



Improving specialist
cancer
and

in north and east London and west Essex



cardiovascular
services

The case for change

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Foreword

Cancer and cardiovascular disease cause two-thirds of early deaths in London.

If we were to improve local survival rates for heart disease and all cancers in line with at least the rate for England, we could save over 1,200 lives a year.

So we can and must do better.

To support this straightforward aim, we have examined how we provide these services in north and east London. And we have developed a vision for how we could improve them.

Patients want to have health services that are locally accessible. But when they are critically ill they want the best specialists, with the best equipment, to give them the best chance of recovery. We share this view and recommend the development of two world-class specialist centres in north and east London, one for cardiovascular services at St Bartholomew's Hospital and one for cancer services at University College Hospital.

By bringing expertise, state-of-the-art technologies, research and education together in centres of excellence we can improve the whole pathway of care. This means patients who need specialist cancer and cardiovascular care would have better outcomes, a better experience of care and better local services.

The NHS faces a tough financial climate. These centres of excellence would boost the local health economy by providing more cost-effective services, as well as bringing in money from more research investment and national and international patient referrals.

However, for cancer treatments, The Royal London Hospital, St Bartholomew's

Hospital, Queen's Hospital and the Royal Free Hospital would also retain and develop expertise and services for specific tumour types, providing the very best specialist care and facilities. Working as specialist centres they would provide a comprehensive system of care, much of it close to people's homes.

This document sets out why services need to change to improve services for today's patients and future generations. It also gives expert advice from local clinicians on how best to do this. The proposals build on developments across the country and around the world over the past few years. They are designed to seize the once-in-a-lifetime opportunity arising from the new facility at St Bartholomew's Hospital and University College Hospital's cancer centre development.

We are keen to hear your views on this case for change. Details of how you can respond are on page 71. We need to receive your comments by 4 December 2013.



Dr Andy Mitchell

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Introduction

North and east London has some of the best cancer and cardiovascular experts in the country but our specialist services are not organised in a way that gives patients the best chance of survival and the best experience of care.

Specialists, technology and research are spread across too many hospitals to provide the best round-the-clock care to all patients.

In 2010 a clinical review recommended changes to cancer and cardiovascular services in London. After discussion with patients and the public, the review concluded that fewer specialist high-volume units would improve clinical outcomes, accelerate the uptake of new technologies, achieve greater quality and optimise efficiency.

Building on the London review and using clinical evidence, local doctors, GPs, nurses, health professionals, public health professionals and patients have looked at how we could improve cancer and cardiovascular services in north and east London.

Clinicians want to bring together expertise to give better care and save more lives. To do that, we need to change the way we deliver specialist cancer and cardiovascular services:

- For cardiovascular care, clinicians have told us we should combine services currently provided at The Heart Hospital, The London Chest Hospital and St Bartholomew's Hospital to create a single integrated cardiovascular centre. With The London Chest Hospital closing next year and The Heart Hospital not having capacity for the whole region, clinicians have recommended we locate the centre in the new building at St Bartholomew's Hospital (which is 2.5 miles from The Heart Hospital). The Royal Free Hospital and the integrated cardiovascular centre at St Bartholomew's Hospital would act as heart attack centres for the area.
- For five complex or rare cancers, clinicians have told us we should provide specialist treatment in four centres of excellence across the area with a hub at University College Hospital. We would continue to provide services locally for other types of cancer and general cancer services, such as diagnostics and chemotherapy.

This case for change is part of a UK-wide strategy to bring fairness and excellence to specialist services¹, and to strengthen the NHS's status as a pioneer of medical innovation². In developing their ideas, clinicians have been guided by the

What are specialised services?

Specialist services are those provided in only a few hospitals, to only a few patients. These services should be located in specialist centres that can recruit staff with the right expertise and enable them to develop their skills. So you only tend to go to these places if you have a condition that needs really specialist care, perhaps because it is particularly rare or complex.

Who is leading this review of cancer and cardiovascular services?

NHS England, the main commissioner for specialised services, is leading the review of specialist cancer and cardiovascular services, together with a number of local clinical commissioning groups (CCGs). CCGs are groups of GP practices that commission most healthcare services for their local population (excluding specialised services). These include planned hospital care, rehabilitative care, urgent and emergency care, mental health and learning disability services and most community health services, including a few associated with these proposals.

Clinicians from across north and east London and west Essex have developed this vision for cancer and cardiovascular services. Patient representatives have also been involved in developing the vision.

All hospital trusts that provide cancer and cardiovascular services have come together through UCLPartners – an academic health science partnership. Academic health science networks are a key part of NHS England’s plan to bring innovation and research into routine practice in the NHS. UCLPartners supports the healthcare system that serves over six million people in parts of London, Hertfordshire, Bedfordshire and Essex. Its member organisations are working together to tackle the most pressing healthcare challenges faced by the local population. As well as improving specialist cancer and cardiovascular services, UCLPartners is also looking at ways to prevent and detect diseases earlier and to develop care pathways where services are better integrated.

This document summarises the expert clinical advice that teams working across UCLPartners have given to commissioners. Further information is available in UCLPartners’ recommendations to commissioners in *A case for change in specialist cancer services* and *A proposal for clinical change in specialist cardiovascular services across north and east London*.

Department of Health’s national outcomes strategies and NHS England’s national service specifications.

Not all people with cancer and cardiovascular disease need specialist treatment, but these changes will improve the whole pathway of care for everyone.

Specialist centres of excellence are part of an overall plan to establish better coordinated, more efficient care. They would work closely with local hospitals and GPs to ensure patient care is provided seamlessly.

These specialist centres would be more cost-effective and could generate income for the NHS through research funding and international referrals of patients. The focus on research and education would also give more patients access to the latest technology and clinical trials, which improve health outcomes.

NHS England and CCGs would now like your views on the clinical recommendations for improving specialised cancer and cardiovascular services. This will help those who commission health care ('commissioners') to develop preferred recommendations for change.

1 Department of Health, *The NHS Outcomes Framework 2013/14*, November 2012. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/213055/121109-NHS-Outcomes-Framework-2013-14.pdf

2 Department of Health, *Innovation Health and Wealth: Accelerating Adoption and Diffusion in the NHS*, December 2011. Available at: <https://www.gov.uk/government/news/accelerating-adoption-of-innovation-in-the-nhs>

Who uses these services?

Most of the hospitals that are part of this review are located in north and east London. But many patients from elsewhere use their services, particularly those from west Essex.

We will be discussing this document's recommendations with people from these areas.

Wherever you live, we encourage you to send us your feedback as outlined on page 71.

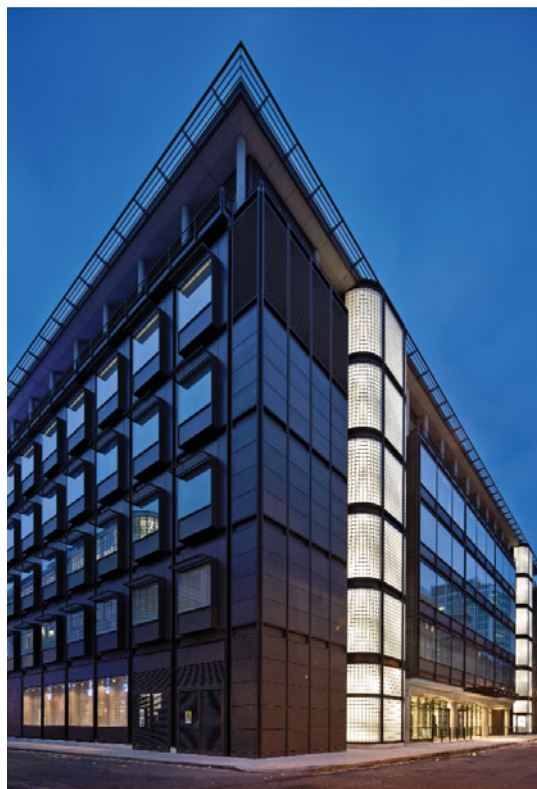
Travel and patient choice

Clinicians know that concentrating specialised cancer and cardiovascular services in fewer hospitals would increase travel times for some patients, many of whom are very ill and coping with severe symptoms and the side effects of treatment.

Clinicians only want patients to travel further when it is absolutely necessary for them to receive better, more specialist care. Most patients would continue to be diagnosed and, where possible, receive their outpatient treatment and follow-up care at their local hospital.

Clinicians think the proposals in this document would greatly improve their ability to provide the highest quality care and better outcomes for patients.

The impact of longer travel times for patients and carers will be carefully considered as the proposals develop. We will be asking patient groups to tell us what they think and how we could lessen any problems. Options include better car parking and taxi services for those in need.



The Macmillan Cancer Centre at University College Hospital, which opened in April 2012.

The potential options considered in this document are subject to further analysis and the ongoing assessment and investigation of patient benefits, which involves additional analysis in compliance with our statutory obligations and the guidance surrounding them (not included or addressed in this document as not directly relevant to the clinical case for change).

If you have any comments or questions on these issues, email cancerandcardiovascular@nelcsu.nhs.uk



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in north and east London and west Essex

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Cancer

Cancer is one of the biggest causes of death and disability in the UK. Every year, around 13,600 Londoners die from the disease. The number of new cases is predicted to rise from 27,000 a year to 28,500 in 2022.

In north and east London, it is estimated around 12,900 people are diagnosed with cancer and 5,700 die from the disease each year.

Over the last decade, good progress has been made in prevention and treatment, so more people are surviving cancer, but there is still a lot of room for improvement. Cancer patients in London have worse survival rates and lower satisfaction about the care they receive compared to the rest of England. Within London there are also inequalities in specialist cancer care and outcomes between areas.

Local clinicians – working under the leadership of *London Cancer* (part of UCLPartners) – have been reviewing local cancer services and looking at how outcomes could be improved.

This section focuses on the recommendations that *London Cancer* clinicians have made about specialist services for:

- brain cancer
- urological (bladder, prostate and kidney) cancer
- head and neck cancer
- acute myeloid leukaemia (AML) and haematopoietic stem cell transplantation (HSCT – transplanting stem cells derived from the bone marrow or blood)
- oesophago-gastric cancer (OG – cancer of the stomach or oesophagus).

To achieve world-class standards of care and ensure that local specialist cancer services can continue long term, clinicians agree we have to change the way we provide these services.

Most care will continue to be provided locally. But clinicians believe that centralising services for these tumour types into specific specialist centres will save more lives and help to achieve the wider improvements that are needed along the whole pathway of care, as we have seen with stroke care in London.

We propose changing specialist services, such as surgery, for five types of cancers.

We do not propose to change general cancer services and all services for other types of cancers such as bowel and breast cancer. However, clinicians are looking at how these services can continue to be improved.

This means your local hospital or GP will continue to provide most services.

These include:

- tests such as X-rays, ultrasounds, genetic screening, mammograms and scans
- chemotherapy
- follow-up checks
- support services such as physiotherapy, occupational therapy and counselling
- palliative care.



An artist's impression of the new proton beam therapy centre at University College Hospital (design not yet finalised).

Whilst not part of this case for change, *London Cancer* has been reviewing other types of cancer to see how services could be improved. For these cancer services, clinicians are not currently recommending fewer sites but their current thinking about them is shown below:

■ **Common cancers such as breast, lung and colorectal cancer**

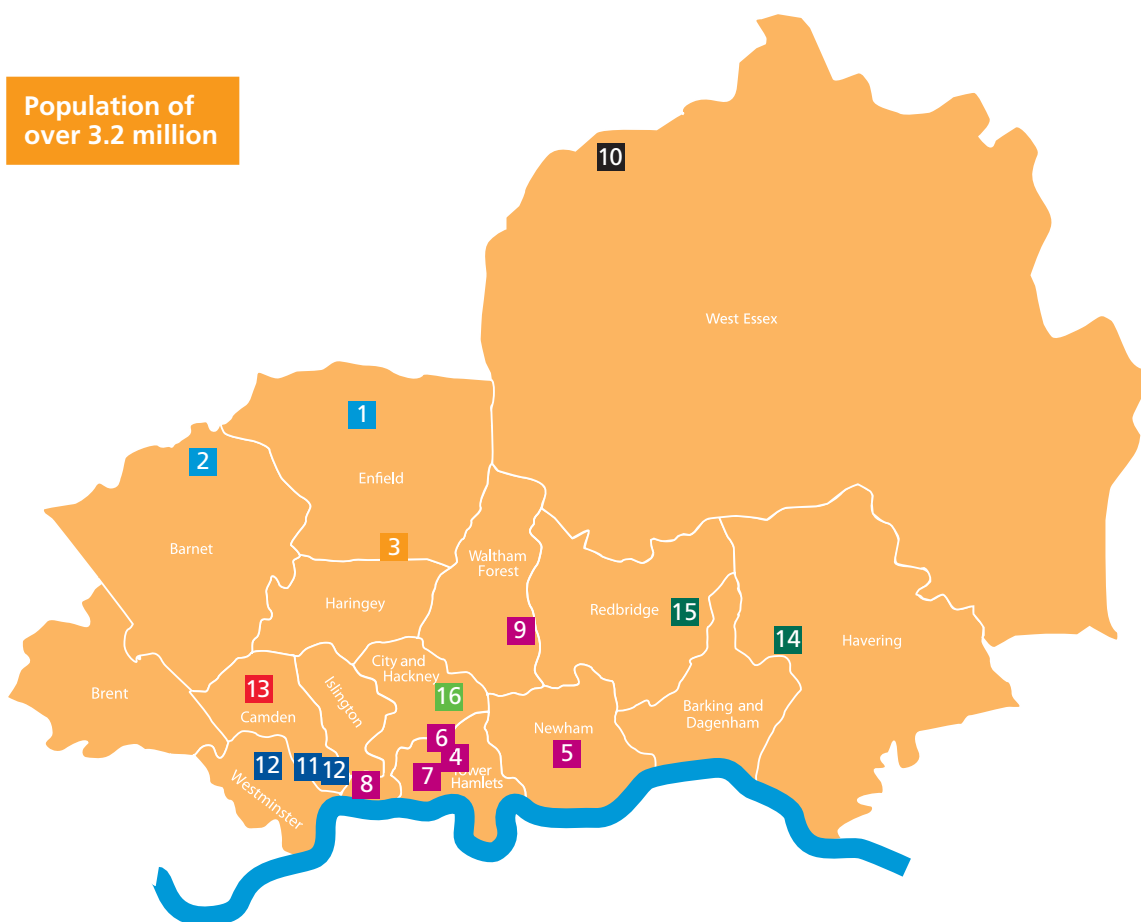
Clinicians are looking at how the care pathway could be improved to meet service standards and best practice. This will include better joint working and some further specialisation of teams. In future they may recommend to commissioners that hospital services be reorganised. Commissioners are looking at a range of options to help improve service quality and outcomes in these more common cancers. For lung cancer this could include a single specialist multi-disciplinary team with a lead provider.

■ **Gynaecological and liver and pancreatic cancers**

These specialist services have already centralised and are meeting service standards for the number of patients and the population they serve. Barts Health and University College London Hospital Trust provide gynaecological cancer services to north and east London, west Essex and many areas of Hertfordshire. For liver and pancreatic cancers, the Royal Free Hospital and The Royal London Hospital provide services for north and east London, as well as Essex. In both cases, the two hospitals providing these services are working as a joint centre through *London Cancer* to share best practice, audit information and ways of doing things.

