



# DRIVING INNOVATION IN THE NHS

THE FUTURE OF SPECIALIST PROVISION IN ENGLAND

NOVEMBER 2015

Federation of  
Specialist Hospitals

# CONTENTS

<b>FOREWORD</b> .....	3
<b>LIST OF CASE STUDIES</b> .....	4
<b>1. EXECUTIVE SUMMARY</b> .....	5
Recommendations .....	5
<b>2. BACKGROUND</b> .....	6
2.1 About specialist hospitals .....	6
Benefits of specialism.....	7
Specialised care in England.....	7
2.2 NHS innovation challenge .....	8
Financial context.....	8
Innovation gap.....	9
Role of specialist hospitals.....	9
<b>3. DELIVERING CLINICAL EXCELLENCE &amp; INNOVATION</b> .....	10
3.1 History of innovation .....	10
3.2 Delivering high-impact innovations .....	11
Maximising value for money .....	12
World-leading collaboration .....	14
Developing intellectual capital .....	15
3.3 Future of research and development .....	15
<b>4. SHARING BEST PRACTICE THROUGH NETWORKS</b> .....	16
4.1 Networks of specialist care.....	16
4.2 Advantages of networked care .....	17
Driving quality through focused expertise.....	17
Delivering local care with specialist oversight .....	19
Improving the efficiency of care delivery .....	20
4.3 Considerations for specialist care networks .....	20
Accountability .....	21
Clinical governance .....	21
Commissioning relationships .....	21
<b>5. HARNESSING THE POTENTIAL OF SPECIALIST HOSPITALS</b> .....	22
5.1 Innovative contracting and payment approaches .....	22
5.2 Clinically-led, patient-driven commissioning .....	23
5.3 Conclusion and next steps .....	23
<b>APPENDIX</b> .....	24
<b>REFERENCES</b> .....	25

# FOREWORD

NHS specialist hospitals have a global reputation for clinical innovation.

From eye surgery under local anaesthetic at Moorfields in the nineteenth century to Papworth's use of artificial hearts in recent years, our specialist services have a proud record of firsts.

As we radically redesign care, now more than ever before we need to seize the opportunities that science and new treatments offer patients.

We must maximise the impact of these centres of excellence and spread their learning across the rest of the health service.

Through the new care models programme we are already supporting specialist networks, like those led by The Christie, The Royal Marsden, Moorfields Eye Hospital and other Federation members, to serve a wider population.

This report recognises the invaluable contribution that specialist care networks can make for the future of healthcare and for a better, more sustainable NHS.



A handwritten signature in blue ink, which appears to read 'Simon Stevens'.

**Simon Stevens**

Chief Executive, NHS England

# LIST OF CASE STUDIES

- 1. GETTING IT RIGHT FIRST TIME** .....9  
Professor Tim Briggs and the 'Getting It Right First Time' team have conducted a clinically-led, peer to peer review of adult elective orthopaedic services in England to address variations in practice and drive efficiency in the delivery of orthopaedic care across the NHS.
- 2. REMOVING POLYPS WITHOUT NEED FOR STOMA BAGS** ..... 11  
St Mark's Hospital has developed a revolutionary surgical technique which makes it easier and safer to remove large rectal polyps, enabling patients to avoid major surgery and reducing the likelihood of them being left with a stoma bag.
- 3. THE NEXT GENERATION OF AMPUTATION PROSTHESIS** ..... 12  
The Royal National Orthopaedic Hospital has pioneered a new reconstructive technique for people who have had limbs amputated, which has enhanced the comfort and control of prosthetic limbs and led to improved quality of life.
- 4. TRANSFORMING CARE FOR HEART ATTACK PATIENTS** ..... 13  
A trial conducted at Liverpool Heart and Chest Hospital has found that routine use of heparin rather than bivalirudin can improve outcomes for heart attack patients, while realising cost savings amounting to hundreds of millions of dollars globally.
- 5. NIHR BIOMEDICAL RESEARCH CENTRE FOR OPHTHALMOLOGY** ..... 14  
Moorfields Eye Hospital, the UCL Institute of Ophthalmology and the University of Bristol have established the most productive ophthalmology and vision research partnership in the world, publishing more papers than any other centre in the last decade.
- 6. MOORFIELDS SATELLITE NETWORK** ..... 17  
Moorfields Eye Hospital delivers a range of specialist and routine ophthalmology services across 23 sites in and around London. Approximately 50% of Moorfields' total activity is delivered away from its central London hospital.
- 7. SPECIALIST CANCER NETWORKS IN THE NORTH WEST** ..... 18  
The Christie has introduced a quality mark and regular site inspections to maintain high quality care across its network. Clatterbridge Cancer Centre has established a wholly-owned subsidiary company to supply medicines for home administration, strengthening clinical governance and enabling savings to be kept within the NHS.
- 8. 'HOSPITAL TO HOME' LONG TERM VENTILATION NETWORK** ..... 19  
The Royal Brompton and Harefield has developed a unique, web-based 'Hospital to Home' pathway to support children who require long-term ventilation to be safely discharged from hospital, halving the time in hospital for children who need a ventilator to breathe.
- 9. CHESHIRE AND MERSEYSIDE REHABILITATION NETWORK** ..... 20  
The Walton Centre and its partners have established the Cheshire and Merseyside Rehabilitation Network to care for patients in services appropriate for the complexity of their rehabilitation needs. This has led to shorter lengths of stay across the network and significant cost reductions compared to the previous pathway.
- 10. NATIONAL ORTHOPAEDIC ALLIANCE** ..... 21  
A partnership between Robert Jones and Agnes Hunt Hospital, Royal National Orthopaedic Hospital and Royal Orthopaedic Hospital has been chosen as an acute care collaboration vanguard to create a UK-wide network of orthopaedic providers to deliver outstanding and consistent care in more areas.

# 1. EXECUTIVE SUMMARY

The NHS is currently facing the significant challenges of an ageing population, financial pressures and an ever increasing public expectation of what healthcare can deliver. It is commonly recognised that research and innovation are key to addressing these challenges. Nonetheless, there remains a significant gap between our capacity to innovate and our ability to turn these innovations into real benefits for patients.

Specialist hospitals play a key role in bridging this gap. As world-leading centres of excellence, they are a recognised route for clinical innovations to enter the NHS, with new treatments and interventions routinely developed in these hospitals before being generalised as standard practice elsewhere. This success is underpinned by a strong understanding of the needs of patients and how existing practices can be improved to deliver better value for the NHS.

Working with their partners, specialist hospitals have also led the establishment of networks to drive improvements in the quality and efficiency of care delivered across a geography. Through these arrangements, specialist hospitals have been able to deliver local services to patients with specialist oversight, supporting the clinical success and sustainability of other local providers. This has been powerfully endorsed by the Five Year Forward View and the New Care Models programme.

The Federation of Specialist Hospitals is committed to working with others throughout the NHS to build on the existing successes of specialist trusts to secure the very best quality, efficiency and accessibility of care for patients. This report sets out the Federation's recommendations on how the potential of specialist hospitals can be fully harnessed to maintain and enhance the NHS's reputation as a global leader of innovation now and into the future.

RECOMMENDATIONS	
1	The contributions specialist hospitals make to clinical research and the rapid deployment of innovations should be recognised and supported by national policy across the board, including the Accelerated Access Review
2	Policymakers and commissioners should work with specialist hospitals to identify and roll out local initiatives which can make a significant contribution to meeting the NHS financial challenge
3	Specialist hospitals and their partners should create incentives to encourage cross-institutional collaboration and research, and explore the opportunity to strengthen joint working with industry and international organisations
4	The Government should protect science funding over this parliament, with a ring-fenced budget for clinical and translational research programmes
5	The national New Care Models programme should formalise the quality improvement methodologies established by specialist providers and share them more broadly across the NHS
6	The national New Care Models programme should work with specialist providers to explore how digital technology can be harnessed to support care coordination and improve outcomes across network sites
7	The national New Care Models programme should work with specialist providers and their partners to develop a formal evaluation tool to assess the impact existing networks have on the quality and efficiency of care delivered and how this has been achieved
8	The national New Care Models programme should consider lessons learned from existing specialist care networks and incorporate them into the vanguards support package
9	Monitor and NHS England should work with specialist providers to explore and test innovative contracting and payment approaches which can support further improvements in specialised care
10	Monitor and NHS England should consider new reimbursement models to support the development and early adoption of new treatments and devices within specialist trusts and across their networks
11	NHS England should work with specialist providers to assess the effectiveness of clinical engagement in specialised commissioning and reinforce the role of Clinical Reference Groups
12	NHS England should work with specialist providers to develop a national strategy for specialised commissioning, setting out a clear direction of travel for specialised services during the next five years

## 2. BACKGROUND

The NHS has a proud history of medical innovation. From the discovery of penicillin to genetic sequencing, British researchers and clinicians have led the way in rolling out new treatments and technologies that have transformed the standards of care for patients across the world.

