital-like by getting out of the clinic and into a more fun setting."

After a talk on the 'normal heart' by paediatric clinical educator Dan Fossey, which gave everyone an insight into the workings of the cardiovascular system, Rachael Duthie

from the charity Hope UK, which provides drug and alcohol education, explained the effects of legal and illegal substances, and led a group discussion on why people use alcohol and drugs.

Rachael said: "There is a lot of pressure from peer groups and wider society to drink, or even try drugs. We try and give young people the right information to equip and empower them to make the right decision."

Sessions included exercise and lifestyle advice, and an opportunity for young people attending to separate from their parents and carers to quiz experts on topics such as mental and sexual health.

Anita Kolawole, 17, was among those who attended. She said: "It's been a fantastic day. I have a dilated cardiomyopathy (a condition where the heart is enlarged and function is impaired) and it's not always easy as my friends don't have to think about their health in the same way as I do. Meeting people with similar issues is great."





Rehabilitation and therapies

Daily activities can prove challenging for people with heart and lung conditions. As well as helping with recovery after a procedure, our expert therapists support patients to manage long-term conditions, cope with their symptoms and boost their independence and confidence.

Our rehabilitation and therapies services are designed to provide care for the 'whole' patient, from exercise rehabilitation to psychological therapies and dietetics.

The Trust's experts in recovery and therapy include physiotherapists, occupational therapists, dietitians, speech and language therapists and clinical psychologists.

Working collaboratively as multi-professional teams, our experts are able to consider all the needs of patients as they recover from treatment and tackle daily life.

Patients with **persistent coughs** find support at Royal Brompton Hospital



The 'Voice of Upper Airway' group meets several times a year to hear the about the latest treatments and advice on managing conditions

A new support group was launched at Royal Brompton Hospital this year for patients with conditions that affect the upper airways – such as persistent coughs.

Hosted by Dr Julia Selby, clinical lead speech and language therapist for the upper airway service, and speech and language therapists Beth Tidmarsh and Emma Bailey, 'The Voice of Upper Airway' group meets several times a year to hear the about the latest treatments and advice on managing conditions.

Members are also able to share and potentially learn from each other's personal experiences, and provide feedback about their care.

Dr Selby said: "Most of the patients in the group have incredibly debilitating coughing fits on a regular basis. These can make it hard to carry out even the most basic daily tasks. Some even end up in hospital requiring urgent care – with clinicians unsure about the proper method of treatment for their condition.

"GPs can often misdiagnose these patients' conditions as they can vary so much. Patients can end up feeling confused, and isolated or alone with their condition. To be able to meet up and discuss their experiences with others is hugely beneficial.

"I am hugely pleased that we've been able to get this project off the ground: these patients are central to our care, and it's been amazing because we've been able to include them in shaping how the group is run."

Group member Florest Cambran from Wallington, South London, said: "I find myself gasping for breath and I've ended up hospitalised on numerous occasions. Even though I am an intensive care nurse and used to helping others, when you can't breathe yourself it is absolutely terrifying.

"I have been following prescribed speech and language exercises, which have really helped, but I'm looking forward to getting more support from this group."

Harefield **cardiac rehabilitation** programme **ranks highly** in national audit

An independent national audit awarded Harefield's cardiac rehabilitation (CR) programme a coveted 'green' certification, placing it in the top 20 per cent of services in the UK.

Cardiac rehabilitation is a comprehensive exercise, education and behavioural development programme. Introduced to patients at an appropriate stage of their recovery, it aims to improve not only their physical, but also their social and psychological condition.

The National Audit of CR is an annual joint project between the British Heart Foundation and the British Association for Cardiovascular Prevention and Rehabilitation. For the first time, the audit adopted a new approach to give a national picture on the quality of CR delivery for 229 UK programmes.

National standards of care were analysed under seven key performance indicators (KPIs), including how quickly the service gets patients into rehabilitation after their cardiac event, how thorough the assessments are and the length of time spent using the service. To achieve green status, services must meet all seven KPIs.

Heather Probert, specialist physiotherapist in cardiac rehabilitation, said: "The team is incredibly proud. This certification is proof that our patients are receiving the best possible level of cardiac rehabilitation."

Research highlights

Ground-breaking research plays a crucial role in providing world class specialist heart and lung care for patients.

The Trust's world class research is made possible by the support of patients and volunteers who participate in our trials. In total 2,200 participants were recruited for research, an increase of over 20 per cent from the previous year.