Hospitals in north and east London and west Essex providing specialised cancer services

Population of over 3.2 million



Barnet and Chase Farm Hospitals NHS Trust

- 1 Chase Farm Hospital
- 2 Barnet Hospital

North Middlesex University Hospital NHS Trust

- 3 North Middlesex University Hospital

Barts Health NHS Trust (Barts Health)

- 4 Mile End Hospital
- 5 Newham University Hospital
- 6 The London Chest Hospital
- 7 The Royal London Hospital
- 8 St Bartholomew's Hospital
- 9 Whipps Cross University Hospital

Princess Alexandra Hospital NHS Trust

- 10 Princess Alexandra Hospital

University College London Hospitals NHS Foundation Trust (UCLH)

- 11 University College Hospital
- 12 The National Hospital for Neurology and Neurosurgery (NHNN)

Royal Free London NHS Foundation Trust

- 13 Royal Free Hospital

Barking, Havering and Redbridge University Hospitals NHS Trust (BHRUT)

- 14 Queen's Hospital
- 15 King George Hospital

Homerton University Hospital NHS Foundation Trust

- 16 Homerton University Hospital

Where specialised cancer services are provided now

Current	Barnet	CFH	RF	WHIT	UCH	NHNN	NMUH	PAH	HUH	BH	RLH	WX	NUH	KGH	QH
Brain						S					S				S
Head and neck		S			S					S					
Prostate and bladder		S	L	L	S		L	L			L	S		S	L
Kidney		S	S	L	S		L	S	S		S	S	S	S	
HSCT			S		S				L	S					
AML	S		S		S		S			S					S
OG	L	L		L	S		L	L			S	L	L		S

Where local clinicians are recommending specialised cancer services be provided

Future	Barnet	CFH	RF	WHIT	UCH	NHNN	NMUH	PAH	HUH	BH	RLH	WX	NUH	KGH	QH
Brain						S					L				S
Head and neck		L			S					L					
Prostate and bladder		L	L	L	S		L	L			L	L		L	L
Kidney		L	S	L	L		L	L	L		L	L	L	L	
HSCT			L		S				L	S					
AML	L		L		S		L			S					S
OG	L	L		L	S		L	L			L	L	L		S

S - Specialist provider

L - Local service

	Hospital	Trust
Barnet	Barnet Hospital	Barnet and Chase Farm Hospitals NHS Trust
CFH	Chase Farm Hospital	
RF	Royal Free Hospital	Royal Free London NHS Foundation Trust
WHIT	The Whittington Hospital	Whittington Health
UCH	University College Hospital	University College London Hospitals NHS Foundation Trust
NHNN	National Hospital for Neurology and Neurosurgery	
NMUH	North Middlesex University Hospital	North Middlesex University Hospital NHS Trust
PAH	Princess Alexandra Hospital	Princess Alexandra Hospital NHS Trust
HUH	Homerton University Hospital	Homerton University Hospital NHS Foundation Trust
BH	St Bartholomew's Hospital	Barts Health
RLH	The Royal London Hospital	
WX	Whipps Cross University Hospital	
NUH	Newham University Hospital	
KGH	King George Hospital	Barking, Havering and Redbridge University Hospitals NHS Trust
QH	Queen's Hospital	

Why we need to improve

Clinical outcomes for patients with rare or complex cancers and patients' experience of cancer services in north and east London are not as good as in other areas of the country. One local borough – Barking and Dagenham – has the country's lowest proportion of total cancer patients who survive more than a year after their diagnosis.

While there has been significant improvement, services often fall short of the high standards that local patients expect. In the past year, cancer patients in England have rated nine out of the 10 worst trusts as being in London – four of those were in north and east London.

Every cancer type is different, but local clinicians have given the following reasons for changing the way we provide our specialist cancer services:

■ **Local cancer patients have relatively poor clinical outcomes**

Over recent years, improvements in one-year survival in the region have lagged behind those reported in England as a whole (Office for National Statistics 2011). The London-wide review estimated there are 400 avoidable deaths from cancer in north and east London and west Essex every year.

For some types of cancer, where services are spread across a number of local hospitals, clinicians do not see enough patients to build and maintain their skills. For example, National Institute of Health and Care Excellence (NICE) *Improving Outcomes Guidance for Cancer* recommends hospitals serve a population of between one and two million, which would mean they perform at least 60 operations for oesophago-gastric cancer each year. None of the hospitals in our local area meet this minimum number.

■ **There are inequalities in patient outcomes**

Cancer rates and survival vary significantly within London and between ethnic and socio-economic groups. For example, the UK five-year survival rate for Afro-Caribbean men with prostate cancer is 30% worse than for white men.

■ **Services are fragmented**

Local cancer services have developed at numerous hospitals over the years in an unplanned way. They do not make the most efficient use of the limited and highly skilled workforce so patients are not fully benefiting from advances in medical care. Specialist teams are spread across too many hospitals, making it difficult to provide all patients with the best quality care. For example, not all patients with acute myeloid leukaemia have enough input from clinical nurse specialists with specific expertise in their condition. Locally, there are also high staff turnover and vacancy rates.

■ **Patients do not always have a good experience**

The 2012/13 national cancer patient experience survey found that patients diagnosed with rarer cancers tend to have a worse experience (i.e. lower levels of satisfaction) than patients with more common cancers. Locally, an average of 85% respondents rated the care provided by hospitals in north and east London as very good or excellent, compared with 91% for the Royal Marsden Hospital which is a specialist cancer care centre.



■ **Not enough specialisation to make the most of the latest advances in treatment**

Advances in medicine and surgery mean clinical staff and equipment need to become more specialised. For example, not all head and neck cancer patients have access to advanced radiotherapy techniques, such as intensity-modulated radiation therapy. This technique delivers more precise radiation doses and can reduce the side effects of treatment. From 2017, University College Hospital will be one of two sites in England that offer proton beam therapy, which can reduce the side effects of radiation therapy for some types of brain and head and neck cancers.

■ **Not enough patients are involved in clinical trials**

Taking part in clinical trials improves outcomes for cancer patients³. A lot of research takes place locally, but less than a quarter of cancer patients take part in clinical trials during their treatment. This means many are missing the opportunity of new drugs and treatments.

“Clinical trials are important to us as patients because we believe that they are key to improvements in cancer treatments and outcomes. People are keen to participate in clinical trials for a variety of reasons. Some people hope a trial will lead to improved outcomes for themselves, while for others it’s about improving treatments for future cancer patients. It’s also a way to turn the negativity of a cancer diagnosis, and the difficulties of cancer treatment, into a positive contribution to the ongoing work to bring cancer into the realms of a chronic (or curable) illness.”

Elizabeth Benns, member of Independent Cancer Patients’ Voice and a non-executive director on the board of *London Cancer*

³ NHS Commissioning Support for London, *A model of care for cancer services: Clinical paper*, August 2010, p.110-112. Available at: <http://www.londonhp.nhs.uk/wp-content/uploads/2011/03/Cancer-model-of-care.pdf>

Improvements underway to cancer services

Specialist treatment is only a small part of a long and difficult journey for cancer patients. Work is needed across all services to reduce the number of people who die from the disease. NHS England, CCGs, *London Cancer* and local authorities across north and east London and west Essex are working hard to improve all cancer services.

For instance, *London Cancer* aims to reduce avoidable deaths from cancer in the local population by 200 each year from 2015/16 by increasing screening for people at risk and supporting GPs to detect signs and symptoms of cancer earlier.

■ Earlier detection and intervention

Cancer is no longer a fatal disease. Advances in medicine mean many forms of cancer have high survival rates, provided they are diagnosed early. However, 16-35% of all new cancers in north and east London and west Essex are diagnosed only when a patient arrives at hospital in an emergency⁴. This means the cancers are often detected late, resulting in poor survival rates one year after diagnosis.

In Camden, commissioners, clinicians and academic experts are working together to design a programme to improve early detection in people most at risk of cancer. This work includes analysis to understand 'at risk' groups and the use of community champions to encourage people with symptoms to visit their doctor.

■ Supporting patients who are living with and beyond cancer

Patients with cancer who receive holistic, coordinated and personalised care have a better experience. Over the next two years, *London Cancer* aims to work with expert groups to introduce the recovery packages recommended by the National Cancer Survivorship Initiative. These will start at the point of diagnosis by offering everyone living with cancer a holistic needs assessment, treatment summaries detailing their care and key staff, as well as health and wellbeing sessions to learn about local support services and healthy lifestyles. Patients will also receive cancer care reviews with their GP after they have been diagnosed.

■ Developing pathway specifications

Health professionals and patients have developed care pathway specifications that tackle all aspects of the care a patient receives. These focus on the whole patient pathway – from prevention to diagnosis and treatment. They are planned around patient need and they are motivated by the wish to reach 'global excellence' for each cancer area. The local specifications are in line with the national specifications for specialised services (where these apply).

Our vision for cancer care

Patients with cancer are cared for by a range of clinicians and organisations during their treatment. It is essential that services are coordinated and that all their clinicians have access to training, support and peer review.

London Cancer plays a lead role in ensuring that improvements in cancer care are provided across all care settings and organisations. At the heart of *London Cancer's* vision for cancer care is the development of an integrated system of care.

Most care will continue to be provided locally. But *London Cancer* clinicians agree that patients with rare or complex cancers would have better outcomes if specialist care were centralised.

Specialist centres would provide clinical and research excellence along the whole of the cancer pathway. These centres would work with local hospitals and GPs to share best practice, resulting in a more joined-up experience for patients and their relatives. Building specialist teams would mean, for example, that we could offer up to 190 more oesophago-gastric cancer patients a year potentially life-saving surgery.



Fewer, specialist centres would provide the following:

- Expert care closer to where patients live – through joint consultant appointments, outreach clinics, joint multi-disciplinary teams and local ‘one-stop’ diagnostic clinics for patients who urgently need a range of tests.
- Multi-disciplinary care teams including specialist nurses, anaesthetists and therapists with enough qualified staff to give suitable cover.
- Better access to research and clinical trials, which are essential for finding new treatments and therapies.
- An improved working environment for all staff, better access to improved training and more opportunities to get involved in research.
- The opportunity to collect better data on outcomes and quality of care to continually raise standards for patients.

Clinicians believe that concentrating specialist cancer services at fewer higher-volume sites would save more lives and provide more productive, efficient and sustainable services.

Their view is backed by the following national guidance and London-wide strategies:

- The Department of Health’s *Improving Outcomes: A strategy for cancer*, which sets out the Government’s plans to raise England’s cancer survival rates and improve survivors’ experience of care and quality of life.
- The London-wide model for cancer services^{5,6}, which sets out the capital’s needs for cancer services. The strategy was developed by lead cancer clinicians after a review of cancer services.
- NICE *Improving Outcomes Guidance*, which recommends which professionals should be involved in treating and caring for cancer patients and the types of hospital or cancer centre that are best suited to give that care.

NHS England’s national service specifications set out the requirements for a world-class service.

All hospitals providing specialist cancer care are being assessed against these national service standards. Action plans will tackle any shortfalls. In some cases, hospitals will not be able to meet the national standards and commissioners will need to make other plans to ensure high-quality services.

5 NHS Commissioning Support for London, *Cancer services: Case for change*, March 2010. Available at: <http://www.londonhnp.nhs.uk/wp-content/uploads/2011/03/Cancer-case-for-change.pdf>

6 NHS Commissioning Support for London, *A model of care for cancer services: Clinical paper*, August 2010. Available at: <http://www.londonhnp.nhs.uk/wp-content/uploads/2011/03/Cancer-model-of-care.pdf>

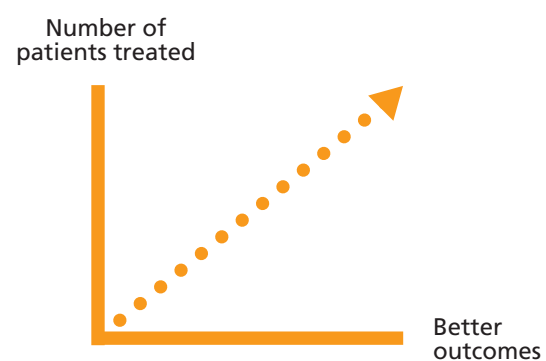
The evidence for specialist care

There is strong evidence that cancer patients have better outcomes in centres that see larger numbers of patients with the same condition (known as high-volume centres)⁷. Patients who are treated in these centres are more likely to survive after surgery and live longer, fuller lives. Numerous studies over the past 10 years have found this is very important for specialist cancer services.

- A review of 135 published studies covering a range of surgical procedures or clinical conditions looked at how many patients hospitals saw and the number of patients each surgeon saw⁸. Most of these studies found a direct relationship between higher numbers of patients and improved outcomes. This was strongest in complex or high-risk procedures, including cancer treatment.
- A US literature review of urological cancer surgery found that the larger number of patients, the better the outcomes⁹.
- Another review found that patient outcomes improved as hospitals treated more people¹⁰. Mortality (i.e. death) rates in hospitals performing fewer than five pancreatic operations a year were between 13.8% and 16.5%, compared with mortality rates of between zero and 3.5% in hospitals performing more than 24 pancreatic operations a year.

- A 2005 review of cancer procedures in the UK found that high-volume hospitals had much better outcomes for complex cancer surgery.
- A recent review of all patients treated in England for cancer of the stomach or oesophagus between 2004 and 2008 found that patients operated on in high-volume hospitals had the best short- and long-term outcomes. The review supported further centralisation of surgical services¹¹.

Specialist services need to be provided by suitably qualified teams with enough practice to maintain their skills and expertise. Creating centres of excellence brings together scarce clinical expertise, supports training and ensures staff levels are sufficient. These improvements raise clinical quality and ensure all patients receive the best possible care.



7 K Bilimoria, DJ Bentram, JM Feinglass, et al, 'Directing Surgical Quality Improvement Initiatives: Comparison of Perioperative Mortality and Long-Term Survival for Cancer Surgery', *Journal of Clinical Oncology*, 2008, 26:4626-4633.

8 EA Halm, C Lee, MR Chassin, 'Is volume related to outcome in health care? A systematic review and methodologic critique of the literature', *Annals of Internal Medicine*, 2002, 137:511-52.

9 M Nuttall, et al, 'A systematic review and critique of the literature relating hospital or surgeon volume to health outcomes for 3 urological cancer procedures', *The Journal of Urology*, 2004.

10 T van Heek, et al, 'Hospital Volume and Mortality After Pancreatic Resection', *Annals of Surgery*, 2005, 242(6): 781-790.

11 Coupland, Victoria H et al. 'Hospital volume, proportion resected and mortality from oesophageal and gastric cancer: a population-based study in England, 2004-2008', *Gut*, 2013; 62: 961-966.



Treating more patients also improves research, particularly for rarer cancers. There is evidence that cancer patients who take part in clinical trials have better outcomes. Indeed, all patients treated in centres that undertake clinical research do better whether or not they are part of a trial^{12,13}.

You can find out more about the evidence for creating specialist, high-volume centres in *A case for change in specialist cancer services*.

12 J West, J Wright, D Tuffnell, D Jankowicz, R West, 'Do clinical trials improve quality of care? A comparison of clinical processes and outcomes in patients in a clinical trial and similar patients outside a trial where both groups are managed according to a strict protocol', *Qual Saf Health Care*, 2005;14:175-178.

13 Peppercorn JM, Weeks JC, Cook EF, Joffe S., 'Comparison of outcomes in cancer patients treated within and outside clinical trials: conceptual framework and structured review', *Lancet*. 2004 Jan 24;363(9405):263-70.

Brain cancer

There are many types of brain tumour. Unlike other types of cancer, it is not always easy to class them as 'benign' (non-cancerous) or 'malignant' (cancerous). Benign brain tumours are sometimes treated with radiotherapy and chemotherapy because they can also cause serious symptoms and be life-threatening.

Patients with brain cancer usually attend A&E with severe symptoms such as seizures. Patients referred to hospital by GPs rarely have tumours. Most patients require surgery (neurosurgery) with high levels of support and follow-up care.

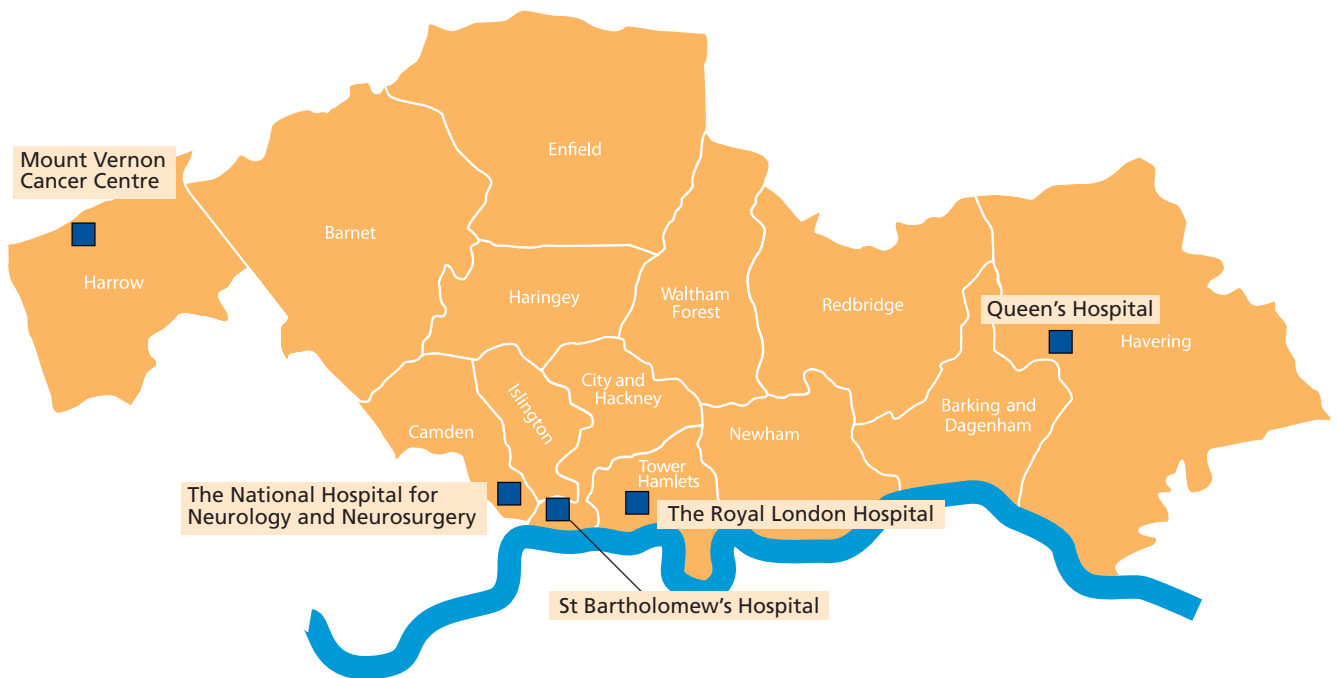
There are currently three neuro-oncology surgery centres (for malignant and non-malignant tumours), each with its own multi-disciplinary team:

- The National Hospital for Neurology and Neurosurgery (NHNN)
- Queen's Hospital in Romford
- The Royal London Hospital.