Being the world's largest integrated national health system has enabled the NHS to take forward ground-breaking initiatives such as the 100,000 Genomes Project at scale and pace. The bargaining power of the NHS puts it in a strong position to accelerate the adoption and diffusion of high-impact innovation, while exporting its clinical research and expertise internationally.

However, innovation gains have been increasingly difficult to replicate in the context of fiscal retrenchment following the global recession. The NHS, like many other health systems, is facing the challenges of an ageing population with increasing co-morbidities as well as the growing costs of more severe and complex cases. Research and innovation in the NHS are essential to addressing these challenges and ensuring that the health service is fit for the future.

As world-leading centres of excellence, specialist hospitals have an important role to play in helping the NHS deliver high quality, efficient care to patients. This report sets out some of the contributions specialist hospitals have made to the NHS innovation agenda and explores how the full potential of these organisations could be harnessed to maintain and enhance the NHS's reputation as a global leader of innovation now and in the future.

### 2.1 ABOUT SPECIALIST HOSPITALS

There are 18 standalone specialist trusts in England, in addition to many other specialist units which form part of larger trusts. They are characterised by their single-specialty focus and, typically, by a disproportionately complex casemix.

Within their clinical specialties, specialist hospitals are internationally recognised for their clinical excellence, teaching and research. Collectively, they span a wide range of specialties, from cancer, cardiac, neurology and orthopaedic services to women's and children's health.

#### LIST OF SPECIALIST HOSPITALS IN ENGLAND

- Alder Hey Children's NHS Foundation Trust
- Birmingham Children's Hospital NHS Foundation Trust
- Birmingham Women's NHS Foundation Trust
- Great Ormond Street Hospital for Children NHS Foundation Trust
- Liverpool Heart and Chest Hospital NHS Foundation Trust
- Liverpool Women's NHS Foundation Trust
- Moorfields Eye Hospital NHS Foundation Trust
- National Hospital for Neurology and Neurosurgery
- Nuffield Orthopaedic Centre
- Papworth Hospital NHS Foundation Trust
- Queen Victoria Hospital NHS Foundation Trust
- Royal Brompton and Harefield NHS Foundation Trust
- Robert Jones and Agnes Hunt Orthopaedic Hospital NHS Foundation Trust
- Royal National Hospital for Rheumatic Diseases
- Royal National Orthopaedic Hospital NHS Trust
- Royal National Throat, Nose & Ear Hospital
- Sheffield Children's NHS Foundation Trust
- St Mark's Hospital and Academic Institute
- The Christie NHS Foundation Trust
- The Clatterbridge Cancer Centre NHS Foundation Trust
- The Royal Marsden NHS Foundation Trust
- The Royal Orthopaedic Hospital NHS Foundation Trust
- The Walton Centre NHS Foundation Trust
- Wrightington Hospital

## BENEFITS OF SPECIALISM

A rapid growth of medical knowledge in the past century has transformed the nature of health services around the world, vastly extending the range of services that can be provided within hospitals. This trend has been reflected in the growth of specialisation amongst medical and other health professionals, for example, in the fields of cancer, cardiovascular disease, neurology and orthopaedics.

Specialism has been promoted particularly for rarer and complex cases, where the small patient populations involved mean that they cannot be effectively treated in a large number of locations. This is supported by NHS England's Manual for Prescribed Specialised Services:

**“A critical mass of patients is needed in each treatment centre to achieve the best outcomes and maintain the clinical competence of clinical staff. Concentrating services in this way ensures that specialist staff can be more easily recruited and their training maintained.”**

**“It is also more cost-effective and makes the best use of resources such as high tech equipment and staff expertise.”<sup>1</sup>**

The benefits of specialism are also endorsed by the Five Year Forward View:

**“In some services there is a compelling case for greater concentration of care. In these services there is a strong relationship between the number of patients and the quality of care, derived from the greater experience these more practised clinicians have, access to costly specialised facilities and equipment, and the greater standardisation of care that tends to occur.”**

**“The evidence suggests that similar benefits could be had for most specialised surgery, and some cancer and other services.”<sup>2</sup>**

In addition to the rarer and more complex services, there is also a growing evidence supporting the positive relationship between volumes and outcomes for more routine cases. For example, a report prepared for the advisory group to the National Framework for Service Change, NHS Scotland, concluded that:

**“There is now a core of studies of adequate methodological quality to establish striking volume/outcome associations in certain complex high risk surgical procedures and more modest but clinically relevant effects in a wide range of common procedures.”<sup>3</sup>**

The success of specialist hospitals depends, in part, on the benefits of specialism, some of which are set out below.

### ■ Enhanced clinical outcomes

The single-specialty focus of specialist hospitals means that they treat very high volumes of both routine and complex cases in their particular clinical disciplines. In doing so, they are able to develop clinical expertise and maintain the types of multidisciplinary teams that are required to achieve better outcomes for patients.

As the Federation's 2014 Outcomes Report demonstrates, specialist hospitals achieve superior results for both complex and routine cases, compared with general hospitals.<sup>4</sup>

### ■ Improved cost effectiveness

Specialist hospitals, by providing care of the highest quality, can 'get it right first time' and hence avoid the need for corrective surgery and reduce long term dependence on health and care services. In doing so, they can also help to reduce length of stay and higher treatment costs arising from hospital-acquired infections.

As the case studies in this report will demonstrate, specialist hospitals play a key role in reducing the overall costs of care to the NHS, while releasing much-needed capacity in a period of unprecedented demand.

### ■ Treatment of rare and complex cases

The experience of specialist hospitals in treating high volumes of complex cases enables them to provide leading-edge treatments that are the only, and sometimes last, hope for patients with a range of very rare conditions or serious complications. In recognition of their world-leading expertise, patients often travel long distances to access the services provided by specialist trusts, particularly those that are not available in other parts of the UK or internationally.

## SPECIALISED CARE IN ENGLAND

Specialised services are those NHS services which cannot be sensibly planned and delivered at a local level, typically for rare and more complex conditions. These services account for a significant proportion of the activity undertaken by specialist trusts.

Prior to April 2013, budget and responsibility for commissioning the majority of specialised services rested with Primary Care Trusts across the country. Under the Health and Social Care Act 2012, the commissioning of specialised services became the direct responsibility of NHS England in its capacity as the single national commissioner of specialised services.<sup>5</sup>

The national commissioning of specialised services has been a welcome development for specialist providers. The extensive referral networks of these trusts mean that they previously had to liaise with a large number of local commissioners, leading to variation and inefficient service planning. Under the current system, specialist providers can expect a significant proportion of their contracts to be held with NHS England, covering the national patient catchment populations they serve.

The new arrangements also saw the introduction of clinically-led national service specifications and treatment policies for all specialised services as a way of ensuring equitable patient access across England. Specialist hospitals have played a key role in the establishment of these national standards, by developing best practice and volunteering the time of their expert clinicians to contribute to and lead policy development.