Our clinical teams continue to lead on recruitment to clinical trials. For example, this year we recruited the first patient for a global study into a new device for people with heart failure, run by Harefield-based consultant cardiologist Dr Rebecca Lane. We also recruited ahead of schedule for a study

by a consultant cardiologist and electrophysiologist, Dr Tom Wong, to compare ablation techniques in patients with atrial fibrillation.

Our staff continue to be recognised internationally for their expertise and achievements. Professor Anita Simonds, consultant in respiratory and sleep medicine was elected president of the European Respiratory Society (ERS) and Professor Michael Polkey, consultant chest physician, was awarded the European Respiratory Society Gold Medal in chronic obstructive pulmonary disease.

Consultant cardiologist Professor Martin Cowie is chair of the Digital Cardiology Committee for the European Society of Cardiology and associate editor of JACC: Heart Failure, a publication from the American College of Cardiology.

Close research ties exist with our partners at Imperial College London, Imperial College Healthcare Trust and the Royal Marsden Hospital on collaborative research and education activities, facilitated through the Imperial College Academic Health Science Centre (AHSC).

Research highlights over the year include:

Trust researchers and their collaborators were awarded over **£10m funding** by a variety of organisations including the National Institute for Health Research (NIHR), the British Lung Foundation and the British Heart Foundation.



Dr Elisabetta Renzoni, consultant respiratory physician, and her collaborators have shown that the use of **portable oxygen** (ambulatory oxygen) improves the **quality of life** of patients suffering from **pulmonary fibrosis**.



A national research collaboration led by Dr John Wort, consultant in pulmonary hypertension and intensive care medicine, helped identify **four novel genes** associated with heritable pulmonary arterial hypertension.

An **international clinical trial** on a new drug, led by Professor Toby Maher, consultant respiratory physician, has shown some promising results for patients with **idiopathic pulmonary fibrosis**.

Our researchers produced **889 peer-reviewed publications** (including letters and abstracts) with academic partner Imperial College London – highlighting the Trust's role as a **leading centre** for cardiovascular, critical care and respiratory research.

The Trust was **awarded funding** from the National Institute for Health Research Innovation (i4i) Programme for the first time. Professor Claire Hogg and her team will now study the role of **artificial intelligence** in the diagnosis of primary ciliary dyskinesia (see page 26).



Professor
Toby Maher

A **major trial**, led by Professor Sanjay Prasad, consultant in cardiology and cardiovascular **magnetic resonance**, demonstrated the need for lifelong medication for dilated cardiomyopathy.



Researchers at the Trust have discovered a **new link** between alcohol, genes and cardiac health, which may lead to better treatment and monitoring for those at risk of heart failure.



Sharing our expertise

We believe in sharing what we know through teaching, so that what we learn can help patients everywhere.

Training is a vital part of our work and we have training facilities at both our

hospitals to give clinical staff easy access to the most up-to-date training and teaching. Our programmes are world renowned, with teaching provided by experts in their fields, attracting delegates from

around the world. We continually develop training for our teams to ensure they are equipped with the latest skills to deal with complex procedures, crisis management and to enable better team working.

UK's first international postgraduate course in heart failure begins in London

Over 60 participants from more than 30 countries gathered at the Royal Society of Medicine for the start of the Trust-run UK first Postgraduate Course in Heart Failure this year.

Designed for cardiologists at an advanced stage in their training or early in their consultant career and with an interest in treating patients with heart failure, the new course was developed by experts at the Trust and the Institute of Cardiovascular Medicine and Science (a partnership with Liverpool Heart and Chest Hospital NHS Foundation Trust), with support from the British Cardiovascular Society, the British Society for Heart Failure and Zurich Heart House.

Attendees came from all over the world – mainly from Europe, but also including the Far East, South Africa and the United States – and were selected from nearly 200 applicants.

Professor Thomas Lüscher, consultant cardiologist and director of research, education and development, said: "Heart failure is a true medical epidemic, it leads to serious illness, significantly impaired quality of life,

and considerable costs for healthcare systems and societies.

"Recent developments have markedly increased the life expectancy of people at risk of heart failure, and reduced the amount of time they need to spend in hospital.

"This medical progress has meant that the cardiologists of today, not to mention tomorrow, have many options for their patients – from recommending lifestyle changes, to new drugs, brand new catheter procedures to ground-breaking surgery, as well as pacemakers and defibrillators, all the way through to assist devices and, of course in some cases, a heart transplant.