Queen's Hospital provides the regional neurosurgical and neuro-oncology service for the whole of Essex.

Both the NHNN and Queen's Hospital in Romford have on site or nearby access to oncology (radiotherapy and chemotherapy). The Royal London Hospital's patients have oncology at St Bartholomew's Hospital. Oncology for brain cancer patients also takes place at Mount Vernon Cancer Centre, part of East and North Hertfordshire NHS Trust.

Hospitals providing specialist brain cancer services in north and east London

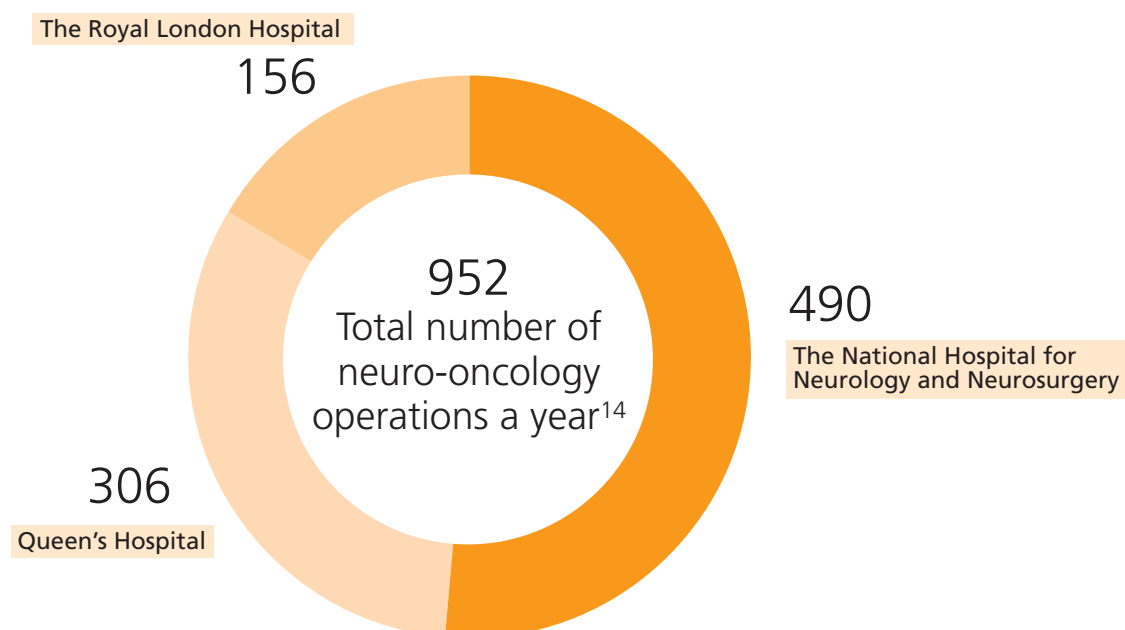


"We aim to provide world-leading brain integrated cancer care that meets the holistic needs of our patients – including access to rapid and accurate diagnosis, all the most effective treatment options, cutting-edge clinical trials and innovation in rehabilitation.

"We will judge our success, not just on clinical outcomes, but on the quality of the patient experience, and whether our patients feel fully supported throughout their care, whether it is in hospital or at home."

Mr Andrew Elsmore, Pathway Co-Director for Brain and Spine Cancer, Consultant Neurosurgeon and Dr Jeremy Rees, Pathway Co-Director for Brain and Spine Cancer, Consultant Neurologist

Brain cancer procedures in north and east London (2010/11)



¹⁴ Activity at the NHNN increased by 29% between 2011 and 2012. Data from 2011/12 is not available for Queen's Hospital in Romford or The Royal London Hospital. This increase in activity at NHNN follows the trend of recent years due, in part, to the move of the neuro-oncology surgery service from the Royal Free Hospital in Hampstead to NHNN during this time.

Overview of service standards

NICE guidance¹⁵ and national¹⁶ service standards recommend that:

- specialist multi-disciplinary teams are based in neuroscience and cancer centres serving a population of two million
- neurosurgeons who manage brain tumours spend at least 50% of their time in neuro-oncological surgery and be regularly involved in dedicated speciality clinics for these patients
- neuroscience specialist teams are centred on neurosurgery with a 'cancer network' multi-disciplinary team to deal with the oncological aspects of follow-up treatment
- radiologists who investigate brain tumour patients spend at least 50% of their time in neuroradiology
- patients have access to specialist neuro-rehabilitation services coordinated in every region by an allied health professional such as a physiotherapist or occupational therapist.

The London-wide review recommended that the number of hospitals in the capital providing specialist services for brain cancer patients be reduced to four, each serving a population of two million.

Why services need to change

Services are not meeting recommended levels of care

Currently, three centres serve a population of over 3.9 million (north and east London and Essex). This means they are well below the minimum population of two million set by the national standards.

Time dedicated to neuro-oncology surgery and radiology

To varying degrees, all three local centres have neurosurgeons and radiologists managing and investigating brain cancer for less than 50% of their time. This is below the level set by the national standards.

Not all patients are getting the best possible care

- Currently, there is no full 'cancer network' multi-disciplinary team at either NHNN or The Royal London to manage the non-surgical and supportive care of brain tumour patients. In particular, The Royal London Hospital only has an oncologist one day a week and only limited specialist nursing support, whereas the NHNN has a dedicated brain cancer ward with specialist staff – one of the few nationally.
- A clinical audit has shown neuropathology services at The Royal London Hospital do not perform as well as those at the other two centres.
- Radiotherapy for some types of brain cancers should take place as soon as possible and always within six weeks. An audit has shown wide variation in waiting times at local centres, with some patients at The Royal London Hospital waiting over six weeks.
- Maximising the chance of an improved quality of life and minimising the side effects of treatment depend on good access to neuro-rehabilitation services. This is a key principle of the NICE *Improving Outcomes Guidance* but providing these services remains a national problem. Locally, we need more coordinated and consistent access to neuro-rehabilitation services.

15 NICE, *Guidance on Cancer Services – Improving Outcomes for People with Brain and Other CNS Tumours – The Manual*, 2006. Available at: http://www.nice.org.uk/nicemedia/pdf/CSG_brain_manual.pdf

16 NHS England, *Service specification for brain/central nervous system tumours*, 2013. Available at: <http://www.england.nhs.uk/wp-content/uploads/2013/06/b13-cancr-brain-cent-nervous.pdf>

Clinical recommendations

Local clinicians recommend that the three current neuro-oncology surgery services should be consolidated to two centres. This would mean keeping the service at Queen's Hospital in Romford (for Essex and outer north-east London) with services at The Royal London Hospital and NHNN coming together, providing for a population in excess of two million. Clinicians have recommended that the NHNN should become the single centre for inner north-east London and north-central London. The Royal London Hospital is currently the smallest centre and lacks access to the full range of specialist clinical and support service staff available on the other two sites. The NHNN has a national and internationally established reputation for excellence and a range of specialist facilities for brain cancer patients.

In addition to consolidating care onto two sites, clinicians have recommended ways of improving the patient pathway:

- Immediate referral – local hospitals should refer patients with a suspected brain tumour immediately to a neuro-oncology surgery centre. These referrals should include clinical information, the original CT scan, and the named point of contact at the referring unit.
- Clinical nurse specialist support – all patients should have information and support from a clinical nurse specialist at diagnosis and before surgery. These nurses would do holistic needs assessments at key points in the pathway, including start and end of treatment, and proactively support patients.
- Rapid diagnosis and referral to oncology after surgery – all patients should experience a seamless pathway. Neuropathologists, neuroradiologists, neurosurgeons, radiotherapy physicists and neuro-oncologists should work

together as a team to reduce delays in the patient pathway.

- Suitable follow-up – neuro-oncology surgery centres should work in partnership with oncology centres, local cancer units, GPs and hospices to implement new methods of long-term follow-up.
- Improved access to neuro-rehabilitation – all patients should have access to a suitable level of neuro-rehabilitation. Neuro-oncology teams should work with commissioners, charities, community care and other neuroscience colleagues to improve access to neuro-rehabilitation.



How services would work: an example

Margaret, 64, from north London, had a seizure while she was at home with her husband Charlie. An ambulance took them both to their local A&E department.

In A&E, the team organised a CT scan of her brain. The scan showed a suspected brain tumour and Margaret was immediately referred to the neuro-oncology surgery centre at NHNN in central London.

Margaret and Charlie were taken to the NHNN. They arrived at the same time as the scan from the local hospital, which was transferred electronically for review by the specialist neuro-oncology surgery team. Margaret had an MRI scan without delay. Having seen the results, the consultant surgeon and nurse specialist told Margaret she had a suspected brain tumour. They said she would need urgent surgery to relieve the pressure on her brain, allow the team to give her an accurate diagnosis and see what further treatment would be needed. Margaret had surgery the next day.

The tumour was removed and samples were sent to pathology where a specialist team quickly established the type of tumour. The neuro-oncology multi-disciplinary team (including a surgeon, pathologist, oncologist, clinical nurse specialist, palliative care consultant, radiologist and radiotherapist) met to discuss the results and discuss Margaret's ongoing treatment.

After the team had met, the consultant surgeon and a clinical nurse specialist explained the diagnosis and recommended treatment plan to Margaret and Charlie. They set out the options, risks and side effects. She was given a choice about where to have radiotherapy – at UCLH, a radiotherapy centre elsewhere in London or in a neighbouring area. This was arranged for her without delay.

Margaret then returned to her local hospital for follow-up care before going home. When she was ready for her further treatment she attended her chosen radiotherapy department as an outpatient.

Head and neck cancer

Most patients with head and neck cancers are middle-aged or older. Survival rates depend mainly on the site of the cancer and how far it has spread when first detected.

Most head and neck cancers are found on the lip, mouth, back of the throat, voice-box and upper gullet. Other rarer forms of head and neck cancer include the salivary glands, nose, and sinuses. Those that start in the connective tissues of the head and neck are even rarer.

Surgery is the most common treatment although more head and neck cancers are being treated with chemotherapy and radiotherapy.

Specialist surgery for head and neck cancer is currently carried out at three local centres:

- Chase Farm Hospital
- St Bartholomew's Hospital
- University College Hospital.

"There is a real will amongst us all to shape the future of head and neck cancer care for the benefit of our patients. My role is to lead the process of integration and improvement and to ensure head and neck cancer care compares to the very best international standards, which our patients and local population deserve."

Mr Simon Whitley, Pathway Director for Head and Neck Cancer, Consultant Oral and Maxillofacial Surgeon

Hospitals providing specialist head and neck cancer services in north and east London

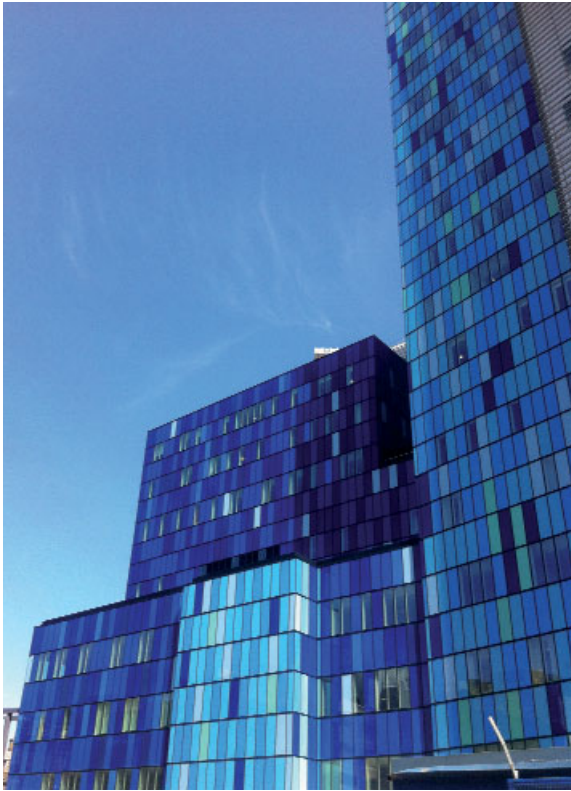


In 2012/13, St Bartholomew’s Hospital saw around 163 head and neck patients. There were around 149 patients at University College Hospital and 56 at Chase Farm Hospital in the same period.

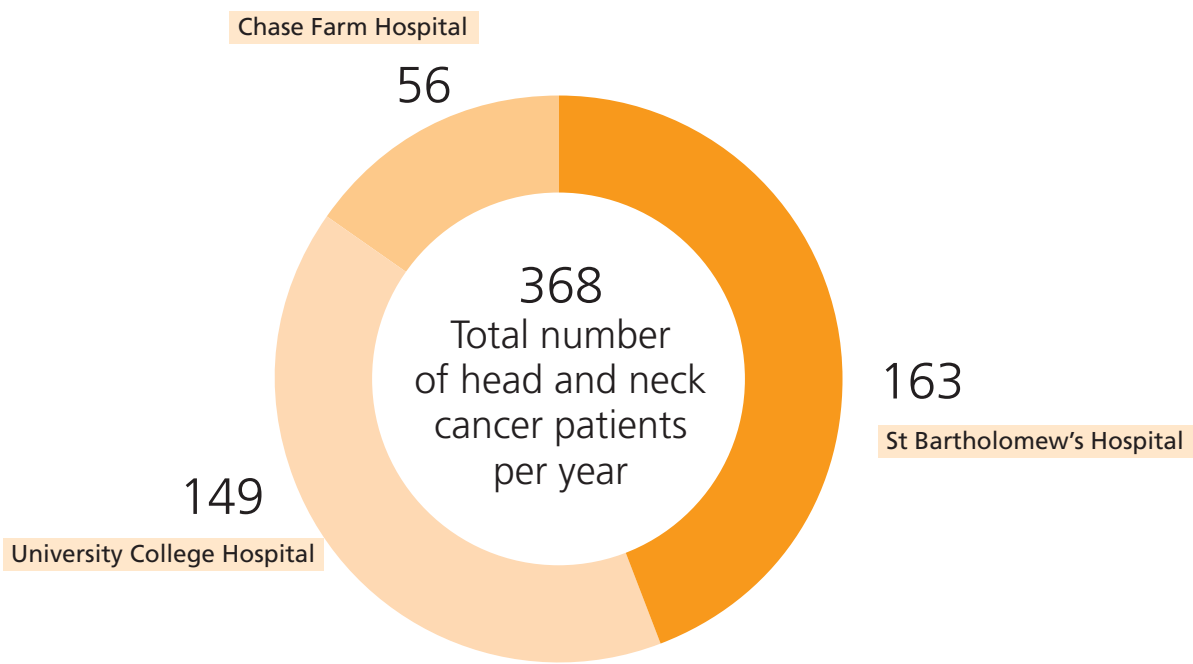
Non-surgical treatment

We may use radiotherapy to treat cancers that are small and have not spread, or where surgery could seriously affect important functions such as speech. We often use it along with surgery to reduce the risk of the cancer recurring.

Chemotherapy is usually given in combination with radiotherapy. Very occasionally, it is given to shrink tumours before surgery or for palliative treatment.



Head and neck cancer patients in north and east London (2012/13)



Overview of service standards

National service standards and NICE guidance¹⁷ recommend specialist multi-disciplinary teams for head and neck cancer serving populations of at least one million. Also all surgery should be provided by a specialist multi-disciplinary team in a designated centre, and surgeons and their teams should manage at least 100 new cases of head and neck cancer a year.

The 2010 London-wide review¹⁸ said services for head and neck cancers should be brought together. It recommended that London should have five surgery providers, with two centres for base-of-skull and pituitary cancers.

Why services need to change

Not all services meet recommended levels of care

Some head and neck cancer services in north and east London do not meet the recommended levels of care. For example, the number of patients treated at Chase Farm Hospital is well below the recommended level.

Unequal access to the right people and facilities

Currently not all patients have access to the wide range of specialities they need, such as plastic surgery, specialist nurses, dentists and dieticians, all in one place. As a result, patients often have to make many trips to hospital.

Hospitals providing head and neck cancer services in north and east London are only doing relatively low volumes of surgery, which does not allow surgeons to develop expertise such as robotic surgery and surgical voice-box reconstruction. Currently, not all hospitals provide cutting-edge technology such as advanced radiotherapy techniques, which can reduce side effects. Only University College Hospital will provide proton beam therapy, which may be used for this type of cancer to reduce side effects.