## 2.2 NHS INNOVATION CHALLENGE

### FINANCIAL CONTEXT

The UK, like many other health economies, is facing the challenges of an ageing population with increasing co-morbidities and the growing costs of more severe and complex cases. However, the UK spends less on health than the majority of other countries in the OECD.<sup>6</sup> With fewer hospitals, doctors and nurses per head than many of its peers, it is imperative that the NHS continues to make efficiency gains to maintain its place at the vanguard of global medicine.<sup>7</sup>

Over the last parliament, the NHS made significant efficiency savings against a backdrop of flat funding. However, analysis shows that the NHS provider sector ended 2014/15 with a combined deficit of £823 million and this looks set to exceed £2 billion in 2015/16, with some 90% of trusts predicting a deficit.<sup>8</sup>

With pressure on services certain to persist, the current parliament will include some of the most financially challenging years in NHS history. Indeed, the Five Year Forward View predicts that:

**“A combination of growing demand, no further annual efficiencies, and flat real terms funding could, by 2020/21, produce a mismatch between resource and patient needs of nearly £30 billion a year.”<sup>9</sup>**

EFFICIENCY SAVINGS	ESTIMATED SHORTFALL BY 2020/21
None	£30 billion
0.8% a year	£21 billion
1.5% a year	£16 billion
2-3% a year	£8 billion

The scale of the challenge is particularly reflected in the financial accounts of specialist trusts. Monitor’s accounts have indicated a rapid deterioration of the finances of specialist trusts since 2013/14, as set out by the table below.<sup>14 15 16</sup>

The financial figures from quarter one of 2015/16 are significantly more alarming for the provider sector as a whole. Specialist hospitals are not immune from this trend, with the specialist sector posting an earnings before interest, tax, depreciation and amortisation (EBITDA) margin of just 2.6% and a collective net deficit of £11 million in the first quarter of 2015/16.<sup>17</sup>

In order to close this financial gap, the Forward View argues that infrastructure and operating investments will need to be made to the NHS so that it can move towards new care models and ways of working. This, it argues, “will in turn enable demand and efficiency gains worth 2% to 3% net each year.”<sup>10</sup>

This is no doubt a substantial challenge for the NHS, whose past efficiency rate has averaged around 0.8% a year.<sup>11</sup> Research from the Health Foundation has shown that NHS providers have improved efficiency at an average rate of only 0.4% a year over the last parliament, substantially below the minimum of ambition set out by the Forward View.<sup>12 13</sup>

These figures indicate a systemic weakening of the financial position of specialist providers, which reduce their ability to withstand unexpected changes in demand. More importantly, they are an important indication of the financial health of the wider provider sector.

Recognising the scale of the challenge, specialist hospitals are committed to working collaboratively with partners across the NHS to driving the NHS quality agenda while ensuring a sustainable financial environment going forward.

SPECIALIST PROVIDER FINANCES	2013/14	2014/15	VARIATION
% of total provider sector turnover	7.0%	7.1%	No change
EBITDA margin	7.4%	5.7%	-1.8%
Surplus before impairments and transfers	£112m	£56m	£-56m (-50%)

## INNOVATION GAP

Research and innovation in the NHS are critical for addressing the financial challenge. However, there has been increasing concern in England about translation of research into patient benefit. For example:

- Despite having led the development of MRI and CT scanners, the UK lags behind other developed countries on the number of scanners available to patients. It has just 6.8 and 8.7 CT and MRI scanners per million population, less than half of the OECD average.<sup>18</sup>
- The Government's 2015 Life Science Competitiveness Indicators show that the UK lags behind other developed countries on the uptake of new NICE-approved medicines, amounting to only 11% of the average of other developed countries after one year. Uptake is less than a third of the average after two years, and still only half the average after four years.<sup>19</sup>

This was in part recognised by the Minister for Life Sciences, George Freeman, during a speech at the Health and Care Innovation Expo 2015:

**“...there is a gap between our ability to innovate within the UK and turn these innovations into health benefits for the population and to grow and generate the wealth from our £56 billion life science industry we need to pay for our rising healthcare costs.”<sup>20</sup>**

In recognition of this gap, the Government has launched the Accelerated Access Review to look at the development and adoption pathways for innovative medicines, devices and diagnostics within the NHS. Independently chaired by Sir Hugh Taylor, the Review aims to accelerate access to innovative medicines and medical technologies for NHS patients and is due to make its final recommendations in April 2016.<sup>21</sup>

A key challenge for the Review is to ensure the right clinical expertise and networks are in place to accelerate the adoption of innovative treatments and maximise their impact for patients across the country. Specialist hospitals are keen to share their expertise in this regard, and work with others throughout the NHS to improve the quality, efficiency and accessibility of care delivered to patients.

## ROLE OF SPECIALIST HOSPITALS

As leading centres of excellence, specialist hospitals are a proven route for innovation to enter the NHS. New treatments and interventions are routinely developed in these hospitals before being generalised as standard practice. They also play a key part in the early adoption of innovation from elsewhere, by trialling new interventions and working out how best to introduce them into routine practice. In doing so, specialist hospitals play a crucial role in pioneering and testing treatments which are often the only, and sometimes last, hope for patients with a range of rare conditions and serious complications.

Over the last few decades, specialist hospitals have also led the way in developing networks of specialist care. Through these networks, they have been able to share leading clinical expertise and best practice with other providers. This has helped to maximise the benefits of specialism while delivering high quality, efficient care closer to people's homes where appropriate.

The rest of this report demonstrates the significant contributions specialist hospitals have made to the NHS innovation agenda and how their potential can be maximised. Chapter two focuses on specialist hospitals' contribution to clinical excellence and innovation, and chapter three outlines their experience in sharing innovation and best practice through networks of specialist care.

Chapter four discusses the challenges facing specialist hospitals and sets out the Federation's recommendations for how they can be addressed to realise the full potential of specialist hospitals.

## CASE STUDY 1

### GETTING IT RIGHT FIRST TIME

In 2012, Professor Tim Briggs published a report entitled 'Getting it Right First Time' (GIRFT), which considered the state of orthopaedic surgery provision in England and suggested that changes could be made to improve care pathways, patient experience and outcomes while reducing costs.<sup>22</sup>

The Secretary of State for Health and NHS England funded the GIRFT project as a national professional pilot. The project involved senior clinicians undertaking a national review of baseline data and using the dataset as the basis for a bespoke, peer-to-peer review of adult elective orthopaedic and spinal practice of every provider across England.

The project included targeted self-assessment and peer review of musculoskeletal services at a local level. This led to evidence-based, peer to peer discussions about potential options for the configuration of services in selected elective orthopaedic pathways which were considered to be most in need of improvement.

Findings from the project, published in March 2015, found significant variations in device and procedure selection, clinical costs, infection rates, readmission rates, and litigation rates in orthopaedics. The findings demonstrated scope to drive quality and efficiency improvements by adopting best practice and reducing supplier costs.<sup>23</sup>

The results of the project were endorsed by the Interim Report of the Lord Carter's Review of Operational Productivity of NHS Providers, which stated that "the evidence and data surrounding this work is robust and compelling"<sup>24</sup>. It is anticipated that the GIRFT methodology will be rolled out to a number of other clinical specialities.

# 3. DELIVERING CLINICAL EXCELLENCE & INNOVATION

Together, medical research charities and the pharmaceutical industry spend more than £7 billion a year on research and development in the UK.<sup>25</sup>

While this has led to a vast range of new treatments, there has been increasing concern, in this country and elsewhere, that the link between research and treatment has not been as effective as it should be. As a result, the potential of innovative practices and technologies to improve patient experience and outcomes has not yet been fully realised.

Against this background, the NHS Constitution sets out a clear commitment to innovation and, in particular, to the "promotion, conduct and use of research to improve the current and future health and care of the population."<sup>26</sup> This is reflected in the Health and Social Care Act 2012, which sets out a statutory duty for NHS England and Clinical Commissioning Groups (CCGs) to "promote innovation in the provision of health services".<sup>27</sup>