"This means that doctors treating patients with heart failure need truly excellent training across the full range of diagnostic and treatment options to give their patients the best possible care. This new programme offers education at the very highest academic and medical levels."

The full course takes place over two years and includes six modules of four days each.



SPRinT team celebrates 10 years of teaching

Our specialist SPRinT team celebrated 10 years of providing expert training to clinical teams by holding a day of lectures, demonstrations and panel discussions for staff and external partners.

SPRinT – which stands for Simulated interPROfessional Team Training – uses state-of-the-art models and highly immersive situations to prepare teams for a variety of clinical emergency scenarios.

Programme director Dr Margarita Burmester said: "We work in an environment which is highly intense and involves fast decision making. Patient care is never done in isolation, it involves teams of people, so we wanted to improve team working skills to drive a culture of safety.

"It has been a long process, with a lot of learning along the way, but today we are conducting research that we are publishing and presenting internationally. We have trained more than 1,500 participants to date, and people from other institutions are wanting to come on our courses."

A live demonstration at the Trust-run UK first Postgraduate Course in Heart Failure





Listening to our patients

We make time to listen and act on feedback from our patients. One of the Trust's core values is treating patients with respect, dignity and courtesy, and making sure they are well informed and involved in decisions about their care.

Feedback comes from a variety of sources and we use it to continually improve patient care. We are proud to have scored highly in the Care Quality Commission's (CQC's) 2018 Adult Inpatient Survey.

The CQC looked at the experiences of more than 450 patients from our hospitals. In nine out of ten overall areas – ranging from 'doctors', 'nurses' to 'waiting lists' and 'care and treatment' – the Trust was named better than other trusts.

Highlights included:

- 96% of patients overall felt they were treated with dignity and respect
- 96% had confidence and trust in the doctors treating them
- 94% had confidence and trust in the nurses and other clinical staff treating them

- 92% had confidence in the decisions being made about their care or treatment.

In the National Cancer Patient Experience Survey, when asked how they would rate their care on a scale of zero (very poor) to 10 (very good) – patients at the Trust gave an average score of nine out of 10.

In the Friends and Family Test – a mandatory score based on comment forms NHS patients complete when they are discharged – 95 per cent of patients said they would recommend our services to their friends and family.

Actions taken as a result of feedback include:

- Developing a garden for patients on transplant wards and creating an outdoor garden for respiratory patients.
- Producing new materials with site maps to help patients find their way around more easily.
- Introducing staggered hospital admissions to reduce patient waiting times.

“

Views of our patients

Harefield

Acorn ward (acute cardiac care)

"Harefield is a fantastic hospital. There is a feeling there that you are in the hands of the very best people. There is a mix of quiet and confident efficiency coupled with a nursing team who demonstrate that they genuinely seem to care."

Royal Brompton

Victoria ward (acute and chronic respiratory)

"There was an outstandingly good patient experience for which I am extremely grateful. Staff throughout Royal Brompton were professional, kind, courteous and clearly team players. An exemplary hospital. Many thanks. Staff took endless time to explain simply what was going on."

Harefield

Cherry Tree ward (day case)

"I consider the attitude of the staff was exemplary, the clinical treatment was exemplary. I felt very reassured and safe in the hands of the staff and the clinical staff and would thoroughly recommend them to anybody. Thank you very much."

Royal Brompton

York ward (cardiac care)

"The staff were excellent, from the paramedics to the nurses to the surgeons. The hospital was clean. The hospital looked well maintained. The food was high quality. The staff went above and beyond to explain the procedure to me. I felt very safe and cared for."

”



Bringing the outdoors in

Patients on Royal Brompton's Victoria ward can now relax in a secluded outdoor garden area, thanks to a project led by sister Tasmin Fernandes.

Clinical teams on the ward treat and care

for patients with acute respiratory conditions. The project was inspired by two patients who told staff about how they missed being outdoors during inpatient stays. It aims to provide a space that enhances wellbeing and experience.

Sister Fernandes said: "Some of our patients can be on the ward for up to 12 months and some are in isolation, so it can be hard for them to get outside. The new garden serves as a convenient space to get some fresh air and will help contribute to their rehabilitation and wellbeing."

She and the rest of the ward team spent a year on the project to establish the garden in a small outdoor space leading out from an area on the ward. The garden has been warmly welcomed by patients on the ward.