Lack of joined-up care results in delays and a poorer quality of care

- Diagnosis of head and neck cancer often takes too long as patients may be referred to several different services, need numerous tests and have to wait for test results. The 2012 National Cancer Patient Experience Survey found that only 60% of head and neck cancer patients felt they were seen as soon as necessary; only 56% felt their tests were properly explained to them; and over 20% felt their symptoms got worse while waiting for a diagnosis.
- Currently there are no enhanced recovery programmes. These programmes cut the time in hospital after surgery by up to half. And because they reduce complications, patients can return home sooner to recover.

17 NICE, *Guidance on Cancer Services – Improving Outcomes in Head and Neck Cancers – The Manual*, 2004. Available at: <http://www.nice.org.uk/nicemedia/live/10897/28851/28851.pdf>

18 NHS Commissioning Support for London, *A model of care for cancer services: Clinical paper*, August 2010, p.86-88. Available at: <http://www.londonhp.nhs.uk/wp-content/uploads/2011/03/Cancer-model-of-care.pdf>



- Local surgical centres enrol few people in clinical trials, and each centre collects data differently.
- Not all patients have access to a key worker at diagnosis, and follow-up and holistic needs assessment are not widely carried out. Not all patients have access to speech and language therapists and dieticians. Poor communication between care providers means only 36% of head and neck cancer patients say the people taking care of them worked well together.



Clinical recommendations

Local clinicians recommend that the current three head and neck cancer surgical services for the local population of 3.2 million should be centralised onto one specialist surgical site.

Low patient volumes and planned changes as part of the Barnet, Enfield and Haringey Clinical Strategy mean that Chase Farm Hospital would no longer be able to sustain specialist head and neck oncology surgery.

Clinicians recognise that whilst the two remaining centres meet national minimum volumes and service standards they recommend centralising services at University College Hospital. Clinicians believe this would create the best possible head and neck cancer services and enable all patients to access the wide range of specialists they need in one place. These include facial reconstruction surgeons; ear, nose and throat surgeons; plastic surgeons; clinical oncologists; speech and language therapists; dieticians; restorative dentists; and clinical psychologists.

As University College Hospital is also developing advanced treatments such as proton beam therapy and specialist radiology treatments, centralising services at University College Hospital would ensure that all patients could readily get these new treatments.

Clinicians have also recommended ways of improving the patient pathway:

- **Faster diagnosis and screening** – Most patients who are referred with a suspected head and neck cancer turn out not to have cancer. The maximum time patients with suspected head or neck cancer should wait before being seen by a consultant would fall from two weeks to one. In addition the waits for diagnostic scans such as MRI and CT would also fall to a week. Wherever possible initial assessment and diagnostics tests would take place at a local hospital close to home.
- **Discussing treatment options** – Patients should be offered all suitable treatment options and reconstruction. The decision-making process should involve rehabilitation and supportive care professionals. All patients would be discussed in coordinated multi-disciplinary meetings.
- **Radiotherapy services** – All patients would have access to cutting-edge techniques, such as intensity-modulated radiotherapy, where suitable. This reduces the harmful side effects of radiotherapy. Care would be coordinated to allow patients to be treated at the most convenient of the four current radiotherapy centres.
- **Local follow-up** – After treatment at the specialist surgical centre or radiotherapy centre, patients should get their ongoing care closer to home. Regular patient follow-up clinics should be held locally to tackle patients' holistic needs. Each team should include a surgeon, oncologist, clinical nurse specialist, rehabilitation specialists (speech and language therapists, dieticians, occupational therapists, and physiotherapists), and palliative care specialists.
- **Implement an enhanced recovery programme** – Enhanced recovery reduces the time patients need to spend in hospital and they recover faster. A larger-volume centre staffed with specialist surgeons, nurses, anaesthetists and therapists would be able to develop and provide an enhanced recovery programme for head and neck cancer patients.

Urological cancers

Around 2,300 people are diagnosed with prostate, bladder or kidney cancer in north and east London each year. Of these, around 300 bladder and prostate patients and 300 kidney cancer patients need complex surgery. This gives them the best chance of controlling their cancer and reducing the risk of long-term side effects.

Bladder cancer

Around 400 people are diagnosed with bladder cancer each year locally. Eighty per cent of them have early bladder cancer, which can often be treated by relatively simple surgery in most hospitals. Far fewer bladder cancers, less than 100 a year locally, are more advanced and have spread. These often need to be treated with complex major surgery, radiotherapy and chemotherapy.

Prostate cancer

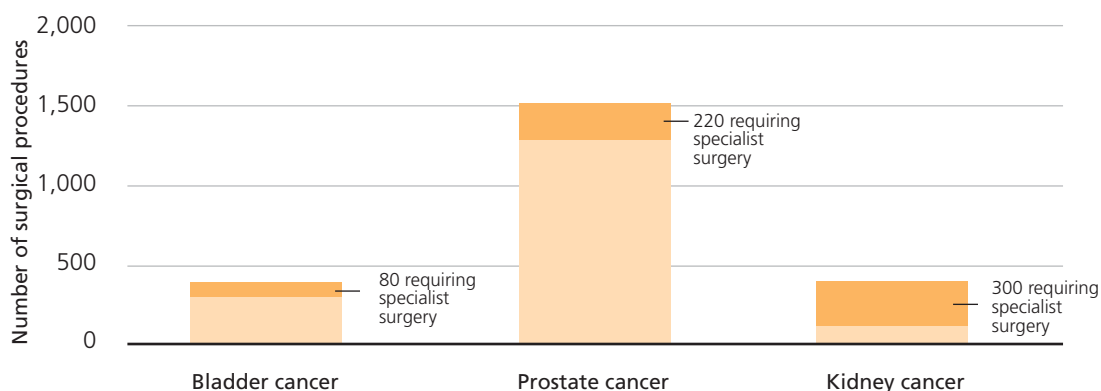
Prostate cancer is the most common cancer in men – around 1,500 local men are diagnosed each year but few need complex surgery. In 2010/11, only 220 complex operations for prostate cancer took place locally.

Small areas of cancer in the prostate are very common and may stay inactive for many years. There are many types of treatment and each has different benefits and side effects. Treatment options include monitoring the cancer, radiotherapy or brachytherapy (implanting small radioactive seeds in the prostate), hormone therapy, high-intensity focused ultrasound (a heating treatment), cryotherapy (a freezing treatment) or surgery, including surgery that is increasingly being done robotically. Newly diagnosed patients need clear information and unbiased support to help them decide what treatment is best for them. This is very important for these patients because of the range of treatment options – each with different risks of side effects such as incontinence or impotence.

Kidney cancer

Kidney cancer is rare – only around 400 new cases locally each year. It is twice as common in men as in women. There are few treatment choices for kidney cancer and is most often surgical. Some operations are simple, others are very complex. All rely increasingly on emerging technologies such as keyhole surgery and robotically assisted surgery.

Proportion of urological cancer patients needing specialist treatment in north and east London



Current services

There are four bladder and prostate cancer surgical centres in north and east London, each serving a population of between 600,000 and one million. They are:

- Chase Farm Hospital
- King George Hospital
- University College Hospital
- Whipps Cross University Hospital.

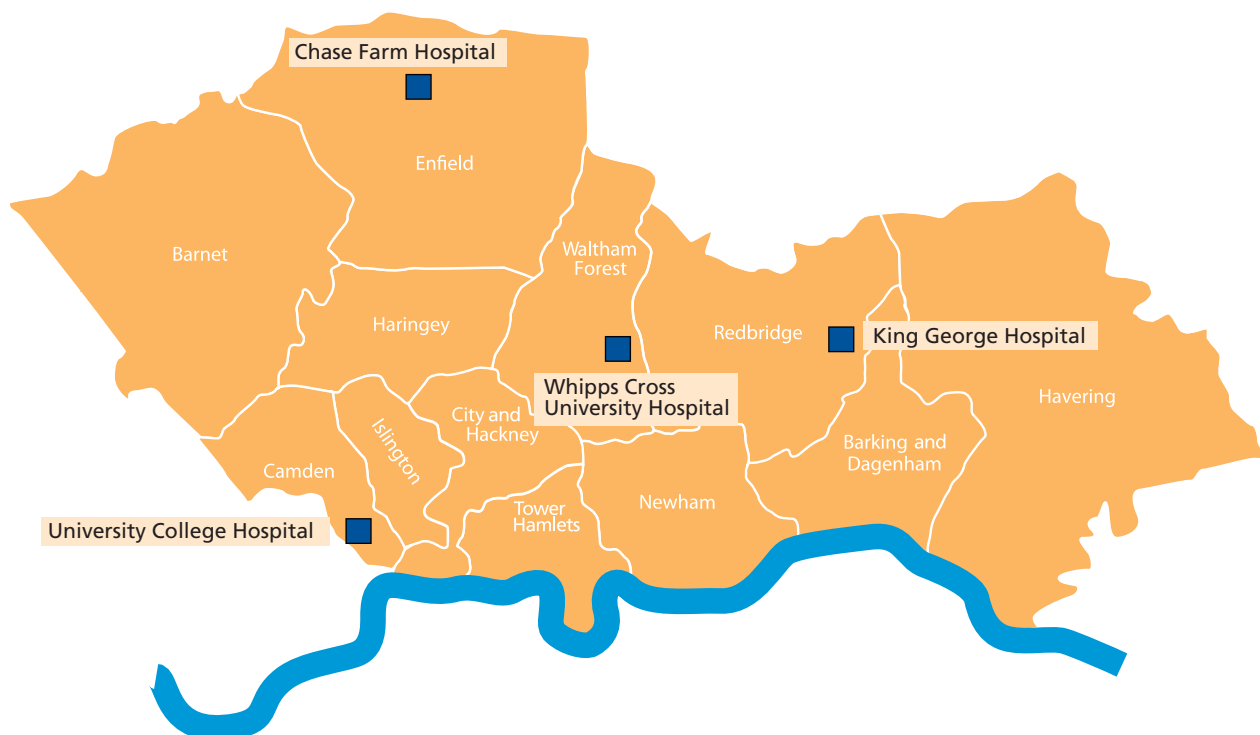
In 2010/11, each bladder and prostate centre carried out between 54 and 89 specialist operations – a total of 296 (220 for prostate cancer and 76 for bladder cancer).

Currently, bladder and prostate surgery does not take place at Chase Farm Hospital; these patients have their surgery at University College Hospital. Most bladder and prostate surgery previously done at Whipps Cross University Hospital takes place at University College Hospital as more patients are taking up the option of robotic surgery.

"I believe that the new system would allow us to achieve substantial improvements in our patients' care and experiences at a rapid pace. It would enable us to offer all our patients access to innovation and the best treatment options, regardless of location and circumstances. As a result, our service will flourish far into the future."

Mr John Hines, Pathway Director for Urological Cancer, Consultant Urological Surgeon

Hospitals providing specialist bladder and prostate cancer services in north and east London



Hospitals providing specialist kidney cancer services in north and east London



Across the same area, kidney cancer surgery is provided at:

- Chase Farm Hospital
- King George Hospital
- The Royal London Hospital
- University College Hospital
- Whipps Cross University Hospital
- Royal Free Hospital
- Newham University Hospital
- Princess Alexandra Hospital
- Homerton University Hospital.

In 2010/11, they each carried out between 10 and 72 kidney cancer operations – a total of 292 operations.

Overview of service standards

NICE guidance for urological cancer services recommends that patients with cancers that are less common or need complex treatment should be managed by specialist multi-disciplinary teams in large hospitals or cancer centres-, serving at least one million people.

The London-wide review recommended five specialist surgical centres in the capital serving a population of at least two million. Each centre should carry out at least 100 operations a year for bladder and prostate cancer. For kidney cancer, the review concluded that these cases should only be managed by specialist urology multi-disciplinary teams.

Why services need to change

Services are not meeting recommended levels of care

Some concentration of services has already happened. However, four centres currently provide bladder and prostate cancer services for a population of over 3.2 million, which does not meet national or London-wide standards. Also, all the current centres fall short of the recommended yearly number of bladder and prostate operations.

Unequal access to the right people and equipment

Specialist services for urological cancer patients are currently widely dispersed, particularly for kidney cancer, with some centres only doing 10 operations a year. This means some clinicians do not see enough patients to develop or maintain their expertise in these procedures. In addition, not all hospitals have access to the latest technologies, such as robotic surgery.

Clinicians estimate that up to 50 bladder and prostate patients each year do not receive beneficial surgery because not all treatment options are discussed with them. The challenge is to ensure that everyone who needs specialist surgery is offered it. It is also important to prevent unnecessary operations where less invasive treatments might be suitable.

Access to other specialities

As kidneys are close to other organs, surgery should be carried out in a hospital with liver and pancreas surgeons. Kidney cancer can spread through blood vessels to the heart so it may be necessary for cardiac surgeons to assist. Kidney cancer surgery should also take place in a hospital that has renal medicine and dialysis facilities.

Clinical recommendations

The London-wide model for cancer care recommended five specialist surgical centres in the capital, serving a population of at least two million. For north and east London, that would mean reducing the current four to one, or a maximum of two, hospitals providing specialist bladder and prostate cancer care (two

hospitals would still be below the minimum recommended population size).

Local clinicians think a more ambitious approach is needed to provide the world-class services local people deserve. They recommend centralising all complex bladder and prostate procedures at one specialist centre.



The interior of University College Hospital's Macmillan Cancer Centre.

This specialist centre would be at University College Hospital and it would:

- ensure that patients receive care from health professionals with specialist expertise, reducing the risk of incontinence and other post-operative complications
- employ a suitable number of health professionals with specialist expertise to look after patients during and after their surgery, and specialist teams would work at both the specialist centre and local hospitals
- maximise investment in skills, technology and research and the use of the most advanced techniques and facilities, such as robotics
- increase the number of new urological cancer patients taking part in clinical research if they wished to do so.

During a commissioner-led discussion on potential changes to bladder and prostate services in early 2013, some stakeholders

proposed a different option. They said we should look at the possibility of providing some specialist prostate surgery at Queen's Hospital in Romford.

Under this option, whilst all complex bladder surgery and most complex prostate surgery (undertaken robotically) would be centralised at University College Hospital, some specialist prostate cancer surgery could be offered at a second centre at Queen's Hospital in Romford. This would mean the current service at King George Hospital moving to Queen's Hospital.

For kidney cancer, clinicians recommend consolidating surgical services into a single specialist centre at the Royal Free Hospital as it has many of the necessary specialities to support surgery, including vascular surgery, liver and pancreatic surgery, renal medicine and 24-hour interventional radiology.

Services for penile and testicular cancer would remain the same as now.

How services would work: an example

Michael from Leyton was diagnosed with prostate cancer after tests at his local hospital, Whipps Cross University Hospital. His consultant urological surgeon explained the diagnosis in detail and discussed the treatment options, which included robotic surgery for a prostatectomy. Michael was told about the side effects and benefits of each option and was supported in his decision to have robotic surgery.

On the day of the operation, Michael travelled by train to the specialist urological unit at University College Hospital where a team performed the surgery using the latest technology and medical advances.

Two days later, after recovering from surgery, Michael was able to go home. Michael had one follow-up appointment at University College Hospital, where the team assessed the results of the surgery and he was given the all-clear.

Michael now has his follow-up appointments at his local hospital to assess how he is getting on.



Acute myeloid leukaemia and haematopoietic stem cell transplantation

Acute leukaemias are rare aggressive cancers of white blood cells that progress rapidly and need immediate treatment. There are two main types:

- Acute myeloid leukaemia (AML) involves myeloid cells, which perform such tasks as fighting bacterial infections, defending the body against parasites and preventing the spread of tissue damage.
- Acute lymphocytic leukaemia (ALL) involves lymphocytes, which mostly fight viral infections and generate an immune response. Treatment for this type of leukaemia is already centralised and so it does not form part of this review.

Younger patients – usually under 70 years of age – with AML need up to four courses of intensive chemotherapy to cure them or significantly extend their life expectancy. Chemotherapy for AML is very demanding. Each course of chemotherapy, given on an inpatient basis, leaves the patient without white blood cells for three to four weeks at a time. During this period patients are vulnerable to infection and other complications. About 15-20% of patients require intensive care.

High-quality facilities, close supervision and monitoring on a 24-hour basis are essential. Great care has to be taken to minimise the risk of infection and treat it rapidly and effectively if it occurs. This is best provided by a team of specialist nurses and doctors available around the clock.

Clinical nurses, psychologists and palliative care specialists have a central role. They ensure patients and their carers receive support, coordinated care and the information they need during the illness.

Some patients, particularly older patients, cannot withstand intensive therapies and would be treated ‘non-intensively’, usually on a day-case or outpatient basis. For these patients, the aim is to control the disease and manage complications. Services for patients being treated non-intensively do not form part of this review.

Haematopoietic stem cell transplantation (HSCT) means transplanting stem cells derived from the bone marrow or blood. The transplant increases the chance of a cure or remission for various haematological cancers and blood disorders. HSCT needs clinical expertise and suitable support facilities. These include specialist medical and nursing staff as well as support from other clinical specialists including those in respiratory medicine, cardiology, microbiology, virology, and infectious diseases. Because many complications can occur, support is often needed from other surgeons.