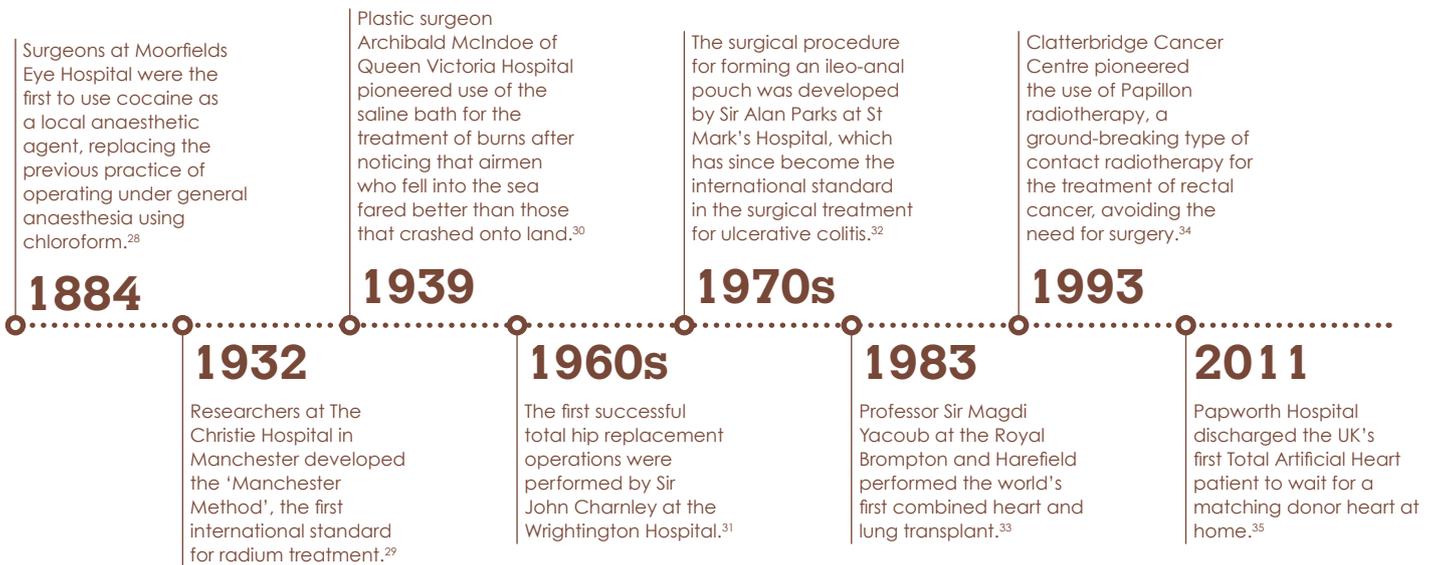
The promotion of innovation is not the responsibility of commissioners alone. Experience shows that high-impact innovations often arise through close collaboration between commissioners and providers, working alongside academic institutions, industry and third sector organisations, amongst others.

As world-leading centres of excellence, specialist hospitals play an important role in the rigorous testing of new treatments and interventions and their translation into clinical practice. This chapter describes specialist hospitals' experience of developing and adopting clinical innovation and identifies factors which have contributed to their success.

## 3.1 HISTORY OF INNOVATION

Specialist hospitals have a proud history of innovation. They are responsible for many of the defining breakthroughs of modern medicine, developing new techniques and practices that have later become international standards for treatment in a variety of conditions. In doing so, specialist hospitals have played a key role in establishing and maintaining the UK's place at the forefront of global medicine.

**Key milestones include but are not limited to:**



## 3.2 DELIVERING HIGH-IMPACT INNOVATIONS

Today, specialist hospitals are building on this legacy of innovation by undertaking ground-breaking research and translating clinical innovations into real benefits for patients. They are a recognised route for innovation to enter the NHS, with new treatments and interventions routinely developed in these hospitals before being generalised as standard practice elsewhere.

The achievements of specialist hospitals are underpinned by a number of factors, not least of which are the benefits of specialism that foster clinical expertise and drive innovation at scale and pace. The following section describes the key principles underpinning specialist hospitals' activities in innovation. These include:

- Putting the needs of patients at the heart of clinical innovation
- Delivering value for money by continuously improving the quality and efficiency of care
- Establishing world-leading partnerships to bring complementary skills to bear
- Training the next generation of clinical specialists to drive research output, discovery and innovation

### PATIENT-CENTRED APPROACH

The emphasis on delivering transformative care for patients is the driving force behind much of what specialist hospitals have to offer. The opportunity to change the lives of patients around the world is what attracts leading clinical and academic experts to these trusts, where research opportunities are a fundamental part of delivering patient care.

Specialist hospitals recognise that a world-leading presence is required in order to continue their successes in clinical innovation and research. However, the size and resource constraints of these relatively small trusts means that it is not realistic to be world-leaders in all areas. For this reason, specialist hospitals have placed a strong emphasis on selecting high impact programmes which have the potential to radically transform outcomes and quality of life for patients around the world. Some examples of these innovations are given below.

## CASE STUDY 2

### REMOVING POLYPS WITHOUT NEED FOR STOMA BAGS

A team at St Mark's Hospital in North West London has developed a revolutionary surgical technique which makes it easier and safer to remove large rectal polyps, enabling patients to avoid major surgery and reducing the likelihood of them being left with a stoma bag. The technique, called Trans-Anal Submucosal Endoscopic Resection, combines the skills of a therapeutic endoscopist and a laparoscopic-trained surgeon to create a minimally invasive way of removing rectal polyps.

Professor Brian Saunders, consultant gastroenterologist at St Mark's Hospital, explains: "When polyps grow larger they give patients severe symptoms and are likely to become cancerous, therefore they must be completely removed. Traditionally, this would involve major surgery that could result in some patients having to live with a stoma bag attached to the abdominal wall to collect waste.

"The results from the first 20 patients have been hugely encouraging with none needing a stoma bag and with short hospital stays and rapid recovery. We are really excited about this new technique which will radically transform the lives of patients with large polyps."<sup>36</sup>

## CASE STUDY 3

### THE NEXT GENERATION OF AMPUTATION PROSTHESIS

The Royal National Orthopaedic Hospital (RNOH) in Stanmore has developed a reconstructive technique for patients who have had limbs amputated, improving the comfort and control of prosthetic limbs. The technique, called intraosseous transcutaneous amputation prosthesis (ITAP), involves the insertion of a metal implant into the bone of the stump, which is used as an anchor so that a prosthetic limb can be attached. Over a period of months the implant will become integrated with the bone it has been inserted in to, ensuring a firm bond is formed.<sup>37</sup>

Mark O'Leary was one of the first of 20 above-the-knee amputees to undergo this new reconstructive technique. Speaking about the impact of the innovation on his quality of life, he says: "Just knowing where my foot is, my ability to know where it is improved dramatically because you can feel it through the bone."

"With a socketed leg my internal picture of myself was of a person with one leg. Fairly quickly into my rehab, my mental picture switched to that of a person with two legs. I very rarely take it off. It's difficult to describe just how good it is."<sup>38</sup>

Part of the success of the St Mark's and the RNOH's innovations derives from their ability to address significant unmet clinical need, which is at the heart of specialist hospitals' patient-centred approach.

By identifying and addressing these areas of need, specialist hospitals are able to ensure their research and development programmes deliver the highest impact for patients and the NHS. This is facilitated by seeking feedback from patients and a strong understanding of the issues currently facing the health service. For example:

- The Walton Centre is conducting the first nation-wide study to identify factors that affect the quality of life for people with Multiple Sclerosis or Motor Neurone Disease. The study is a collaboration between researchers from 35 specialist neurological centres, working alongside industry and third sector organisations. The intention is to create tools which will be used to provide personalised care, increased efficiency and improve patient forecasting for the treatment of neurological conditions.<sup>39</sup>
- Papworth Hospital has successfully performed Europe's first non-beating heart transplant. The landmark procedure shows that heart transplants from a new group of potential donors – known as non-heart beating donors - could increase heart transplantation by up to 25% in the UK alone. This could have major implications for expanding patient access, particularly as the heart transplant waiting list continues to grow.<sup>40</sup>
- Birmingham Women's Hospital is the only hospital in Europe to take part in the World Health Organisation's clinical trial to evaluate a room-temperature stable formulation of carbetocin for preventing postpartum haemorrhage, the leading cause of maternal mortality in low-income countries. The current treatment, oxytocin, needs to be stored in cold conditions, which is difficult to achieve in many parts of the world. The results of this study could therefore transform access to effective care and have a substantial impact on maternal survival around the world.<sup>41 42</sup>

### RECOMMENDATION 1

The contributions specialist hospitals make to clinical research and the rapid deployment of innovations should be recognised and supported by national policy across the board, including the Accelerated Access Review.

### MAXIMISING VALUE FOR MONEY

The provider sector, including specialist hospitals, is experiencing unprecedented financial strain, with growing ramifications for sustainability and patient care. The smaller size of specialist hospitals also means that they are vulnerable to unexpected changes in the financial environment. These hospitals therefore have a considerable interest in maintaining the overall financial stability of the NHS and putting services on a sustainable footing for the future.

Specialist hospitals' activities in innovation are driven in part by an ambition to deliver value for money. This is underpinned by significant clinical and management expertise, which enable these hospitals to better understand the costs of existing practices and how they can be improved to deliver better value for the NHS.