Johanna Callas, who has chronic asthma, said: "The garden is amazing. I've been coming to Victoria ward for 10 years and spend up to two weeks at a time here. It's something patients really needed because it can feel very claustrophobic on the ward. I find it calming. It's peaceful and quiet which I find relaxing, and it's nice to be able to go somewhere away from everyone else."



Online feedback about our care

Care Opinion

"I was referred to Harefield for the surgical removal of an unidentified growth in my right lung. From the moment I was admitted, I was impressed by the efficient, friendly care from the nursing staff on Cedar ward. They were attentive and always quick to respond to a call for assistance. The surgical care was also top class and the operation was successful."

"My mum was admitted to Royal Brompton after a heart attack. The staff on York ward and in the HDU (high dependency unit) were completely professional and out of this world. I would recommend every single one of them and thank them from the bottom of my heart."

"The care from everyone from the porters to the surgeons [at Harefield] was exemplary. The compassion and care shown by the nursing staff was beyond all expectations and I was so humbled and grateful."

NHS.uk

"From the delightful nurse who weighed me, to the humour and kindness in the blood test room, to the superb doctor, I was very impressed by the patient care approach [at Royal Brompton]. I felt very much at ease and cared for and I highly recommend this hospital."

"I want to give the utmost praise and positive recognition to all the staff at Harefield who cared for my gran for all the years she came here. She continued after her heart transplant in 1996, to give the family many more years of memories. Thank you all so much."

"The staff on Cherry Tree ward could not have been better. I was kept informed of everything that was happening and the nurses were always very professional. The overall experience couldn't be faulted and all the staff were superb at putting me at ease."

Twitter

"My husband had a double lung transplant at Harefield Hospital. From the very first appointment we were well looked after and never felt as though we were on our own. The support we have had and are still getting is fantastic."

"I am absolutely in awe of the amazing cardiac team [at Royal Brompton]. Thank you to @RBandH from the bottom of my heart for saving my soulmate's heart."



To follow the Trust on Twitter, search [@RBandH](#)





The healing arts

The rb&hArts team is piloting virtual reality creative sessions for older inactive and less mobile people.
Photo by Elam Forrester

The Trust's arts programme rb&hArts delivers a range of vibrant creative arts designed to improve wellbeing and enhance our buildings for patients, visitors and staff.

Mainly funded by the Royal Brompton & Harefield Hospitals Charity, this year the rb&hArts team organised more than 500 workshops working with 30 artists and curated the Trust's valuable permanent collection of over 1,000 artworks.

Singing for Breathing, rb&hArts' flagship project for older adults living with chronic respiratory conditions, celebrated its 10th anniversary (see separate piece on page 37).

The core arts programme includes

two musicians in residence playing live music for adult inpatients six hours per week, temporary exhibitions, and arts and crafts workshops called Crafternoons for 10 hours a month.

The rb&hArts team also co-delivers cultural programmes for health with older people in and outside the hospitals, including Akademi's dance workshops in Uxbridge, and is piloting virtual reality creative sessions for older inactive and less mobile people with digital art studio SDNA.

As well as running projects for older people, rb&hArts runs Vocal Beats – a project that brings creative music-making skills and beatboxing to younger patients. Since starting the project in 2015, it has supported over 600 children aged 0-16 years.

The programme expanded this year to include 17 to 25-year-olds, with musicians delivering one-to-one sessions for cystic fibrosis and transplant patients.

Celebrating **10 years** of Singing for Breathing

The benefits of Singing for Breathing were celebrated this year as the project reached its 10th anniversary. Singing for Breathing supports people living with chronic lung and heart conditions or who experience breathlessness. People are invited to discover and tackle their health issues by singing.

Victoria Hume, founder of rb&hArts, was commissioned to revisit the project which she first established and co-create a choral work called The Singing Hospital. She was inspired by her interviews and audio recordings of people experiencing breathlessness.

The Singing for Breathing groups at the Trust are now the longest continually running hospital-based workshops in Britain for people with respiratory conditions.

Tia Thomas, who has a number of respiratory conditions, said: "I think it's great. First, I noticed how much more lively it made me feel, then how much easier my breathing got during the classes."