It is essential for on-site facilities and intensive care teams who know how to manage such patients to be available. Facilities for renal replacement therapy and bronchoscopy should also be readily available on site.

Transplantation is an intensive treatment. It can take several weeks for the bone marrow to recover and make enough new blood cells. During this time patients need to be in hospital or hospital hotels and be closely monitored for potential complications.

Local clinicians agree that any review should cover both transplant services and AML as the facilities and staff who give HSCT services are often the same as those who give intensive therapy for AML.

“Our vision is to provide people in our area with an excellent integrated haematological cancer service that can compete with the best centres in the world. A service that helps people to be diagnosed as quickly as possible, have full access through a seamless service to all available treatment options and innovative research.”

Dr Kirit Ardeshta, Pathway Director for Haematology, Consultant Haemato-Oncologist



Levels of care

The British Committee for Standards in Haematology defines four levels of care:

- Level 1 – Outpatient units provide treatment orally or intravenously, which does not normally cause significant loss of white blood cells.
- Level 2a – These centres provide treatment that results in short periods (less than seven days) of bone marrow and white blood cell loss, requiring short hospital stays.
- Level 2b – These centres provide complex chemotherapy needed to treat patients with relapsed lymphomas, as well as providing intensive treatment for AML.
- Level 3 – These centres provide intensive treatment for acute lymphoblastic leukaemia and transplant services.

This review focuses on our level 3 treatment centres and which level 2b units should continue to treat patients who have AML and those who need intensive chemotherapy.

Current services

Six centres in north and east London provide level 2b treatment for patients with AML, each with their own multi-disciplinary team:

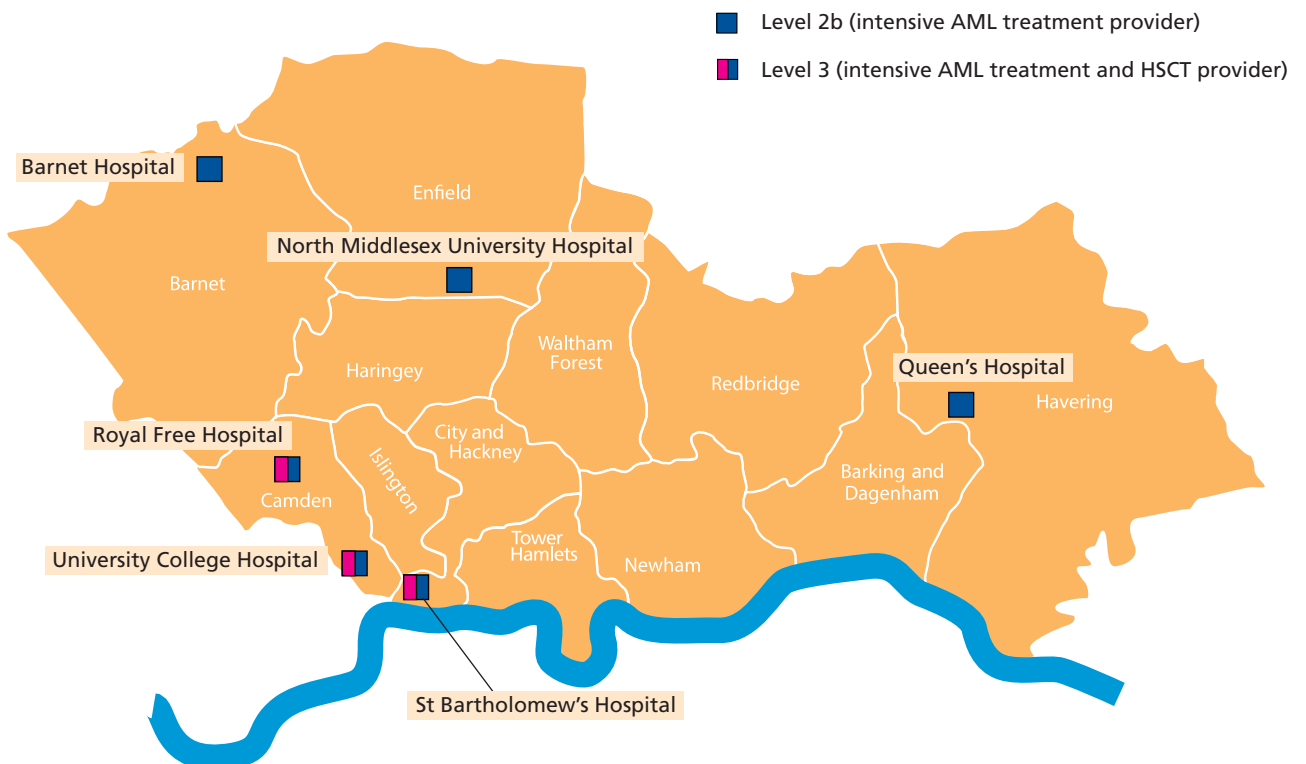
- Queen’s Hospital in Romford
- North Middlesex University Hospital
- Barnet Hospital
- St Bartholomew’s Hospital
- Royal Free Hospital
- University College Hospital.

In 2012/13, the centres treated 179 new patients, 104 of whom had intensive treatment. Each centre treated between 2 and 39 new patients intensively.

Number of new NHS patients diagnosed with AML and the number of patients treated intensively

	April 2011 – March 2012		April 2012 – March 2013	
	Number of new patients diagnosed with AML	Number of patients treated intensively	Number of new patients diagnosed with AML	Number of patients treated intensively
Queen's Hospital	34	16	36	9
North Middlesex University Hospital	9	5	3	2
Barnet Hospital	12	9	14	5
St Bartholomew's Hospital	51	30	58	39
Royal Free Hospital	26	15	23	15
University College Hospital	41	36	45	34
Total	173	111	179	104

Hospitals providing AML and HSCT services in north and east London



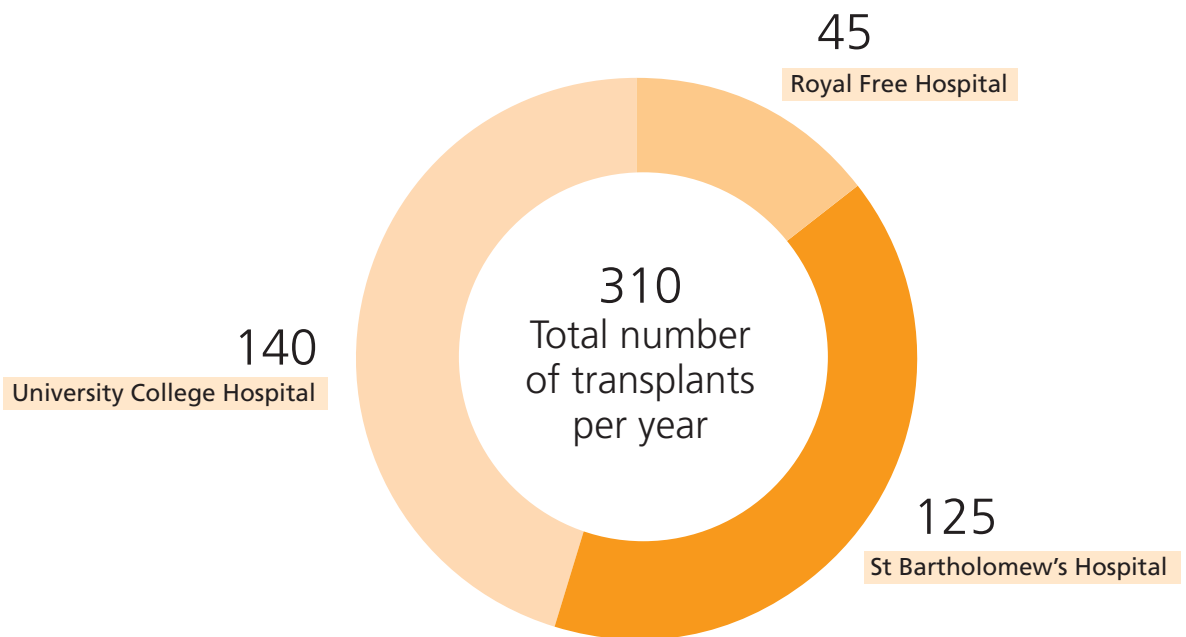
Transplant services are provided at three centres:

- Royal Free Hospital
- St Bartholomew's Hospital
- University College Hospital.

These centres perform a total of around 310 transplants a year. St Bartholomew's Hospital and University College Hospital each perform over 100 of these. The Royal Free Hospital performed only 45 transplants in 2011/12.



Transplants in north and east London (2011/12)



Overview of service standards

NICE¹⁹ guidance states that multi-disciplinary teams should treat intensively at least five new AML patients a year. It recommends that treatment be provided at a single facility on any one hospital site, in designated wards with continuous access to specialist nurses and haematologists. Local clinicians have recommended that providers should treat with intensive chemotherapy at least 10 new cases of AML a year. They believe that this number enables clinicians to become sufficiently familiar with the complex therapy needed to cure AML.

For HSCT, NICE and London-wide guidance recommends that centres take on at least 100 new cases a year²⁰. The London-wide review²¹ recommended that, given the specialist expertise and range of facilities required for stem cell transplants, the number of HSCT service providers in London should be reduced from eight to five.

Why services need to change

Services do not always meet recommended levels of care

Not all our HSCT services are carrying out the minimum 100 transplants each year recommended by the London-wide review. The Royal Free Hospital currently treats less than half that number of patients.

Local clinicians have recommended that units treat intensively at least 10 new AML patients a year. Last year Barnet Hospital and North Middlesex University Hospital treated five or fewer patients.

Not all patients have access to specialist support

Each centre should have haematologists familiar with managing cancer on-site during working hours and available out-of-hours. This means patients with AML can be treated by clinicians with suitable expertise.

Centres need a long-term future

Intensive treatment for AML and HSCT takes a lot of time and expertise and is therefore costly. Larger services will be more cost-efficient and better able to provide the care patients need.

Clinical recommendations

Local clinicians recommend that the number of hospitals providing level 3 care including HSCT be reduced from three centres to two. As the Royal Free Hospital takes less than half the recommended number of cases, it would make sense for this service to transfer to University College Hospital. Level 3 HSCT and AML services would continue at St Bartholomew's Hospital and University College Hospital.

Since the NICE guidance was published, treating AML has become more complex. Local clinicians recommend that services should treat

at least 10 new AML cases intensively each year. To achieve this they recommend reducing the current six centres in north and east London to three. Two of these would be located with the recommended level 3 HSCT centres at St Bartholomew's Hospital and University College Hospital. *London Cancer* has recommended that the third centre be located at Queen's Hospital in Romford. After the Royal Free Hospital, Queen's Hospital in Romford is the only hospital to have enough new AML cases to meet the local recommended minimum of 10 cases a year.

19 NICE, *Guidance on Cancer Services – Improving Outcomes in Haematological Cancers – The Manual*, 2003. Available at:

http://www.nice.org.uk/nicemedia/pdf/NICE_HAEMATOLOGICAL_CSG.pdf

20 NHS Commissioning Support for London, *A model of care for cancer services: Clinical paper*, August 2010, p.93.

21 NHS Commissioning Support for London, *A model of care for cancer services: Clinical paper*, pp.88-89.

Oesophago-gastric cancer

Oesophago-gastric (OG) cancer is cancer of the stomach or oesophagus. It is the fifth most common cancer and the fourth most common cause of cancer death in the UK, affecting around 13,500 people each year²². Each year 830 new patients are likely to be diagnosed locally. The rate of OG cancer is increasing and the five-year survival rate is poor.

Diagnosing and managing patients with OG cancers involves a number of professional groups including GPs, specialist OG surgeons, clinical nurse specialists, dieticians, radiologists and physiotherapists.

Surgery offers the best chance of long-term survival for patients with early-stage OG cancer if it is operable. Usually, these patients also need chemotherapy.

About 75% of OG cancer patients have inoperable disease and need palliative and non-surgical treatment such as chemotherapy,

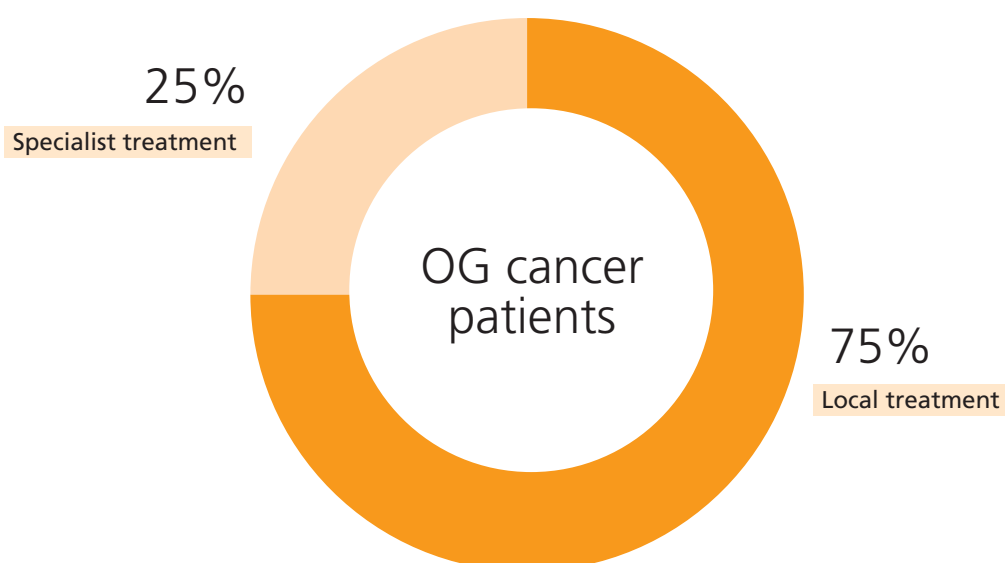
radiotherapy or endoscopic therapy to relieve symptoms. Specialist multi-disciplinary teams have to make the treatment recommendation for these patients, but the actual treatments may be provided in local units.

Specialist areas of OG cancer services include:

- endoscopic therapies
- all surgery, whether life-saving or palliative
- chemotherapy, radiotherapy and brachytherapy provided by a specialist team at a place decided by the network guidelines.

OG cancer patients who undergo surgery need 24/7 specialist care for around 30 days to give them the best chance of survival.

Proportion of OG cancer patients needing specialist treatment



²² Cancer Research UK 2011; Office of National Statistics 2010.

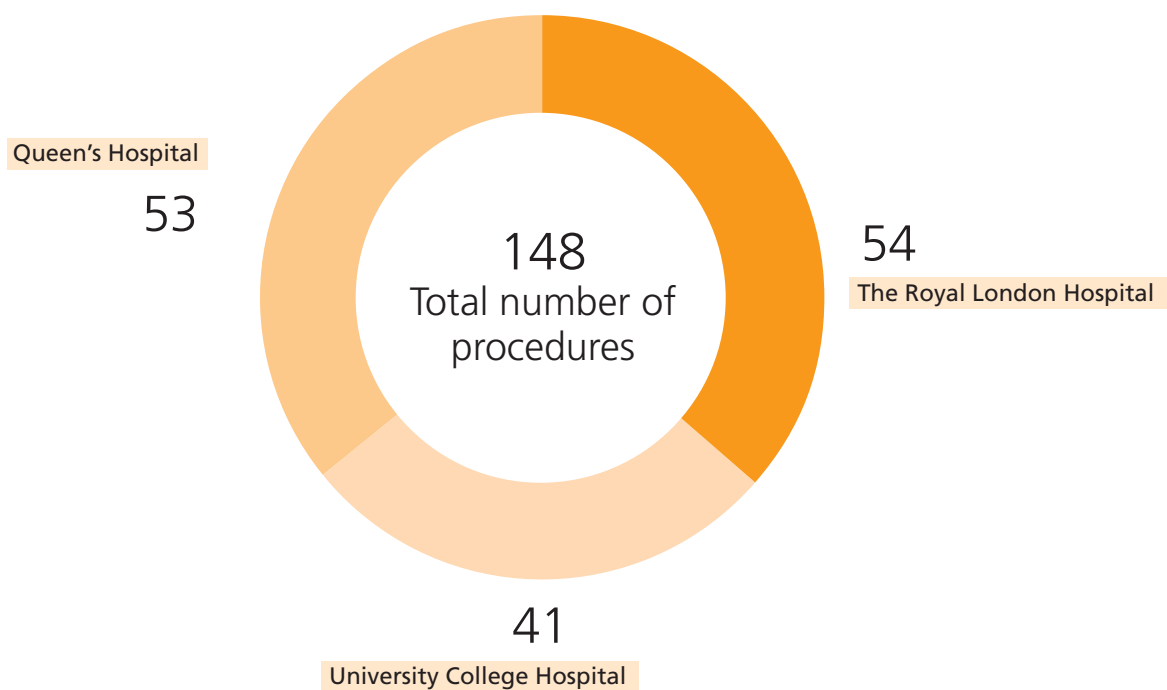
Currently, there are three specialist OG centres in north and east London:

- University College Hospital
- The Royal London Hospital
- Queen’s Hospital in Romford.