In addition to the savings which can be made in relation to individual treatment costs, specialist trusts are well placed to support more efficient use of existing treatments and technologies. For example:

- Some patients on long-term chemotherapy treatment require reviews by a consultant oncologist on a quarterly basis. Clinicians at The Christie led a redesign of this patient pathway, which introduced a pharmacy telephone consultation at month two and month three following a formal consultation. This has allowed the pharmacy team to assess the well-being of the patient and instruct the dispensing of the patients' subsequent prescription scripts. The telephone consultation has helped to identify patients who no longer require a further prescription, therefore reducing drug wastage and delivering recurrent annual savings to commissioners. A pilot of this programme has shown savings of more than £50,000, with the potential for hundreds of thousands as it is rolled out to other patients, including those without cancer.<sup>45</sup>

- Angiography of the head is conventionally undertaken by bi-plane x-ray fluoroscopy, with the contrast introduced through a catheter via the groin. This procedure is invasive and is usually undertaken as a day case owing to the recovery time and risk to the patient. The Walton Centre has developed an alternative technique called 4D CT angiography, using a high speed CT scanner, which is less invasive for the patient, takes only five to ten minutes and therefore enables the procedure to be undertaken as an outpatient procedure. This allows any hospital with a CT scanner of the appropriate specification to perform the procedure, thereby avoiding unnecessary transfers and missed pathology.<sup>46</sup>

## RECOMMENDATION 2

Policymakers and commissioners should work with specialist hospitals to identify and roll out local initiatives which can make a significant contribution to meeting the NHS financial challenge.

## CASE STUDY 4

### TRANSFORMING CARE FOR HEART ATTACK PATIENTS

A ground-breaking trial conducted at Liverpool Heart and Chest Hospital (LHCH) has found that routine use of heparin rather than bivalirudin could improve outcomes for heart attack patients, while at the same time reducing costs for healthcare organisations amounting to hundreds of millions of dollars globally.

The optimum treatment of a heart attack event is an emergency angioplasty and stent procedure to re-open a blocked heart artery. This 22 month research trial compared the performance of two drugs, heparin and bivalirudin, which are used as anticlotting agents in this setting. The results suggest that, when compared to bivalirudin, the use of heparin was associated with a substantial reduction in the incidence of early recurrent heart attack and fewer deaths and strokes. It was also shown to prevent three serious adverse events for every hundred patients treated.

Dr Rod Stables, Consultant Cardiologist and Research Lead for Interventional Cardiology at LHCH, said: "In the UK bivalirudin is approximately 400 times more expensive than heparin. Bivalirudin is in widespread use around the world. Putting to one side the potential savings from better patient outcomes, we estimate that, by application of our findings, LHCH could make significant savings in drug costs alone. The potential for global cost saving is substantial."<sup>43</sup>

The results of this trial were presented at the International Cardiology Conference in Washington in 2014. The European guidelines on anti-thrombotic therapy in primary angioplasty have subsequently been revised to reflect the use of heparin in preference to bivalirudin.<sup>44</sup>

## WORLD-LEADING COLLABORATION

As part of their focus to transform the quality and efficiency of care delivered to patients, specialist hospitals have increasingly sought to establish strategic collaborations with partners with complementary expertise, such as academic institutions, industry and third sector organisations.

These collaborations can often be established through the co-location of some partner institutions within specialist hospital sites. For example, the Blond McIndoe Research Foundation, a charity known for pioneering research into wound healing and reconstructive surgery, is situated within the grounds of Queen Victoria Hospital in East Grinstead. This has enabled scientists and clinicians in these two organisations to collaborate, ensuring that the research they conduct remains tightly focussed on patient need.<sup>47</sup> Similarly, University College London's Institute of Orthopaedic and Musculoskeletal Science is based within the RNOH in order to maximise synergies between the research and clinical activities conducted by the two institutions.<sup>48</sup>

In recent years, specialist hospitals and their partners have formalised some of these relationships to deliver greater innovation gains. A good example is the Institute of Cardiovascular Medicine and Science, set up by the Royal Brompton & Harefield and LHCH in collaboration with Imperial College London and the University of Liverpool. The Institute is the first of its kind in Europe and will no doubt play a key role in improving outcomes in cardiovascular medicine for patients now and in the future.<sup>49</sup> Another example of a formal partnership of this kind is outlined below.

## CASE STUDY 5

### NIHR BIOMEDICAL RESEARCH CENTRE FOR OPHTHALMOLOGY

Moorfields Eye Hospital, the UCL Institute of Ophthalmology (IoO) and the University of Bristol are home to one of 11 Biomedical Research Centres (BRCs) in England and the only one solely dedicated to vision.

The Centre forms the most productive ophthalmology and vision research partnership in the world, publishing more papers than any other centre in the last decade. It also has the largest patient population in Europe and the USA. During 2014/15, Moorfields supported more than 230 active projects and follow-up studies and the IoO had 280 active research grants.

The University of Bristol's inflammation expertise, Moorfields' patient numbers and the IoO's research areas, including genetic and cellular therapy, are complementary. The collaboration benefits from a shared vision and a clearly defined relationship, with the joint appointments underpinned by service level agreements.<sup>50</sup>

International arrangements are also in place and the BRC for Ophthalmology has entered into a consortium agreement with the National Eye Institute of the American National Institutes for Health. This arrangement has facilitated access to international funding and enabled the combination of transatlantic research excellence to deliver cutting-edge advances to combat inflammatory eye diseases.<sup>51</sup>

Collaborations such as these play a key role in education and training. By attracting world-leading clinical experts and researchers, they help to encourage the sharing of best practice and provide more junior staff with the opportunity to learn from the best in the field. Joint training programmes and fellowship schemes are widely available to facilitate closer research and cross fertilisation.

### RECOMMENDATION 3

Specialist hospitals and their partners should create incentives to encourage cross-institutional collaboration and research, and explore the opportunity to strengthen joint working with industry and international organisations.

## DEVELOPING INTELLECTUAL CAPITAL

The reputations of specialist hospitals are established by the work of the people who have been and are based there. The intellectual capital and technical skills they provide are the most valuable assets of these hospitals and provide the basis for much of their success in clinical innovation.

Specialist hospitals are well-placed to attract the best people due to their recognised expertise and culture of innovation. They understand that the most talented individuals are rarely content with using tried and tested methods of treating patients, and respond by providing opportunities to gain experience in a rich variety of rare and difficult problems, unmatched in other centres. In doing so, they are able to retain a critical mass of leading clinical experts with the capabilities and drive to revolutionise care in their respective disciplines.

Specialist hospitals take pride in their role in training the future specialist workforce. A significant proportion of all consultant clinicians in the UK have undertaken some part of their clinical education in specialist hospitals. This has enabled existing staff to consolidate their learnings and share best practice with the next generation of clinical leaders, while helping to instil a culture of excellence throughout the health service.

- In the UK, around 50% of all ophthalmology consultants undertook some part of their training at Moorfields Eye Hospital.<sup>52</sup>
- 20% of all UK orthopaedic surgeons receive training at the RNOH.<sup>53</sup> In partnership with the London Southbank University, the RNOH is also developing the UK's first Centre for Orthopaedic Nursing Research and Education.<sup>54</sup>
- The Christie has developed the UK's first School of Oncology, which delivers high quality education and training across its cancer treatment network and throughout the country.<sup>55</sup>

## 3.3 FUTURE OF RESEARCH AND DEVELOPMENT

Like many other research-related organisations in the UK, specialist hospitals will need to overcome significant funding challenges in the coming years to maintain their place at the forefront of global research and innovation.

In 2013, gross domestic expenditure on research and development in the UK was £28.9 billion or 1.67% of GDP, down from 2.01% in 1985.<sup>56</sup> Public sector funding for clinical research is likely to stay flat or even decrease in the coming years. This is in addition to pressures on specialist hospitals' income from clinical services, including a potential further reduction in tariff and stricter demands from increasingly cost-conscious commissioners. Against this background, research programmes will need to demonstrate high impact and value to sustain investment and attract funding from other sources.