Art commissioned to celebrate the NHS

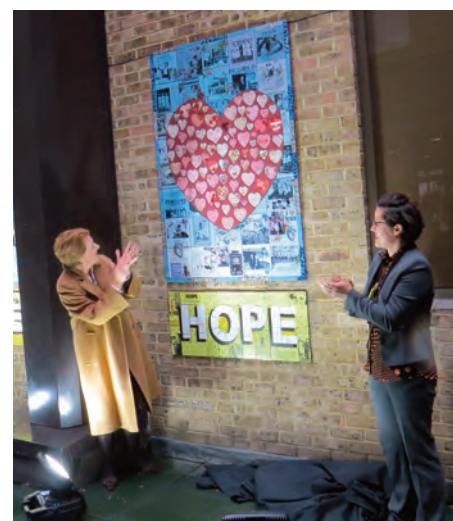
The 70th anniversary of the NHS was celebrated in NHS70 Thanks for Everything, a Trust-wide programme of events themed on gratitude.

To mark the end of the year's celebrations, the rb&hArts team unveiled new permanent artworks at both hospitals.

The two large mosaics, titled NHS70: Thanks for Everything, feature artwork by artist Carrie Reichardt, containing imagery taken from hospital archives and personalised ceramic hearts painted by patients and staff.

Each individual ceramic heart contains a personalised message about the Trust, either from a member of staff reminiscing about its history, or a patient.

Sally Morgan, Baroness Morgan of Huyton and Trust chair, said: "These artworks are both a symbol and a recognition of the importance of the NHS, but also the importance of Royal Brompton and Harefield as well. It's good to have something strong and visual in both hospitals to symbolise the strength of care and compassion that happens in this Trust, and throughout the NHS."



Our charities

Our hospitals are supported by a number of charities which raise money to support projects that lie outside NHS budgets, but are often vital to enhancing patients' health, wellbeing and experience.

Royal Brompton & Harefield Hospitals Charity

The charity supports initiatives across both hospital sites, raising money for innovative treatment, equipment and research.

Harefield Transplant Appeal

Raising over £550,000 for organ care systems at Harefield Hospital

The charity exceeded its £500,000 target, raising over £550,000 to purchase organ care systems (OCS) for Harefield Hospital. OCSs, which are not currently funded by the NHS, keep donated organs viable for up to four times longer than the traditional on-ice method. This means organs can come from hospitals further away and arrive in better condition. As the UK's largest and most experienced centre for heart and lung transplants, this funding will enable Harefield's transplant team to offer life-saving surgery to more patients, with OCSs now being used for all heart transplants at the hospital.

Nick Culshaw had a successful heart transplant at Harefield in 2018, which, in his own words, has transformed his life. He said: "Thanks to the organ care system, I was given a better chance at life by making sure the donated heart was the right match and could be kept in the best possible condition."

#ManyMoreHearts catheter laboratory appeal

Helping to transform Royal Brompton's catheter laboratory

Each year, hundreds of patients undergo life-saving procedures in Royal Brompton's catheter laboratory. As part of a refurbishment, funds were urgently needed for equipment. Thanks to the generosity of its supporters the charity raised over £356,000, meaning Royal Brompton's heart patients will benefit from innovative equipment and state-of-the-art facilities. This supports provision of

the best possible treatment for patients and enables them to return to their normal lives, families and friends, far sooner.

Harefield healing garden

Securing £54,000 to create a calming outdoor space at Harefield Hospital

With the support of Rosie Pope, the charity successfully exceeded its target and raised £54,000 for the Harefield Healing Garden Appeal. The garden has been designed to provide a calming, restorative space to promote physical and mental wellbeing for patients, their families and staff.

Rosie's son Will had a heart transplant at Harefield Hospital when he was just 17, after contracting a virus that attacked his heart, resulting in end-stage heart failure. During her son's long stay at Harefield, Rosie was inspired to create a 'healing garden' to support patients in their recovery.

The Patients' Fund

Enhancing the lives of patients at Royal Brompton and Harefield Hospitals

Each year, the charity gives £100,000 to support various projects around the

hospitals. Staff are invited to submit projects that they believe will enhance the lives of the patients. In the past year, the fund has provided portable intravenous (IV) pumps to enable patients on the urgent transplant list to remain mobile while in hospital, and six hours of live music across both sites to provide relief from boredom, stress and loneliness. NHS funding cannot fund many of these projects because they are not deemed "essential," but staff, patients and their loved ones testify to the huge different these projects make.