The specialist centres work in partnership with their local hospitals to diagnose and treat patients through multi-disciplinary team meetings involving specialist clinicians in OG surgery, oncology, pathology and radiology as well as nursing and dietetics.

These centres perform a total of around 150 procedures a year, each doing between 41 and 54 operations. Each centre has its own multi-disciplinary team.

OG cancer procedures in north and east London (2012)



“As clinicians, we aim to provide upper gastro-intestinal cancer patients with the most equitable, effective and responsive service in the UK, comparable with the very best in the world. We want patients to feel fully-supported in their care and treatment; and for every patient to have access to the best available treatment options, no matter where they live or first access our care, and wherever appropriate, they should benefit from participation in clinical trials.”

Professor Muntzer Mughal, Pathway Co-Director for Upper GI Cancer, Honorary Clinical Professor in Surgery, Consultant Surgeon and Mr David Khoo, Pathway Co-Director for Upper GI Cancer, Consultant Surgeon

Overview of service standards

National service standards state that patients with OG cancers should be managed by specialist multi-disciplinary teams in centres serving at least one million people and performing at least 60 operations a year.

The Association of Upper Gastrointestinal Surgeons recommends that an individual specialist surgeon should carry out at least 15 to 20 operations a year at centres that have four to six surgeons and serve a population of 1.5-2 million.

NICE guidance recommends that OG cancer centres serve a population of one million.

The 2010 London-wide strategy recommended that OG surgical centres serve a population of at least two million people.

Why services need to change

Services are not meeting recommended levels of care

Currently, three units serve a population of over 3.2 million, each doing an average of 50 operations a year. This means none of the current services meets national or London-wide standards.

Larger-volume OG cancer surgical centres have lower death rates in England and internationally. OG patients are more likely to survive for five years after their operation if it is done in a centre that performs over 60 such operations a year. Recent studies show that mortality rates are even lower in centres that perform over 80 operations a year²³.

Limited ability to provide 24/7 surgical cover

The current surgical work volumes cannot support an increase in the numbers of surgeons if three centres remain. This limits the ability of each centre to provide 24/7 consultant cover, which has been shown to reduce the length of stay in hospital and increase survival chances. Concentrating surgeons in fewer centres would also maximise training opportunities and improve services for patients in the future.

The current system is not sustainable

Clinicians recognise that the current system is unlikely to be sustainable beyond the next few years. Improvements in earlier diagnosis and non-surgical treatments will eventually mean fewer patients need surgery. So the number of surgeons should fall in the future, and this will result in unworkable on-call arrangements unless the number of centres also falls.

Leading improvements along the pathway

OG cancer patients are more likely to have a planned treatment if they are diagnosed by a GP or hospital doctor. Existing centres lack the capacity to improve local screening and early detection.

²³ Victoria H Coupland, Jesper Lagergren, Margreet Luchtenborg, et al 'Hospital volume, proportion resected and mortality from oesophageal and gastric cancer: A population-based study in England', 2004–2008.

Clinical recommendations

Local clinicians agree that the number of local specialist OG cancer centres and multi-disciplinary teams should reduce in order to provide the best outcomes for patients and meet national standards²⁴. Surgical teams working in OG centres should carry out at least 60 oesophageal and gastric operations each year.

To achieve these standards, local clinicians recommend a staged consolidation of services in north and east London over three to five years. Initially, clinicians recommend the current three centres be reduced to two:

- One centre in outer north-east London at Queen's Hospital, Romford.
- One centre in inner north London at University College Hospital.

The specialist centres would be able to provide the most up-to-date radiotherapy and chemotherapy for OG cancer. In addition, this would enable sharing and standardisation of best practice for OG cancer across all specialist fields of work.

In the medium to long term, clinicians recommend the work be consolidated further into a single specialist centre at University College Hospital.

How services would work: an example

Abeeda, 43, visits her GP after having difficulty swallowing during the previous month. Her GP sends her to the local hospital to have a CT scan and biopsy, which show stomach cancer. She is immediately referred to the specialist centre. Her local hospital sends the specialist centre her clinical information and test results.

A team of surgeons, radiotherapists, chemotherapists and support services consider Abeeda's case and recommend surgery to remove the tumour. Abeeda agrees and her operation is performed by an expert surgeon. Throughout her treatment she is cared for by a clinical nurse specialist, who talks regularly with the nurses at Abeeda's local hospital.

After the tumour is removed Abeeda stays in the specialist centre where she is monitored 24/7 by the specialist team. After two weeks she returns home and has follow-up checks at her local hospital. The local hospital and specialist centre continue to review Abeeda's progress in their weekly team meetings.

²⁴ NICE, Review consultation document: Review of the section on organisation of specialist teams for curative surgery for oesophago-gastric cancer within the Cancer Services Guidance on Upper Gastro-intestinal Cancers, March 2013.

Conclusion

Local clinicians have highlighted areas where we are not making the most efficient use of staff and resources to care for patients or to introduce innovations and make improvements. They provide strong reasons for change. These reasons are supported by work done nationally and across London, which also puts forward strong arguments for making changes in these specialist cancer services.

We need to ensure that surgeons and care teams have the best opportunity to improve their expertise. We also need to consider cost-effectiveness and hospitals' long-term ability provide services.

Local clinicians believe their recommendations for reorganising specialist cancer services take advantage of this unique opportunity to provide better outcomes, better coordination of care and a better experience for our patients.



Improving specialist cardiovascular services

in north and east London and west Essex

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Cardiovascular

Cardiovascular disease affects millions of people in the UK and is one of the biggest causes of early death and disability. It is estimated that 5,436 people in north and east London die early because of heart disease and stroke.

Prevention and treatment have improved over the last decade but more needs to be done to bring the UK in line with the best international outcomes, and to speed up the adoption of new technologies.

Local clinicians have identified the need to make further improvements along the cardiovascular pathway – from prevention and detection to treatment and follow-up care.

Improving specialist cardiovascular services is one part of clinicians' vision for the whole pathway of care. They agree that, to achieve world-class standards, we must change the way we provide specialist adult cardiovascular services including:

- adult congenital heart disease
- cardiac anaesthetics and critical care
- cardiac imaging
- cardiac rhythm management
- cardiac surgery
- general interventional cardiology
- management of complex/severe heart failure
- inherited cardiovascular disease.

Cardiovascular disease includes all the diseases of the heart and circulation such as:

- cardiomyopathy (deterioration of the heart muscle)
- arrhythmias (irregular heart beat such as atrial fibrillation)
- congenital heart disease
- coronary heart disease (angina and heart attack)
- heart failure
- stroke (stroke services are not in the remit of this review).

Cardiovascular disease risk increases with:

- smoking
- high blood pressure
- high blood cholesterol
- being physically inactive
- being overweight or obese
- diabetes
- family history of heart disease
- ethnic background
- gender – men are more likely to develop cardiovascular disease at an earlier age than women
- age – the older you are, the more likely you are to develop cardiovascular disease.



Specialist cardiovascular services, and a range of supporting services, in north and east London are mainly provided by Barts Health NHS Trust (Barts Health), University College London Hospitals NHS Foundation Trust (UCLH) and the Royal Free London NHS Foundation Trust. Some invasive cardiology takes place at Whipps Cross University Hospital (Barts Health) and King George Hospital (Barking, Havering and Redbridge University Hospitals Trust), which is not changing as part of this review.

UCLH's specialist cardiovascular services are mainly provided from The Heart Hospital in Westminster. Some general cardiology services are also provided from University College Hospital to support patients with other conditions.

Barts Health provides specialist cardiovascular services at The London Chest Hospital in Bethnal Green and St Bartholomew's Hospital. Barts Health is due to move the specialist cardiac services currently provided at The London Chest Hospital and St Bartholomew's Hospital to a new state-of-the-art facility in the St Bartholomew's Hospital complex, when the building is complete at the end of 2014. Cardiology support for patients will continue at The Royal London

Hospital – mainly to treat acute admissions at the major trauma centre there.

St Bartholomew's Hospital and The Heart Hospital are both electrophysiology hubs for north and east London and provide 24/7 emergency services.

There are eight heart attack centres in London, three in north and east London – The London Chest Hospital, the Royal Free Hospital and The Heart Hospital.

The heart attack centre at The London Chest Hospital currently receives around 1,500 patients a year – the highest number of the three centres in north and east London. These patients mainly come from east and north-east boroughs of London. Most patients taken to the Royal Free Hospital and The Heart Hospital come from north London. The Royal Free Hospital receives more of these patients.

As well as heart attack services the Royal Free Hospital provides complex invasive cardiology and vascular surgery.

Specialist cardiac care for children is provided at Great Ormond Street Hospital NHS Foundation Trust.



Hospitals providing specialist cardiovascular services in north and east London



- 1** The London Chest Hospital (Barts Health)
- 2** St Bartholomew's Hospital (Barts Health)
- 3** The Heart Hospital (UCLH)
- 4** Royal Free Hospital (Royal Free London NHS Foundation Trust)

Some invasive cardiology takes place at Whipps Cross University Hospital (Barts Health) and King George Hospital (Barking, Havering and Redbridge University Hospitals Trust), which is not changing as part of this review.



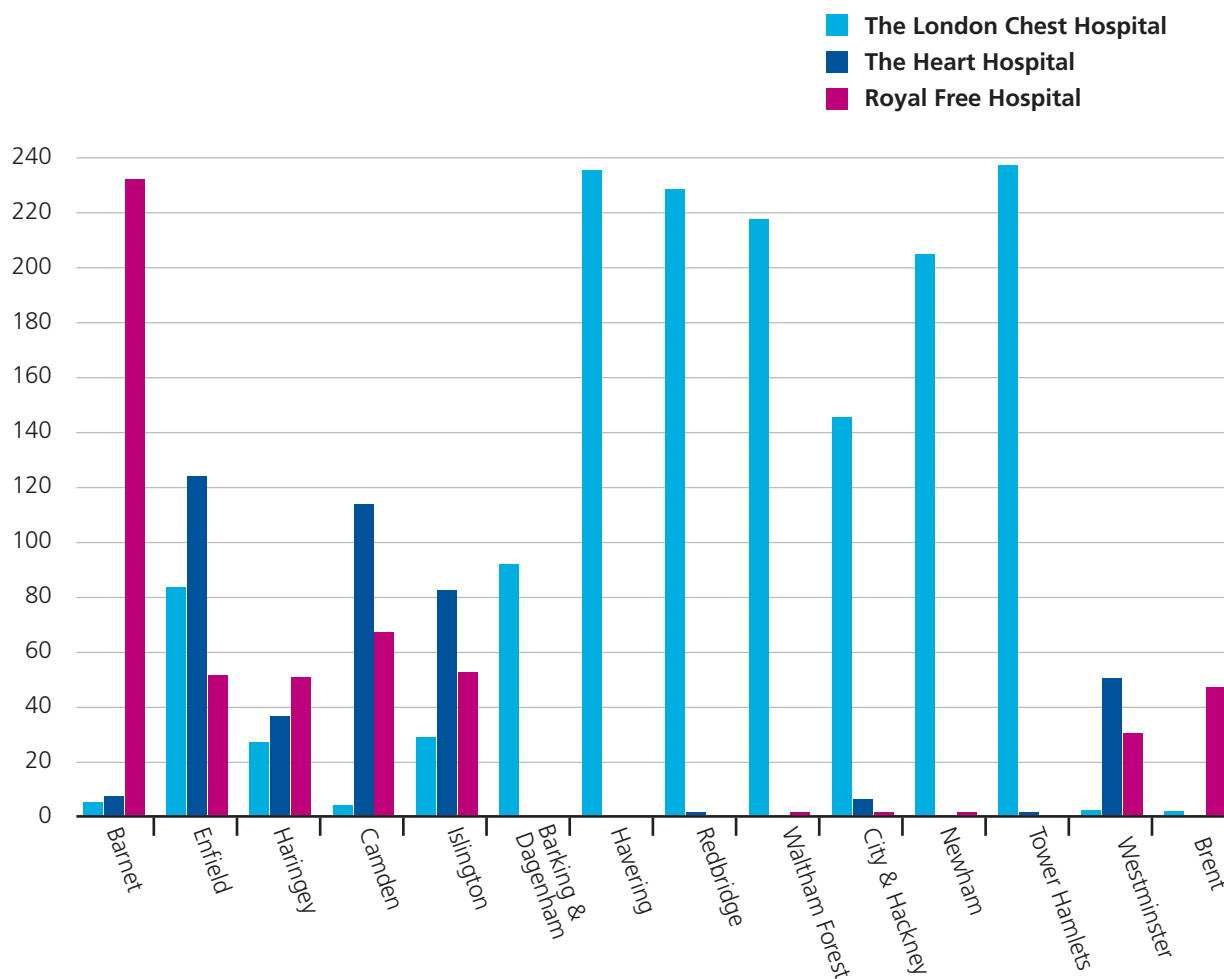
Heart attack centres in London



- 1** The London Chest Hospital
- 2** Hammersmith Hospital
- 3** Harefield Hospital
- 4** The Heart Hospital
- 5** King's College Hospital
- 6** Royal Free Hospital
- 7** St George's Hospital
- 8** St Thomas' Hospital



Number of patients taken to heart attack centres by borough (2012/13)



This document describes why we need to change and how we can improve these services locally. Clinicians recommend that to do this we should bring together the specialists, facilities and research currently at The Heart Hospital (part of University College London Hospitals NHS Trust) with services currently provided at The London Chest Hospital into a single, world-class integrated cardiovascular centre at St Bartholomew’s Hospital.

Further information is available in UCLPartners’ recommendations to commissioners *A proposal for clinical change in specialist cardiovascular services across north and east London.*

Emergency care for heart attacks would be provided at two hospitals in north central and east London – the integrated cardiovascular centre proposed at St Bartholomew’s Hospital and the current heart attack centre at the Royal Free Hospital.



Context – national and London-wide reviews

The 2010 review of cardiovascular services²⁵ in London found significant variation in outcomes for patients. Patients were waiting too long for surgery and hospital treatment, and there were inequalities in access to treatment and patient experience.

The review highlighted the importance of:

- multi-disciplinary team working
- concentrating the roll-out of new technologies in fewer centres to ensure there would be suitable infrastructure and staff experience to set standards for future use
- consolidating and integrating research activity and improving cooperation with universities
- reducing waiting times for urgent surgery, for example coronary artery bypass graft and length of stay
- greater specialisation, specifically in certain areas of cardiac surgery
- dedicated 24/7 rotas, enabling patients to have rapid access to specialist expertise.



These include:

- improving prevention and risk management
- better early management and secondary prevention in the community
- improving acute care, including providing world-class specialist 24/7 services for heart attack, unstable angina and acute arrhythmias.

The London-wide review recommended that hospitals providing specialist cardiovascular care come together in fewer units seeing a higher volume of patients.

In 2013 the government published a national *Cardiovascular Disease Outcomes Strategy*²⁶. It identified actions needed to raise patient outcomes to international standards.

The Heart Hospital and The London Chest Hospital have both self-assessed their services against NHS England's national service specifications and comply with them²⁷. Merging the two centres will improve their compliance against the national specifications and create an opportunity for more clinicians to share expertise along the pathway.

25 NHS Commissioning Support for London, *Cardiovascular project: The case for change*, August 2010 <http://www.londonhp.nhs.uk/wp-content/uploads/2011/03/Cardiovascular-case-for-change.pdf>.

26 Department of Health, *Cardiovascular Disease Outcomes Strategy: Improving outcomes for people with or at risk of cardiovascular disease*, 5 March 2013. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/214895/9387-2900853-CVD-Outcomes_web1.pdf.

27 NHS England, *Complex Invasive Cardiology service specification*. Available at: <http://www.england.nhs.uk/resources/spec-comm-resources/npc-crg/group-a/a09/>; NHS England, *Cardiac Surgery service specification*, Available at: <http://www.england.nhs.uk/resources/spec-comm-resources/npc-crg/group-a/a10/>



Improvements underway to cardiovascular services

Improving the cardiovascular health of people in north and east London is a key priority for local NHS organisations and local authorities²⁸.

There are high levels of need in local communities and evidence shows that up to 30% of cardiovascular disease patients on GP registers are on unsuitable medication²⁹. Clinicians say more co-ordinated care is needed between community services, GPs, hospitals and providers of specialist services.

Local providers of cardiovascular care are working together as an 'integrated cardiovascular system' through UCLPartners³¹. Working across organisational boundaries and with CCGs and local authority partners, the integrated system aims to improve services along the whole cardiovascular pathway. These include:

- preventing cardiovascular disease by identifying patients with hereditary risk factors and modifiable life-style risks and ensuring they have access to adequate screening and support
- earlier detection of cardiovascular disease, offering health checks to all eligible people
- improving treatment of people with cardiovascular disease. For example, better management of atrial fibrillation will help prevent major cardiovascular events such as heart attack or stroke.