Specialist hospitals in particular are facing an increasingly competitive environment, as some leading international institutions are substantially better endowed. This will potentially affect their ability to attract the top talents and secure funding for clinical research. Collaboration with partner institutions, such as academic and commercial organisations in the UK and abroad, is therefore crucial to maximising the potential of specialist providers and their contributions to clinical research and innovation.

### RECOMMENDATION 4

The Government should protect science funding over this parliament, with a ring-fenced budget for clinical and translational research programmes.

## 4. SHARING BEST PRACTICE THROUGH NETWORKS

The Five Year Forward View endorses specialist care networks as a powerful mechanism for spreading best practice and supporting the clinical and financial success of smaller local hospitals.

The Forward View recognises the case for the centralisation of services, saying: “It is right that [smaller acute hospitals] should not be providing complex acute services where there is evidence that high volumes are associated with high quality.” However, the solution presented by the document is not to close or merge these hospitals. Instead, it states that:

**“We will create new organisational models for smaller acute hospitals that enable them to gain the benefits of scale without necessarily having to centralise services.”**

**“[For example,] a smaller local hospital might have some of its services on site provided by another specialised provider...”<sup>57</sup>**

### 4.1 NETWORKS OF SPECIALIST CARE

Typically, specialist care networks are formed when smaller local hospitals recognise that they are unable to provide a service to the required quality standards themselves.

One way of resolving this issue is by establishing links with specialist providers, which enable local access to specialist expertise and innovations while resolving gaps in the clinical workforce. Links such as this may come in many forms depending on the clinical speciality and the level of support that is required.

As is often the case, links between specialist hospitals and more local trusts are initially established through informal relationships. The role of specialist hospitals as tertiary referral centres enables them to work closely with other trusts to create seamless patient pathways for the services they deliver. Arrangements such as this allow specialist hospitals to provide medical and professional support to referring trusts, advising both on individual cases and on the organisational development and learning of local trusts.

Through partnerships with more local trusts, specialist hospitals have been able to manage services across a wider geographical region without the full-scale organisational changes that hospitals mergers often entail. This is achieved through strong leadership and a clear, common focus on quality improvement. Using this approach, specialist hospitals have been able to deliver local services to patients where possible with specialist oversight where necessary.

This chapter presents a series of case studies to illustrate the advantages of specialist care networks. It also identifies some of the key barriers to the establishment and spread of these models, which specialist hospitals are keen to work with others to address.

In some cases, specialist hospitals may be asked to deliver a service or speciality from the premises owned by another provider. This is what the Dalton Review calls the ‘at’ or @ model, and could be considered as a local provider ‘outsourcing’ their activity.<sup>58</sup> Formal arrangements such as this require that the service provider has the necessary expertise and capacity to run services in distant sites on a day-to-day basis. When delivered successfully, they enable the delivery of more local care to patients where possible with specialist oversight where necessary.

## CASE STUDY 6

### MOORFIELDS SATELLITE NETWORK

A well-known example of a specialist care network is the model developed by Moorfields Eye Hospital, which offers a range of specialist and routine ophthalmology services through 23 sites in and around London. These sites are categorised into five distinct types:

- i. Central site** Moorfields Eye Hospital provides comprehensive general and specialist outpatient, diagnostic and surgical services, emergency surgery, and a 24-hour A&E. Its research and teaching activities are also predominantly based here at present.
- ii. District hubs** Co-located with general hospital services, Moorfields' district hubs provide outpatient and diagnostic care as well as more complex eye surgery, and will increasingly serve as local centres for eye research and multidisciplinary ophthalmic education.
- iii. Local surgical centres** These centres provide more complex outpatient and diagnostic services alongside day-case surgery for the local area.
- iv. Community-based outpatient clinics** These clinics focus predominantly on outpatient and diagnostic services in community-based locations closer to patients' homes.
- v. Partnerships and networks** In this model, Moorfields offers medical and professional support, and joint working to eye services managed by other organisations. The hospital also provides clinical leadership to various diabetic retinopathy screening services and to networks across London.

These linkages with other trusts have arisen through a variety of channels over the past two decades, from participating in tenders run by commissioners to taking over responsibility of failing hospital eye service units at the request of providers and commissioners. Approximately 50% of Moorfields' total activity is now delivered away from its central site.

## 4.2 ADVANTAGES OF NETWORKED CARE

The advantages of specialist care networks are clear. Through these collaborative arrangements, specialist hospitals are able to link closely with referring centres and primary care services across different regions to create seamless patient pathways for the services they deliver. Making sure that people can access appropriate advice and support in a timely manner improves patient experience and is also a more effective use of resources, especially if it avoids an unnecessary admission to hospital and can be delivered closer to people's homes.

In doing so, specialist hospitals are able to contribute to the educational and staffing needs of local hospitals, whilst helping more local trusts keep pace with the latest technological advancements in treatments. These networks can also drive a greater degree of standardisation of care, thereby reducing avoidable variation in the cost and quality of care delivered to patients.

The following case studies describe the benefits of networked care in:

- Driving quality through focused expertise
- Delivering local care with specialist oversight
- Improving the efficiency of care delivery

### DRIVING QUALITY THROUGH FOCUSED EXPERTISE

First and foremost, network arrangements enable specialist hospitals to share their expertise with more local providers, enabling the delivery of the best possible standards of care across the network.

The ability of specialist hospitals to drive improvements in quality and outcomes is predicated on their ability to develop a replicable standardised operating model including protocols and pathways. This is achieved through strong leadership and a clear, common focus on quality improvement, with clinical audits and risk policies widely in place. Where possible, services are often kept in-house to maintain tighter control over the quality of service delivery.

### RECOMMENDATION 5

The national New Care Models programme should formalise the quality improvement methodologies established by specialist providers and share them more broadly across the NHS.

## CASE STUDY 7

### SPECIALIST CANCER NETWORKS IN THE NORTH WEST

- **'The Christie @' model**

Chemotherapy is delivered by The Christie across 11 sites in the area including the main cancer centre in Withington, which is one of the world's largest single site early phase cancer trial units. Through this network, The Christie is able to provide the majority of systemic anti-cancer therapy (SACT) across Greater Manchester and Cheshire.

In 2013, the trust started a mobile chemotherapy service using a specially equipped van which enables a team of Christie chemotherapy nurses to administer cancer treatments in five different locations throughout the week. Around 80% of The Christie's chemotherapy services are now delivered away from its Withington site, in either district general hospitals or through the mobile chemotherapy unit.

The Christie has also developed a networked radiotherapy service, and is now offering this on three sites. These sites are equipped with the latest radiotherapy technologies and techniques for improved outcomes including intensity modulated radiation therapy (IMRT), image guided radiation therapy (IGRT), brachytherapy, selective internal radiation therapy (SIRT) and, with Salford Royal NHS Foundation Trust, stereotactic radiotherapy.

The Christie is keen to maintain high quality care across its network. Since last year, the trust has introduced regular site inspections and developed a Christie quality mark – badged as 'The Christie @' sign on other sites. This has given staff something to work towards and has helped to assure patients that the standards of care delivered at satellite sites meet the same high standards as those delivered at The Christie's centre in Withington.<sup>59</sup>

As one of the national Cancer Vanguard sites The Christie, through Manchester Cancer, will be developing further innovative models of care designed to detect and treat cancer at an earlier stage, thereby continuing to accelerate the trend for improved survival rates in the area seen over the past decade.

- **Clatterbridge in the Community**

The Clatterbridge Cancer Centre (CCC) NHS Foundation Trust is one of the largest cancer centres in the country, with 10 sites across Merseyside and Cheshire, including the purpose-built radiotherapy centre in Aintree, Liverpool.

CCC delivers treatments at weekly nurse-led chemotherapy clinics in eight district general hospitals across Merseyside and Cheshire, which account for more than 50% of the trust's chemotherapy services. The Centre's purpose-built radiotherapy treatment centre in Aintree, Liverpool, also helps bring the trust's expertise and radiotherapy treatment closer to patients.

Building on the success of its existing network, CCC has successfully piloted the 'Cancer Treatment at Home' service, where a highly-trained specialist chemotherapy nurse from the Centre delivers cancer treatments to patients in the comfort of their own homes. This has helped to improve patient experience while releasing useful capacity within the trust's chemotherapy clinics.