An artist's impression of the Harefield healing garden

The Brompton Fountain

The Brompton Fountain provides vital support for children who are being cared for by the Trust. It aims to improve the quality of life for our young patients and their families. The charity works closely with paediatric teams to provide activities, medical equipment and services that are not normally supplied by the NHS.

During the 2018/19 financial year, the charity has:

- Run numerous events and activities for children and their families including a barbecue, art

workshops and Christmas parties. These events are a chance for children to relax and have fun. They also provide families with the chance to enjoy time together and meet others who have been through similar experiences.

- Raised funds for numerous projects including an appeal to buy new state-of-the-art heart monitors which will provide individually tailored, second-by-second statistics for each child being cared for on our paediatric Rose ward.



State-of-the-art heart rate monitors funded by The Brompton Fountain

Friends of Royal Brompton

The Friends of Royal Brompton has been supporting the hospital for almost 60 years, relying on a strong network of volunteers and one part-time member of staff. The charity runs two shops, operates trolley services for patients and their families on the wards, and hosts fundraising events throughout the year.

During the 2018/2019 financial year the charity funded a variety of projects, including:

- Securing £20,500 to fund an updated simulation mannequin of a young child for SPRinT (Simulated

interPRofessional Team Training). Staff use the mannequin to practise the emergency re-opening of the chest of a child following a heart operation.

- Raising £10,000 to buy a cycle ergometer (bike) for the pulmonary hypertension unit. The equipment is used to measure vital signs such as blood pressure and heart rate during invasive cardiac catheterisation (a way of finding out detailed information about the heart).
- Donating £23,245 to buy a variety of equipment for the new Squire



Centre day-case facility. This included patient procedure chairs, patient trolleys, blood pressure machines, a television and computer, and furniture for the discharge lounge.

Friends of Harefield Hospital

Harefield has a sister charity – the Friends of Harefield Hospital – which offers refreshments in an on-site pavilion complete with a charity shop section.

The charity's biggest highlight during the 2018/19 financial year was funding the purchase of a new £41,000 state-of-the-art mannequin for clinical simulation training.

Representatives from the charity were delighted to see the mannequin in action when they visited the hospital's Simulation, Training and Resource (STaR) Centre.



Our profile in the media

The Royal Brompton & Harefield brand features across a wide range of media channels each month. From fundraising sponsored walks to exciting new clinical procedures and research trials, our hospitals are celebrated for their ground-breaking work and commitment to patient care. Here are some examples from 2018-19.

May 2018

Joint research by Royal Brompton, Imperial College London and MRC Institute of Medical Sciences that discovered a new link between alcohol, genes and heart failure was featured in the **Daily Mail**, **The Sun**, and **The i**. Dr James Ware, consultant cardiologist and study author, explained: "Our research strongly suggests that alcohol and genetics are interacting – and genetic predisposition and alcohol consumption can act together to lead to heart failure."



June 2018

The **Evening Standard** featured a project to help some of Great Britain's elite athletes achieve their potential in time for the 2020 Summer Olympics in Tokyo, by reducing the impact of breathing problems on training and competition. Dr James Hull, consultant respiratory physician, explained that, given respiratory illness is the most prevalent health issue in

athletes, the project is an opportunity to understand the issue and "help athletes remain fully available for training and competition."



Professor Andrew Menzies-Gow (left) and Dr James Hull (right)

July 2018

As the NHS celebrated its 70th anniversary on 5 July, patients, their families, staff and colleagues shared their experiences of our hospitals across broadcast media. A local GP, Dr Kumar, told the **BBC**: "Just three days ago there was a patient who complained of chest pain at 6:30pm. By 10pm he was in Royal Brompton having triple bypass surgery. Come on, you can't get better than that!"

September 2018

ITV News and the **Mail on Sunday** reported that bronchial thermoplasty, a

treatment pioneered at Royal Brompton, was approved by the National Institute for Health and Care Excellence.

Bronchial thermoplasty uses a probe which emits heat and shrinks scarred, thickened lung tissue. This means the healthy parts of the lung can expand, which helps patients breathe more easily. Professor Pallav Shah, consultant respiratory physician, told the **Mail on Sunday**: "Clinicians are seeing incredible results; research has shown that bronchial thermoplasty can almost halve the number of severe asthma attacks and cut the average number of emergency hospitalisations in treated patients by over 80 per cent. Some of our patients had difficulty walking upstairs, and are now doing intensely physical things like rock-climbing."