Preventing and diagnosing cardiovascular disease earlier will save lives. It will also ensure that more people living with cardiovascular disease get the support and treatment they need.

These are changes we are already making to improve cardiovascular services and provide a smooth pathway for patients.

“UCLP is working for Camden CCG on a range of joint community initiatives aimed at preventing heart attacks and stroke. These include identifying high-risk patients, improving blood pressure monitoring through new technologies, improving management of patients with atrial fibrillation. These actions should complement the wider work on cardiovascular services and improve outcomes for Camden residents.”

Dr Caroline Sayer, Chair, Camden Clinical Commissioning Group

28 All local authorities in north and east London recognise cardiovascular disease in their joint health strategic needs assessments.

29 Department of Health, CVD Mortality Audit. Available at: <http://www.institute.nhs.uk/images/documents/wcc/HPHL/HINST%20resources/Mortality%20Audit.pdf>



Examples of local initiatives for improving cardiovascular health

Community coronary heart disease service

The coronary heart disease community service in Barking, Dagenham, Havering and Redbridge supports local people with heart problems and suspected heart problems. The multi-disciplinary team helps people to understand and manage their illness and its treatment. The service aims to help people make beneficial lifestyle changes and supports them as they return to as full and normal a life as possible. The team also provides monitoring and support in the community for patients who have heart disease and diagnosis of uncomplicated heart conditions such as suspected heart failure.

Cardiac rhythm management group

Nurse-led primary care arrhythmia services hosted by Barts Health NHS Trust have succeeded in identifying patients, providing therapy and reducing referrals to secondary and specialist care. With services based at local hospitals and some GP practices, patients have access to care closer to home.

Chronic heart failure

Chronic heart failure affects over half a million people in England. There is widespread under-diagnosis of heart failure and it accounts for five per cent of all emergency admissions to hospital. GPs in Enfield and Camden are working with specialist heart failure nurses to manage patients in the community.





Why we need to change

In north and east London, we have some of the best cardiovascular experts in the country. However, services are not organised in a way that enables us to give patients the best outcomes. Clinicians have identified five main reasons why we need to change:

1. The risk of cardiovascular disease is already high and is increasing with our growing and ageing population. People with heart disease in north and east London are more likely to die prematurely than other people in London or England³⁰.
2. Current services cannot meet recommended standards for care. We have high levels of unmet need and unequal access to treatment. Clinicians think they could save more lives if expert teams saw more patients.
3. Specialists are needed 24/7 to provide expert emergency care and enable them to do more work as sub-specialists, such as in aortic valve disease. Our medium-sized units cannot sustain this.
4. Too many people are waiting too long for routine surgery. Patients at both The London Chest Hospital and The Heart Hospital are waiting longer for surgery than the national average of 63 days. Some patients at The Heart Hospital wait up to 93 days³¹. Capacity at The Heart Hospital is limited, with no room for expansion.
5. There is an opportunity to integrate research and innovation into daily practice. This would improve care for local people and attract extra funding.

The risk of cardiovascular disease is already high and is increasing, with evidence of significant unmet need

North and east London has a diverse, ageing and growing population, with many people facing significant deprivation. These factors increase the risk of cardiovascular disease and the resulting demand for services in the future.

Locally, many of our communities have deep health needs and there is clear variation in outcomes from cardiovascular disease.

On average, people with heart disease in north and east London die earlier than people with heart disease in the whole of London and in England³². Eight of the 12 London boroughs in this area have premature death rates far higher than in England as a whole³³. The rate of early death in north and east London is also much higher than in other European countries³⁴; if our rate of early death was in line with the European average, about 2,200 lives would be saved each year.

We could save 1,117 lives a year locally if we could bring our rate of early deaths from cardiovascular disease into line with the England average.

We could save about 2,200 lives if our rate of early deaths was the same as Europe's.

30 South East Public Health Observatory, CVD profiles 2011-12. Available at: www.sepho.org.uk.

31 Dr Foster Intelligence. Available at: www.drfoosterhealth.co.uk

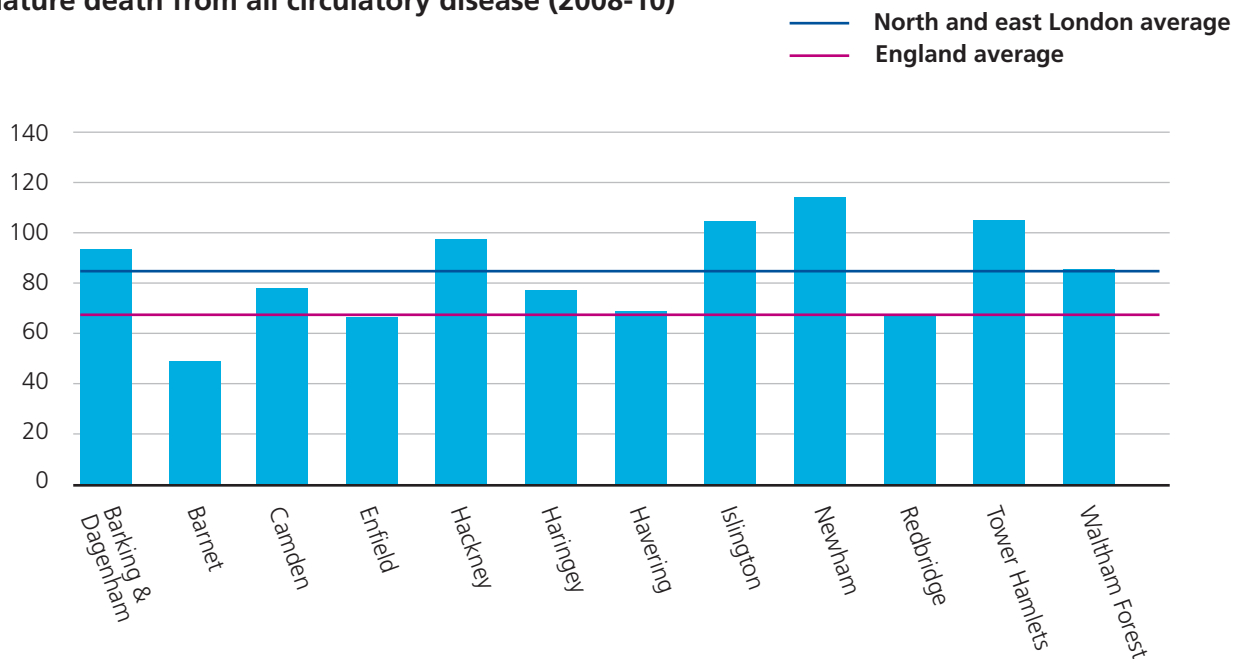
32 The rate of early deaths from heart disease and stroke in north and east is 84.8/100,000, significantly higher than the rate for London (71.5/100,000) and England (67.3/100,000). South East Public Health Observatory, Health Profiles, 2012. Available at: www.sepho.org.uk

33 The gap between the estimated and observed prevalence in heart disease in north and east London (43.7%) is wider than for London as a whole (47%), and considerably wider than for England (58.2%). South East Public Health Observatory, Health Profiles, 2012. Available at: www.sepho.org.uk

34 The European rate of early deaths is 50.4/100,000. 'UK health performance: findings of the Global Burden of Disease Study 2010', *The Lancet*, March 2013, Volume 381, Issue 9871, Pages 997-1020.



Premature death from all circulatory disease (2008-10)



There is also a huge variation between and within local areas. Barnet has some of the lowest rates of premature death from cardiovascular disease – it is ranked ninth out of 150 local authorities in England. Newham and Tower Hamlets have some of the highest – ranking 141st and 144th. Cardiovascular services need to be better coordinated across north and east London to ensure all patients have the best chance of survival.

Locally, we have a high rate of unidentified cardiovascular disease, which contributes to early death. It is estimated that over half of people with cardiovascular disease locally are undiagnosed³⁵. These people do not have access to the support they need to be healthy.

For instance, only 15% of people at risk of a genetic disorder of high cholesterol in the blood (known as familial hypercholesterolemia or FH) are detected, which suggests that over 5,400 unidentified people are living at risk of FH in our region. Around 70% of men and 50% of women with FH will have a coronary heart disease event (such as a stroke)

before they are 65. By identifying and treating our FH population we could prevent 3,254 coronary heart disease events in under 65 year olds.

Latest data³⁶ shows that only 18.9% of people aged between 40 and 74 in north and east London are offered a health check and of those offered it, fewer than half (47%) take up the offer³⁷. The proportion of people we identify for treatment for cardiovascular disease, or for the management of cardiovascular disease risk factors, is likely to grow as local authorities lead a drive to offer health checks to all the eligible population.

Emergency admissions from coronary heart disease and heart failure are much higher in our region than in England³⁸. This suggests poor prevention and management of cardiovascular risk factors and a high unmet need among our population. Reducing admissions for coronary heart disease to the England rate would prevent around 700 emergency admissions a year, saving nearly £3.2 million³⁹. Reducing admissions for heart failure to the England rate would prevent around 1,120 emergency admissions a year, saving nearly £2.6 million⁴⁰.

35 South East Public Health Observatory, CVD profiles 2011-12. Available at: www.sepho.org.uk

36 South East Public Health Observatory, CVD profiles 2011-12. Available at: www.sepho.org.uk

37 2012-13 Healthchecks, Integrated performance monitoring. Available at: <http://www.england.nhs.uk/statistics/statistical-work-areas/integrated-performance-measures-monitoring/nhs-health-checks-data/>

38 The rate of emergency admissions in north and east London is 224/100,000 population. The rate for England is 198.3/100,000. South East Public Health Observatory, CVD profiles 2011-12. Available at: www.sepho.org.uk

39 NICE, *Prevention of cardiovascular disease: Costing Report: Implementing NICE Guidance*, June 2010, NICE Public Health Guidance 25, p.21.

40 NICE, *Chronic Heart Failure: Costing Report: Implementing NICE Guidance*, 2010, NICE Clinical Guideline 108, p.19.



Current services do not always meet recommended standards for care

Prompt access to sustainable emergency 24/7 services for unstable angina, complex surgery and other urgent care will save lives.

Medical advances also mean clinical teams are now specialising in a field of cardiac surgery such as revascularisation, aortic valve disease, complex valve disease and other cardiac surgical procedures⁴¹. Such sub-specialisation in small or average-sized units will not be possible.

Primary percutaneous coronary intervention

Service standards recommend hospitals do 300 primary percutaneous coronary intervention (PCI – also known as coronary angioplasty) procedures, and at least 100 procedures, a year⁴². Last year The Heart Hospital only took 156 primary PCI cases.

For PCI in general, there is evidence suggesting improved outcomes for patients who are treated in higher-volume centres, particularly those that do 400 procedures a year.

Centres in the UK with the highest volumes (such as Leeds General Infirmary, which did around 1,200) tend to have good outcomes. In a national audit of primary PCI there was no significant difference in the results of any of the centres but there is a national trend towards higher-volume centres having lower death rates.

The combined unit would have similar levels of activity to the UK's top-performing units.

Mitral valve repair

Neither the London Chest nor the Heart Hospital currently provide the 85% ratio of mitral valve repair to mitral valve replacement recommended for patients with degenerative mitral valve disease specified by the London-wide review. Minimal-

access mitral valve repair is less invasive and enables patients to recover faster – three weeks instead of three months – and return home sooner⁴³. It requires specialist surgical, imaging and anaesthetic skills. Achieving the desired ratio would improve outcomes for around 100 patients a year. The surgical techniques are changing rapidly which is another reason why teams benefit from treating more cases.

The Heart Hospital and The London Chest Hospital both provide good outcomes and patient experience but neither is large enough to meet all current and future expectations for high-quality service. Here are some of the reasons:

- Surgical teams see too few patients to achieve full subspecialisation in mitral valve. Neither hospital has a dedicated surgeon to perform mitral valve repairs.

- Neither hospital has the full range of cardiovascular services in one place. For example, vascular surgery is an important linked service for major aortic surgery and is not available at The Heart Hospital. The new facility at St Bartholomew's Hospital will have a significant on-site presence for vascular surgery and interventional vascular radiologists.

- Meeting the challenge of seven-day working will be difficult, particularly for support services and intensive treatment unit staff. Given national workforce shortages in areas such as cardiac physiology, it is unlikely that either hospital will be able to have the staff they need under the current services set-up.

41 NHS England, Cardiac surgery service specifications. Available at: <http://www.england.nhs.uk/wp-content/uploads/2013/06/a10-cardi-surgery-adult.pdf>

42 NHS England, 2013/14 NHS England Specialised Commissioning Service Specification for Complex Invasive Cardiology, 2013. Available at: <http://www.england.nhs.uk/wp-content/uploads/2013/06/a09-cardi-prim-percutaneous.pdf>

43 Cleveland Clinic. Available at: <http://my.clevelandclinic.org/heart/disorders/valve/mitral-valve-repair.aspx>



Mitral valve repair – rather than replacement – improves life expectancy and quality of life for selected patients. They do not need long-term anticoagulation drugs, which can cause bleeds. And they do not need risky repeat operations, such as those needed to re-replace valves once they have reached their lifespan.

Specialists are needed 24/7 to deliver expert emergency care

Medical advances in techniques and technology, such as primary PCI, mean we can now save more people who have acute heart attacks. As a result, we do more cardiac surgery and interventional cardiology on an urgent or emergency basis rather

than as planned care. For instance, 10 years ago most heart attack patients who needed a PCI were given it on a planned basis. Two-thirds of PCIs are now given on an emergency basis⁴⁴.

This type of urgent or emergency care needs to be provided in large specialist centres that can give a 24/7 service.



An extra 364 heart-failure patients a year would survive if managed by a cardiology team.

44 UCLPartners, Percutaneous Coronary Intervention Procedures, p. 9 fig.3. Available at: http://www.uclpartners.com/lotus/wp-content/uploads/2013/02/ICVS_Percutaneous.Coronary.Intervention-_FEB2013.pdf



The new facility being built at St Bartholomew's Hospital in Farringdon.

Providing more care on a 24/7 urgent or emergency basis has also increased the on-call commitments of clinical teams. These 24/7 heart attack centres need rotas of highly trained staff in adequate numbers – it is hard to maintain this level of staffing (in particular, physiologists) at three centres in north and east London. With two heart attack centres nearby and the London Ambulance Service (LAS) already taking fewer patients there compared with the Royal Free Hospital and The London Chest Hospital, it is likely that The Heart Hospital would not see enough patients to sustain this rota of experts.

The number of heart attack patients at The Heart Hospital is likely to reduce further when The London Chest Hospital moves to St Bartholomew's Hospital in Farringdon. Many patients in Islington, Enfield and Haringey live closer to the St Bartholomew's Hospital than to The Heart Hospital and in an emergency would be taken directly to St Bartholomew's Hospital by the LAS.

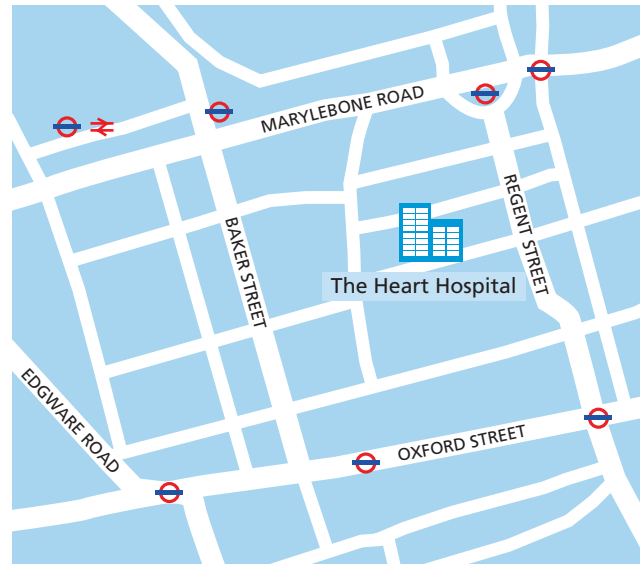
Centralising care would ensure that people needing urgent expert help could get it 24 hours a day, seven days a week.



Limited capacity at The Heart Hospital

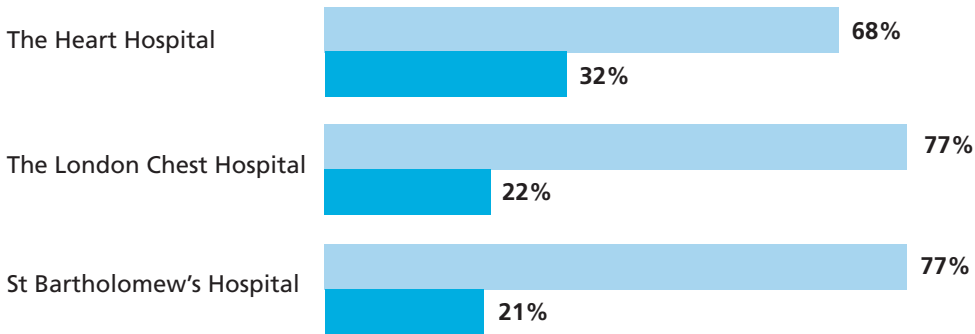
All hospitals providing specialised cardiovascular services in north and east London provide high-quality care and good patient experience. However, The Heart Hospital faces a number of difficulties.