The 'Cancer Treatment at Home' programme was developed in collaboration with PharmaC – a wholly owned subsidiary company of the trust which enables medicines to be supplied to patients for home-administration without outsourcing to pharmaceutical or homecare companies.<sup>60</sup> The innovative way this service is set up has helped to improve clinical governance through tighter controls over service quality, and it has allowed any savings made through the programme to be kept within the NHS.

### **DELIVERING LOCAL CARE WITH SPECIALIST OVERSIGHT**

Wherever possible and effective, specialist hospitals have worked with their partners to deliver high quality services closer to the homes of patients. This is achieved by retaining very specialist services at more centralised locations, whilst establishing close linkages with satellite centres and community services so that patients can leave hospital sooner and be safely cared for in their own communities.

Effective networks are dependent on joint-working between different healthcare professionals. Services that operate more efficiently tend to be those that coordinate between the different elements of care and pre-empt problems that are likely to trigger an escalation of clinical care.

Digital tools are often used in this context to ensure closer collaboration within the network as well as to facilitate discharge across the pathway. The burns service provided by Queen Victoria Hospital in East Grinstead, for example, uses live video links to assess patients swiftly in the community and avoid losing vital time.<sup>61</sup>

### **RECOMMENDATION 6**

The national New Care Models programme should work with specialist providers to explore how digital technology can be harnessed to support care coordination and improve outcomes across network sites.

## **CASE STUDY 8**

### **'HOSPITAL TO HOME' LONG TERM VENTILATION NETWORK**

The Royal Brompton and Harefield has developed a unique, web-based 'Hospital to Home' pathway to support stable children who require long-term ventilation to be safely discharged from hospital sooner, making sure the correct steps have been taken so they can be cared for in their own homes.

This innovative pathway has provided an online platform for secure communication across different hospitals and community services, facilitating the exchange of peer support, housing and social care advice. This has helped to develop a network of professionals and paediatric specialists, who can work closely together to navigate complex discharge processes and reduce long lengths of stay.

The pathway has led to children in London, who are cared for by the trust's long-term ventilation service, being discharged after an average of three months, rather than the national average discharge time of seven to nine months. This local success paved the way for the enhanced platform to be rolled out nationally to Paediatric Intensive Care Units across England.<sup>62</sup>

Reflecting the programme's success, the Royal Brompton and Harefield has been awarded funding from NHS England's Integrated Digital Care Technology Fund to develop a pathway to allow adult patients who have experienced a prolonged stay in intensive care to be safely discharged from hospital sooner.<sup>63</sup> The hospital is also proposing to implement an additional web-based pathway that could capture – in real time – patient status while identifying blocks to patient flow within a network.

## IMPROVING THE EFFICIENCY OF CARE DELIVERY

Specialist care networks can help patients access the right support, in the right way, at the right time. Specialist hospitals typically play a key role in these networks, making sure that care is properly co-ordinated and that people are managed in a community setting where appropriate. This has helped to maximise the use of NHS resources while improving patient experience and outcomes.

As the Dalton Review rightly points out, organisational forms should not be centrally dictated and must be driven locally, based on the needs of the population. The Review's report states that:

**“System leaders understand their own population need and geographies, and therefore need to be enabled and supported to identify and implement the best clinical models for their patients.”<sup>64</sup>**

Specialist hospitals are well-placed to support local health leaders in this regard, through their clinical expertise and strong understanding of the existing patient pathways. This is particularly important in the current financial context, where clinical pathway redesign is often looked to as a means of improving the quality of care provided and releasing significant efficiency savings.

### RECOMMENDATION 7

The national New Care Models programme should work with specialist providers and their partners to develop a formal evaluation tool to assess the impact existing networks have on the quality and efficiency of care delivered and how this has been achieved.

## CASE STUDY 9

### CHESHIRE AND MERSEYSIDE REHABILITATION NETWORK

The Cheshire and Merseyside Rehabilitation Network (CMRN) runs a multi-layered integrated 'hub and spoke' model of care, with each patient being cared for in services appropriate for the complexity of the patients' rehabilitation needs.

The 'hub' is situated at The Walton Centre, and houses the hyper-acute and complex rehabilitation units. Three 'spokes' are situated in district general hospitals in Merseyside, which offer active rehabilitation nearer to home as patients improve. This is supported by an Extended Rehabilitation Unit, which is medically managed by two local GP practices, offering slow stream rehabilitation for a period of 12 to 18 months for patients who have complex nursing needs. In addition, rehabilitation consultants provide outpatient and community services from a range of sites across the Network, including within people's homes.

All admissions, transfers and discharges are coordinated and integrated from the central office by specialist network and medical staff, who are employed and governed by The Walton Centre. This provides a single point of contact for referrers, patients and carers to support timely and appropriate access to specialist rehabilitation services along the pathway.

This integrated and coordinated approach has led to impressive results:<sup>65</sup>

- Initial referrals are rapid and patients are admitted for specialised rehabilitation quickly, with 99% of patients admitted within 14 days
- 81% of patients admitted with critical illness are discharged within 70 days
- All national waiting times targets for assessment and admission for specialist rehabilitation care are being exceeded.

A formal evaluation of the CMRN model, based on the 526 actual admissions over the period January 2013 to July 2014, found that average lengths of stay for each level of rehabilitation unit in the network were significantly shorter than predicted on the basis of previous care models. Total costs of the service over the 18 month evaluation period were £16.7 million, compared to a modelled prediction of £53.1 million under the previous pathway – a reduction of 69%.

## 4.3 CONSIDERATIONS FOR SPECIALIST CARE NETWORKS

In September 2015, NHS England announced that 13 hospital vanguards would become part of its national New Care Models programme. Specialist hospitals are heavily represented in the programme. They are described in NHS England's press release as "some of the best known and best run hospitals in Britain".<sup>66</sup>

The Federation of Specialist Hospitals welcomes this announcement and the ambitions of the broader New Care Models programme, which demonstrates the role specialist hospitals play in driving quality and efficiency through specialist care networks. Federation members are keen to share their experience of developing and maintaining networks of specialist care, to support the work that has been done by the New Care Models programme.

## CASE STUDY 10

### NATIONAL ORTHOPAEDIC ALLIANCE

The National Orthopaedic Alliance has been chosen as an acute care collaboration vanguard to create a UK-wide franchise or chain of orthopaedic providers to deliver outstanding and consistent care in more parts of the country. Partners include Robert Jones and Agnes Hunt Orthopaedic Hospital, Royal National Orthopaedic Hospital and Royal Orthopaedic Hospital.

The vanguard will explore the possibility of enabling exemplar orthopaedic services to be offered on a franchise model across England. This work builds on the partners' established base of collaboration and will formalise the way organisations work together on a clinical basis as well as through back office functions.

The section below sets out some factors that organisations should consider when developing a specialist care network.

#### ACCOUNTABILITY

When establishing a network, agreement needs to be established about which organisation would be responsible for providing the service and which organisation would be accountable for performance. These may be the same organisations but that need not always be the case.

Accountability for a specialist care network is usually held in one of three ways:

- Service delivery and accountability wholly reside with the specialist provider
- Service delivery remains with all partners of the network, which are held accountable for performance by the specialist provider
- Service delivery remains with all partners of the network, using policies and protocols developed by the specialist provider

Experience shows that joint service delivery works best where there are existing relationships between the different organisations involved in the network. Where existing links are less strong, organisations may consider holding accountability centrally at the first instance to minimise risks and enable closer control over the quality of care delivered across the network.

#### CLINICAL GOVERNANCE

As the specialist care network expands, there is a challenge of maintaining clinical expertise and outcomes across a broader geographical region. This is a particular risk for specialist providers, whose reputations are predicated on their ability to deliver the highest quality care for patients across a network.

Experience shows that networks should be set up to ensure that a critical mass of patients is available at each partner organisation. Where possible, pathways should be configured to enable local hospitals to gain the benefits of scale, whilst ensuring that the most complex cases are treated more centrally.

Joint training programmes and regular top-level engagement can facilitate the sharing of best practice and ensure that staff have the skills they need to drive improvements in quality. This will also help to promote strong relationships within the network, which are vital to maintain an effective service.

In addition, transparency of clinical data is important so that each partner organisation is held to account for continuously improving outcomes. This should be supported by standardised network protocols and pathways, backed by regular clinical audits and risk assessments, in order to safeguard the quality of care delivered across the network. These may be the same organisations but that need not always be the case.