Professor Pallav Shah, consultant respiratory physician

October 2018

In a feature headlined 'Pioneering implant that can revitalise failing hearts', the **Mail on Sunday** reported that the first British patient to be fitted with a pioneering electronic device – at Harefield Hospital – is now 'able to walk around the local store with his

daughter, a simple task that the extreme fatigue and breathlessness caused by his condition had left him unable to manage before.' Dr Rebecca Lane, consultant cardiologist, explained: "This device is for patients who have exhausted all other treatment options. A few months back, we would simply have had to tell them to accept a miserable life, often stuck in their homes. Now there is something which could help them feel better, to walk around, and perhaps live longer."

November 2018

A BBC Children in Need special episode of BBC Television's *Bargain Hunt* featured a segment on Vocal Beats, a project which sees professional musicians visit the children's ward for interactive sessions with young patients. Casualty actor Sunetra Sarker described Royal Brompton as providing "specialist care for children with serious heart and lung conditions," adding that "beat boxing and singing are great activities for young patients with heart and lung conditions as they help to strengthen those parts of the body."

The *Mail on Sunday* reported that thousands of patients who suffer from multiple life-threatening heart problems are to be offered 'three-in-one' surgery – three major procedures carried out during a single keyhole operation. The new technique was pioneered at the Trust, and patient Vivian Ellis was one of the first to undergo the pioneering heart procedure. In July, Mr Ellis was referred to cardiac surgeon Mr Toufan Bahrami, at Harefield Hospital. Mr Ellis

said: "I was out of hospital in a week with very little pain and felt like I'd made a full recovery just two weeks afterwards."

December 2018

In a reflective piece, the BBC and *Daily Mirror* noted that 35 years ago, on 6 December 1983, the first successful heart and lung transplant operation in Britain took place at Harefield Hospital. Swedish journalist Lars Ljungberg received the organs and it took a team of 20 doctors and nurses more than five hours to carry out the operation, led by the 'world-renowned surgeon Professor Sir Magdi Yacoub.'

January 2019

The *Daily Mail* reported on the benefits of patients using virtual reality (VR) headsets to help distract from their pain. The piece cited research at Royal Brompton Hospital, where a study is planned in which patients due for major surgery will watch a VR film about the intensive care unit.

February 2019

Writing in the *Daily Telegraph* under the headline 'The healthy benefits of holding a tune', Dr James Le Fanu, columnist and retired GP, wrote about the therapeutic benefit of singing. Dr Fanu acknowledged the launch of Singing for Breathing at Royal Brompton just over 10 years ago as: "...an alternative to conventional methods for improving lung function. Since then the idea has flourished and there are now more than 70 similar groups in hospitals across the country."



Vocal Beats entertains some young patients

Daily Mail

THE Sun

i

London Evening Standard

BBC

itv NEWS

The Mail
ON SUNDAY

BBC Children in Need

DAILY Mirror

The Daily Telegraph

Governance

As a foundation trust, we are governed by an elected council of governors and independently regulated by NHS Improvement. We have almost 11,000 members who we regularly consult on Trust strategy and service planning.



Royal Brompton & Harefield NHS Foundation Trust has been an independent legal entity as a public benefit corporation since 1 June 2009. The powers of the Trust are set out in the National Health Service Act 2006, and amended by the Health and Social Care Act 2012. The Trust's governance arrangements are laid out in the Trust's constitution and standing orders, which include the membership, the council of governors and the Trust board of directors. There are four formal committees of the Trust board – the audit committee, the risk and safety committee, the finance committee and the nominations and remuneration committee – which collectively provide the board with assurance as to all aspects of the Trust's performance.

The Trust board plays a key role in shaping the strategy, vision and purpose of the organisation. Board members are responsible for assuring that risks to the patients and staff are managed and mitigated effectively. The board is led by a chair, with a mix of both executive and non-executive members, and has collective responsibility for the performance of the organisation.

The council of governors, which comprises both elected and appointed governors, holds the non-executive directors to account for the board's performance. The majority of the council are elected governors, who are drawn from the three constituencies of the membership – patient, public and staff. Appointed governors represent the Trust's

academic partners and also the two London boroughs in which the Trust's hospitals are located. The council of governors appoints the Trust's external auditor; and a sub-committee of the council, the nominations and remuneration committee, considers the appointment of the chair and the other non-executive members of the Trust's board of directors.

Quality Account

The Trust is required by law to produce a Quality Account, which is an annual report to the public about the quality of services delivered. The Quality Account 2018/19 is available on the Trust's website at www.rbht.nhs.uk/about-us/our-performance/quality-accounts and on the NHS Choices website.

Annual report and accounts – Policy and performance

Visit our website to read the Trust's full annual report and accounts for 2017/18 – www.rbht.nhs.uk/report-accounts – and for more information about our policy and performance – www.rbht.nhs.uk/performance

Our board

Executive directors

Full year / part year

Robert J Bell
Chief executive

Dr Richard Grocott-Mason
Medical director/senior responsible officer

Robert Craig
Chief operating officer (part year)

Jan McGuinness
Chief operating officer (part year)

Nicholas Hunt
Director of commissioning and service development

Richard Paterson
Associate chief executive

Joy Godden
Director of nursing and clinical governance

Non-executive directors

Full year

Sally Morgan, Baroness Morgan of Huyton
Chair

Luc Bardin

Mark Batten

Professor Kim Fox

Simon Friend
Deputy chair

Richard Jones

Non-executive directors

Part year

Lesley-Anne Alexander CBE

Janet Hogben

Professor Peter Hutton

Dr Javed Khan

Kate Owen

Dr Andrew Vallance-Owen

Our council of governors

Public governors

Full year

George Doughty
North West London

Part year

Revd. Patrick Davies
Rest of England and Wales

Rt Hon Michael Mates
South of England

Pravin Shah
Bedfordshire and Hertfordshire

Anthony Archer
North West London

Jennifer Sano
Rest of England and Wales

Robert Parker
South of England

Patient and carer governors

Full year

Brenda Davies
Bedfordshire and Hertfordshire

Caroline Karlsen
Carer

Sean O' Reilly
Bedfordshire and Hertfordshire

Dr Ejikeme Uzoalor
Elsewhere

Part year

Helena Bridgman
Elsewhere

Lady Victoria Borwick
North West London

Paul Murray
South of England

Jeremy Stern
North West London

Edward Waite
South of England

Staff governors

Full year

Steve Caddick

Elizabeth Henderson

Professor Claire Hogg

Part year

Maxine Ovens

Steve Palmer

Anne McDermott

Dr Laura Price

Stuart Baldock

Appointed governors

Cllr John Hensley
London Borough of Hillingdon

Part year

Professor Jadwiga Wedzicha
Imperial College London

Tim Ahern
Royal Borough of Kensington and Chelsea

Royal Brompton & Harefield NHS Foundation Trust

accounts for year ended 31 March 2019

Statement of comprehensive income as at 31 March 2019

	2018/19 £000	2018/19 £000
Operating income from patient care activities	358,236	341,290
Other operating income	38,181	78,653
Operating expenses	(411,712)	(398,498)
Operating (deficit)/surplus from continuing operations	(15,295)	21,445
Finance income	173	55
Financial expenses	(1,313)	(1,348)
PDC dividends payable	(7,663)	(6,762)
Net finance costs	(8,803)	(8,055)
Other (losses)/gains	(7,609)	61,973
(Deficit)/surplus for the year	(31,708)	75,363
Other comprehensive income Will not be reclassified to income and expenditure:		
Revaluations	2,818	6,693
Total comprehensive (expense)/ income for the period	(28,890)	82,056

Statement of financial position as at 31 March 2019

	As at 31.03.19 £000	As at 31.03.18 £000
Non-current assets		
Intangible assets	12,209	13,623
Property, plant and equipment	189,967	194,704
Investment properties	93,653	101,210
Total non-current assets	295,829	309,537
Current assets		
Inventories	10,182	10,290
Receivables	49,916	83,190
Cash and cash equivalents	20,818	20,847
Total current assets	80,916	114,327
Current liabilities		
Trade and other payables	(47,318)	(54,200)
Borrowings	(11,115)	(18,665)
Provisions	(3,270)	(1,713)
Total current liabilities	(61,703)	(74,577)
Total assets less current liabilities	315,042	349,287
Non-current liabilities		
Borrowings	(43,596)	(49,192)
Provisions	(374)	(597)
Total non-current liabilities	(43,971)	(49,790)
Total assets employed	271,072	299,497
Financed by		
Public dividend capital	109,069	108,604
Revaluation reserve	57,405	54,587
Income and expenditure reserve	104,599	136,307
Total taxpayers' equity	271,072	299,497



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