#### COMMISSIONING RELATIONSHIPS

In establishing a network, there is often a need to transfer responsibility and budgets for particular services from one organisation to another. The process of transfer is far from simple and can often lead to protracted negotiations with commissioners and the current service provider. Commissioner support for the network is therefore crucial to ensure a safe and effective transition.

Furthermore, the establishment of a network requires significant investment in staff, equipment and the development of patient pathways. A stable financial environment is required to justify investment of this sort, including an understanding of commissioners' medium term plans for the service and any tenders planned.

Experience shows that there is significant advantage in directly commissioning a specialist provider to run the networked service rather than sub-contracting via individual trusts. This can help to streamline communication, reduce transaction costs and ensure that data is held on consistent systems and formats. Running sub-contracted services has proven to be consistently more challenging.

It is important that the nature of the service arrangement is clear at the outset to ensure that data gathering, performance reporting and quality inspections are undertaken in a consistent format, previously agreed with the commissioner. Template documents for this purpose would be beneficial.

#### RECOMMENDATION 8

The national New Care Models programme should consider lessons learned from existing specialist care networks and incorporate them into the vanguards support package.

# 5. HARNESSING THE POTENTIAL OF SPECIALIST HOSPITALS

This report sets out the contributions specialist hospitals have made to the NHS innovation agenda and highlights their commitment to drive continuous improvements in the quality and efficiency of care delivered to patients. Some of what is needed can be brought about by specialist hospitals alone. Other actions will require the formation of new partnerships and the explicit support of the Government and national policymakers.

This chapter sets out some complementary actions that are needed to harness the full potential of specialist hospitals in enhancing the NHS's reputation as a global leader of innovation.

## 5.1 INNOVATIVE CONTRACTING AND PAYMENT APPROACHES

Specialist hospitals are currently paid through the Payment by Results system, which has been in operation for over a decade and delivered important benefits. In recent years, however, there has been increasing concern that the system does not sufficiently recognise the additional costs of delivering specialised care and can be a barrier to the delivery of integrated care.

As the number of referrals to specialist hospitals increases, so does the burden of inadequate reimbursement. This baseline underfunding and the requirement for year-on-year efficiency gains directly threatens specialist hospitals' ability to invest in service developments and move towards new models of care. This is particularly concerning given specialist hospitals' single-specialty focus, which makes them more vulnerable to funding uncertainties and rapid changes in financial flows.

The work that is being done on new care models presents a welcome opportunity to move away from traditional activity based payment approaches to other forms of reimbursement. For specialist care networks in particular, there needs to be a focus on new payment approaches that can incentivise quality and efficient care delivered in the right settings. Potential areas of exploration may include, for example, prime contracting and multi-year delegated budgets based on a pre-specified set of patient outcomes.

### RECOMMENDATION 9

Monitor and NHS England should work with specialist providers to explore and test innovative contracting and payment approaches which can support further improvements in specialised care.

Moreover, innovative treatments and devices that are developed or introduced to the NHS by specialist trusts often experience long delays before contractual updates and inclusion in the tariff. In the interim, funds frequently need to be secured outside the National Tariff, often on a trust-by-trust basis. The variable and often lengthy process of securing funds creates strong disincentives for early adoption of clinical innovations, developed both by specialist trusts and elsewhere. In some instances, this has caused NHS patients to be denied access to interventions that are routinely available in other parts of the world.

Specialist hospitals are committed to driving the NHS innovation agenda but require a stable financial environment in order to do so. Changes need to be made to the payment system to ensure that it supports providers that responsibly pioneer and adopt much-needed innovations for the benefit of patients in the NHS.

### RECOMMENDATION 10

Monitor and NHS England should consider new reimbursement models to support the development and early adoption of new treatments and devices within specialist trusts and across their networks.

## 5.2 CLINICALLY-LED, PATIENT-DRIVEN COMMISSIONING

As the single national commissioner for specialised services, NHS England has an unprecedented opportunity to capitalise on the historic strengths of specialist hospitals to drive the diffusion and uptake of clinical innovations across the NHS.

The service-specific Clinical Reference Groups (CRGs) advising NHS England on its specialised services portfolio play a key role in ensuring that commissioning is accurately informed. These groups are led by clinicians and bring together multidisciplinary expertise to develop advice and draft policies for individual services. In doing so, they make an important contribution to ensuring that commissioning decisions are clinically-led and driven by unmet patient need.

Specialist hospitals have provided strong support for CRGs to date by volunteering the time of many expert clinicians to contribute to and lead these groups. CRGs are seen as an excellent vehicle for driving service transformations which deliver savings while supporting clinical standards, provided that their governance and information support is strengthened. It is important to demonstrate that the input of these groups is having an effect on the development and implementation of commissioning policies if the goodwill on which they rely is to be sustained.

### RECOMMENDATION 11

NHS England should work with specialist providers to assess the effectiveness of clinical engagement in specialised commissioning and reinforce the role of Clinical Reference Groups.

NHS England has also been considering the introduction of 'collaborative commissioning' of specialised services, working in conjunction with local Clinical Commissioning Groups (CCGs). While better collaboration between commissioners is welcome, fundamental changes to budget holding would be disruptive and would risk muddying contractual discussions and the service specifications under which providers operate.

National commissioning is vital to align resources for specialised services with the expertise required to commission them well, while ensuring that every patient in England has access to the highest quality care and innovations wherever they live. This should be embedded and improved upon prior to any significant devolution or sharing of responsibility for services to CCGs. The same requirements apply to devolution to regions such as Greater Manchester.

### RECOMMENDATION 12

NHS England should work with specialist providers to develop a national strategy for specialised commissioning, setting out a clear direction of travel for specialised services during the next five years.

## 5.3 CONCLUSION AND NEXT STEPS

Research and innovation are critical components of the drive for improved efficiency and the transformational changes set out by the Five Year Forward View. Specialist hospitals have an important role to play in this regard, by facilitating clinical innovation and sharing best practice to secure the very best quality, efficiency and accessibility of care for patients throughout the NHS.

The Federation of Specialist Hospitals is committed to working with partner organisations to build on existing successes to maintain and enhance the NHS's reputation as a global leader of innovation. The recommendations set out in this report have the potential to accelerate the development and diffusion of high-impact innovations across the NHS, without significant levels of investment. These recommendations will need to be implemented quickly in order to have the greatest impact for patients:

- **The Government should formally recognise the vital contributions specialist hospitals make to the NHS innovation agenda and ensure that this is supported by national policy across the board**
- **Polymakers and commissioners should work with specialist hospitals to identify and roll out local innovations and best practice which can make a significant contribution to meeting the NHS financial challenge**
- **The national New Care Models programme should consider lessons learned from specialist care networks and incorporate them into the wider vanguard support package**
- **NHS England and Monitor should work with specialist providers to explore and test new contracting and payment approaches which can support further improvements in specialised care**
- **An assessment should be conducted on the effectiveness of clinical engagement in specialised commissioning and reinforce the role of Clinical Reference Groups**

# APPENDIX

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## ABOUT THE FSH

The Federation of Specialist Hospitals (FSH) is a coalition of hospitals that contribute significantly to the provision of specialist care in the UK.

Members of the Federation span a range of clinical specialties but face similar challenges in maintaining exceptional standards and charting a course through a fast-changing NHS policy landscape. Since its establishment in 2009, the Federation has been closely engaged with policymakers on a number of fronts, including the national tariff and the development of NHS England's specialised commissioning strategy.

The Federation is chaired by Professor Tim Briggs, a Consultant Orthopaedic Surgeon at the Royal National Orthopaedic Hospital and the National Director of Clinical Quality and Efficiency at The Department of Health. Members of the Federation are:

- Birmingham Women's NHS Foundation Trust
- Liverpool Heart and Chest Hospital NHS Foundation Trust
- Moorfields Eye Hospital NHS Foundation Trust
- Papworth Hospital NHS Foundation Trust
- Queen Victoria Hospital NHS Foundation Trust
- Royal Brompton & Harefield NHS Foundation Trust
- Royal National Orthopaedic Hospital NHS Trust
- St Mark's Hospital and Academic Institute
- The Christie NHS Foundation Trust
- The Clatterbridge Cancer Centre NHS Foundation Trust
- The Walton Centre NHS Foundation Trust
- Members of the Specialist Orthopaedic Alliance

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