Located in central London, it cannot expand yet demand is increasing. When the hospital opened in 2001 we expected it would need to be reorganised or moved to a new location in the future; this is now overdue.



Information about whether patients would recommend a hospital to friends and family (NHS Choices, 2013)

Extremely likely to recommend
Likely to recommend



Patients who need heart bypass surgery wait 30 days longer at The Heart Hospital than the national average of 63 days.



Main difficulties:

- The hospital has little room to expand. This has already contributed to higher-than-average waiting times for surgery and higher readmission rates⁴⁵. For instance, coronary angiography patients wait 10 days longer at The Heart Hospital than The London Chest Hospital and readmission rates are above the national average⁴⁶. Bed occupancy at The Heart Hospital currently approaches 95% and activity is increasing year on year and will continue to grow.

Demand is also increasing particularly for conditions such as adult congenital heart disease, inherited cardiac conditions and other highly specialised areas in cardiology.

- Surgical procedures are increasingly being cancelled. Critical care capacity limits surgical and catheter lab interventions. Around 250 planned operations were cancelled at The Heart Hospital last year.
- While most patients are happy with their overall care, limited capacity is reducing their satisfaction. In a recent survey patients at The Heart Hospital reported less choice of admission dates and were more likely to have their appointment changed than the national average⁴⁷. Patients at The Heart Hospital were also more likely to share a sleeping area with patients of the opposite sex than at other sites⁴⁸.

45 Dr Foster Intelligence. Available at: www.drfoosterhealth.co.uk

46 Dr Foster Intelligence. Available at: www.drfoosterhealth.co.uk

47 Picker Institute Europe, *Inpatient Survey 2012*, Site Report: The Heart Hospital, 2013.

48 Picker Institute Europe, *Inpatient Survey 2012*, Site Report: The Heart Hospital, 2013.



“Integrating primary, secondary and specialist care and providing care closer to home will deliver a better patient experience, optimal management to reduce heart attack and stroke, and equitably improve the health of our population.”

Professor John Robson, Tower Hamlets GP and primary care lead for the UCLPartners integrated cardiovascular system

Opportunity to integrate research and innovation into daily practice

Both UCLH and Barts Health host major biomedical cardiovascular research resources. Clinicians think they can help achieve better cardiovascular outcomes if, rather than working separately on two nearby sites, they combine their specialist academic and clinical services on a single campus. This would

provide a better environment for sharing best practice, engaging trainees and encouraging high-quality research opportunities. It will also help improve outcomes because more patients will be able to take part in clinical trials.





Our vision for cardiovascular care

Our vision is to provide world-class experience and outcomes for patients, underpinned by world-leading academic research and education.

To achieve this vision clinicians have identified seven key aims:

- 1 Establish a seamless pathway and better co-ordination of care for cardiovascular patients across all NHS organisations.
- 2 Provide world-class standards of care and improve patient outcomes and experience.
- 3 Improve access to cardiovascular care and reduce waiting times.
- 4 Ensure our population benefits from the latest technological advances, research and access to clinical trials.
- 5 Ensure services are sustainable for the future.
- 6 Maximise efficiencies and attract national and international investment in research.
- 7 Ensure continuous training and education in cardiovascular disease is of a high standard across north and east London.

Clinicians have identified a strong and pressing need to change the way we deliver specialist cardiovascular services in north and east London. They recommend developing a single integrated cardiovascular centre at St Bartholomew's Hospital with the Royal Free Hospital remaining as a second heart attack centre.

Existing cardiology services would continue to be provided at UCLH to support routine and other specialist care (for example, cancer care).



An artist's impression of a general ward at the new facility at St Bartholomew's Hospital.

How services would work: an example

Robert, 47, has a heart attack at home in Haringey. His wife calls an ambulance and he is taken to the specialist heart centre at St Bartholomew's Hospital by ambulance. The ambulance arrives at the emergency entrance and the crew take him to the specialist heart centre. Robert reaches the assessment unit via a dedicated lift for emergency patients, which the crew know will be available for their immediate use. As Robert arrives at the cath lab floor he suffers a cardiac arrest. This is managed in a dedicated private receiving room next to the cath labs. His circulation returns and he is taken into the cath lab for a primary angioplasty. His family is reassured that he is receiving the best possible care.



How we could improve services

Clinicians believe that bringing specialist cardiovascular services from The Heart Hospital and The London Chest Hospital into a single, integrated high-volume cardiovascular service would improve outcomes for local people.

Evidence shows that outcomes are better for patients treated by clinicians who are experienced and have high volumes of cases. This includes complex and emergency procedures such as mitral valve surgery⁴⁹, primary angioplasty⁵⁰, ablation⁵¹ and implantable cardioverter defibrillator implantation⁵².

If we bring together specialist services in north and east London, they would work at a scale to provide world-class results. Also we would reduce duplication, so we could rationalise investment, particularly in a field that is increasingly technology-driven. Better use of resources would help to improve productivity, which the NHS needs so it can invest in new technologies and cope with more work.

In addition, a single centre offering the latest technologies and treatments would attract more national and international patient referrals. This would create an income stream that does not rely

only on local NHS resources. It would also enable us to maximise investment through increased research and cooperation with industry, supported by the academic health science partnership.

A single high-volume integrated cardiovascular centre at St Bartholomew's Hospital would do the following:

- Achieve sub-specialisation in surgery and supporting services such as anaesthetics. This would enable us to develop a high-volume centre for mitral valve repair and a regional aorto-vascular centre with a specialist 24/7 rota.
- Enable us to invest in new technologies. For example, the hybrid theatre planned for the new development at St Bartholomew's Hospital for aorto-vascular surgery will place state-of-the-art 3D-imaging within a theatre, enabling surgeons and interventional radiologists to work together. This facility will be unique among the cardiac units in London and most of England, helping it to grow and improve. Similarly, larger sub-specialist teams would make it cost-effective to invest in technology such as robotic equipment.

“Clinical staff are ambitious to bring together their expertise so that cardiovascular care continues to improve, is delivered to more patients, and is focused on care in the best environment and prevention.”

Dr Edward Rowland, Clinical Director, UCLH

49 Birkmeyer, J.D., Findlayson, E.V.A. & Birkmeyer, C.M., 'Volume Standards for High-Risk Surgical Procedures; Potential Benefits of the Leapfrog Initiative', *Surgery*, 2001, 130: 415-422.

50 Van de Werf, F. et al. 'Management of acute myocardial infarction in patients presenting with persistent ST-segment elevation', *European Heart Journal*, 2008.

51 Aliot, E.M., W.G. Stevenson, J.M., 'Almendral-Garrote et al EHRA/HRS Expert consensus on catheter ablation of ventricular arrhythmias', *Eurpace*, 2009, 11: 771-817.

52 Al-Khatib, S.M., L. Lucas, J.G. Jollis, D.J. Malenka, and D.E Wennberg, 'The relation between patients' outcomes and the volume of cardioverter-defibrillator implantation procedures performed by physicians treating medicare beneficiaries', *Journal of American Cardiology*, 2005, 46: 1536-1540.



“Creating partnerships with the life sciences industry is at the heart of the UK health and wealth agenda. Industry wants to align with the biggest and the best. Integrating cardiovascular services would create the biggest cardiovascular clinical and research centre in Europe, on a par with the best in the world – an unbeatable proposition for London.”

Professor Bryan Williams, Professor of Medicine and Director of the Biomedical Research Centre, UCLH

- Help us meet and surpass the recommended number of complex and emergency procedures in cardiology, which is a recognised marker for clinical safety and quality.
 - Create a regional service for transcatheter aortic valve implantation (where the aortic valve is replaced without full open-heart surgery) for high-risk patients and those who are unsuited to conventional surgery.
 - Enable us to offer on-site 24/7 services such as vascular surgery.
 - Streamline care pathways and create clearer referral routes for emergency units, ambulance services, GPs and community services.
 - Create greater capacity and flexibility to respond to demand, reducing waiting times and cancellations.
 - Drive innovation forward – a high-volume centre is more likely to be selected to test innovative technology and create models of use across cardiovascular units.
 - Maximise efficiencies and enable us to invest in the latest technologies and medical advances.
 - Increase expertise among the whole workforce, improving outcomes and giving patients a better experience of care. Many services at the new centre would be the largest in the UK, bringing the benefits of high-volume work to our population.
 - Improve training and recruitment – creating one of the UK's largest surgical units would enhance education and training opportunities for all staff. The service would be able to recruit from a world-class pool of expertise.
- Strengthen research, science and clinical trials. By creating access to data from such a large, diverse population and broad range of activity, we would attract funding for clinical trials. This would benefit local patients.

The specialist centre would provide overall system leadership, working with local acute hospitals and primary and community health services to improve care, ensuring that we provide the benefits of world-class research and development along the whole pathway.





“A centre of global excellence in the management of cardiovascular diseases will attract the very best national and international trainees in recognition of the advantages our training programmes will bring to them and their future patients.”

Professor Jean McEwan, Consultant Cardiologist and Higher Education Institute representative for North-Central and East London Local Education and Training Board

“Creating an integrated cardiovascular centre would be a great opportunity for nurses and allied health professionals. Treating higher volumes of rare clinical cases would support the establishment of roles such as nurse practitioners who would improve the efficiency of patient pathways and patient experience.”

Jonathan Hanbury, Divisional Senior Nurse, The Heart Hospital, UCLH



What this would mean for patients

Clinicians believe we can save more lives, ensure all patients have a good experience and improve the quality of life for people with cardiovascular disease.

Cardiovascular care would be provided as part of an integrated system with an expert specialist centre at its hub. Patients and carers would be treated by a specialist service working closely with local hospitals, GPs and community services to support prevention, early identification of disease, diagnosis, treatment and rehabilitation. Patients would continue to access a range of cardiovascular services locally, including outpatient services.

The integrated system would ensure that patients get ongoing support, with a clear management or care plan understood by everyone involved in their care. Patients and carers would get information to help them make choices about their treatment and work with clinicians to speed up their recovery.

Clinicians believe their vision for specialist cardiovascular services would produce benefits including these for local people:

- **Improved patient experience and outcomes**, which would be measured to ensure that services continue to provide high-quality care.
- A single integrated centre, which would provide **prompt access to treatment** in all departments. This would help reduce long waits and cancellations.

- A high-quality environment with **greater access to new diagnostics and state-of-the-art equipment** in all departments. Local people would experience the same high standards of care no matter where they live.
- **Expert multi-disciplinary teams** with the knowledge and understanding that comes from treating lots of similar conditions. Emergency services would be provided 24/7 by highly skilled individuals and more services could be provided seven days a week and for more hours of the day as a result of larger pools of expert staff.
- Patients would be able to take part in a **wider range of clinical trials**. They would know they were being treated by teams working at the forefront of innovation. Patients would be able to contribute to and benefit from the development of new technologies. Patients with rare diseases would be treated by teams who see some of the highest numbers of patients in the world with their condition, making clinical and research breakthroughs more possible.

Consolidating services would create the largest cardiac surgery centre in England based on number of patients seen.



What other options did we consider?

We have considered the three main sites currently providing specialist cardiovascular care in north and east London – The London Chest Hospital, The Heart Hospital and St Bartholomew's Hospital.

While the Royal Free Hospital provides some cardiovascular services, it does not offer specialist cardiac surgery. Establishing a surgical service at the Royal Free Hospital would need significant investment so we did not consider this option. If these recommendations are agreed, there would be no change to the cardiovascular services offered at the Royal Free, which would continue to be a heart attack centre and provide planned cardiology care.

We are keen to find out what everyone thinks about the options proposed.

1. The Heart Hospital

A single integrated high-volume cardiovascular centre could not be located at The Heart Hospital as it has no room to expand.

2. The London Chest Hospital

The London Chest Hospital services are already moving to St Bartholomew's Hospital in late 2014 as part of the new hospital development.

3. St Bartholomew's Hospital

Local clinicians believe that bringing together two average-sized specialist cardiac centres – The Heart Hospital and The London Chest Hospital – and the services located at the old St Bartholomew's Hospital onto a new, state-of-the-art campus would have great benefits.

A new world-class cardiovascular centre would attract national and international patient referrals, bringing income from outside the NHS. St Bartholomew's Hospital would also become a centre for therapeutic innovation, in partnership with Queen Mary University, University of London and University College London. Strong academic links to improve training and research would attract staff and give patients access to new technologies.

The new hospital being built at St Bartholomew's Hospital gives us a unique opportunity to set up an integrated purpose-built cardiovascular centre with enough capacity to support clinicians' vision of care. We currently have an opportunity to utilise the new hospital building for additional cardiovascular activity, which ideally would have complementary services.

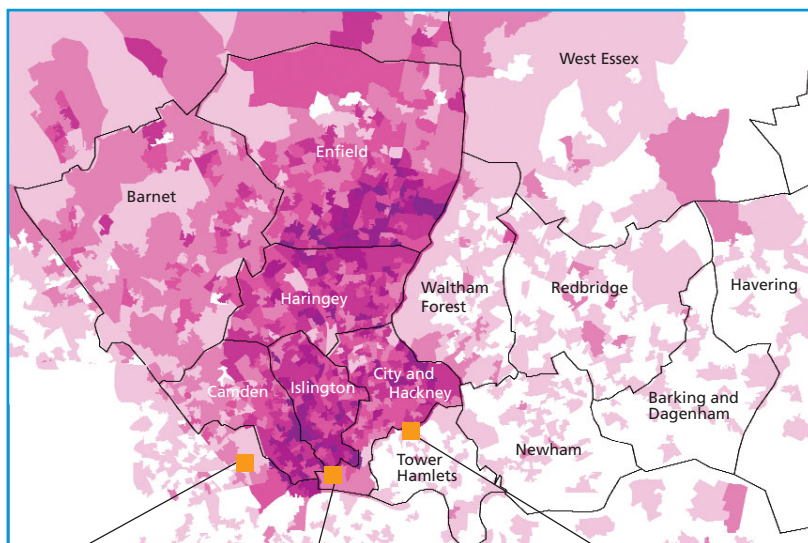
The Heart Hospital and St Bartholomew's Hospital are only 2.5 miles apart, which would minimise any increase in journey time for patients currently attending The Heart Hospital. While patient choice needs to be considered, patients would be getting a better service providing world-class standards of care. Five other trusts provide cardiac surgery in London.

4. New building at The Royal London Hospital or University College Hospital

We could not afford new buildings at these hospitals. The NHS already has facilities that could accommodate, or be adapted to accommodate, this activity at a much lower cost.

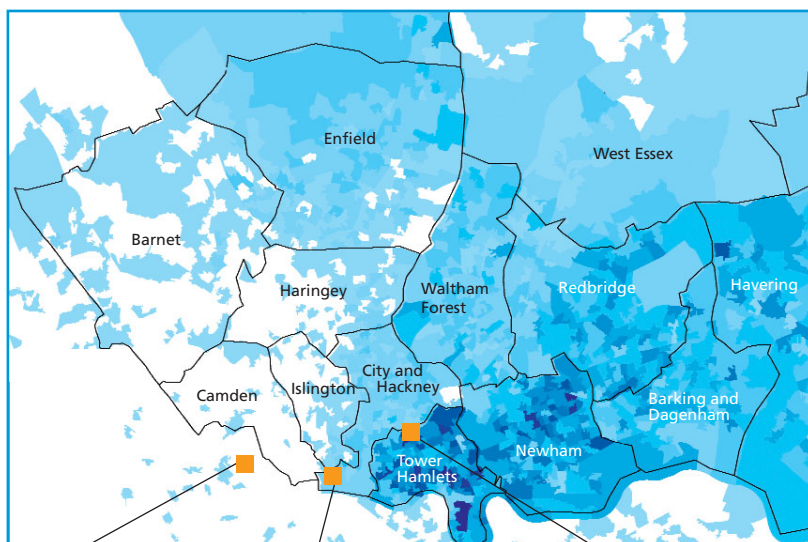
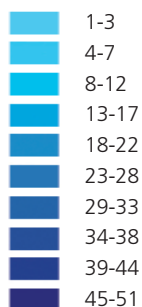


Patient flows for The Heart Hospital



The Heart Hospital St Bartholomew's Hospital The London Chest Hospital

Patient flows for The London Chest Hospital



The Heart Hospital St Bartholomew's Hospital The London Chest Hospital

These maps show that most people who are currently referred to The Heart Hospital live in north-central London and most people who are referred to The London Chest Hospital live in north-east London. So travelling to an integrated cardiovascular centre at St Bartholomew's Hospital would be a reasonable alternative for patients who are currently treated at The Heart Hospital.

5. Options outside north and east London

If these proposals proceed, a few patients currently accessing care at The Heart Hospital would probably be treated by hospitals in west and south London (The Royal Brompton Hospital and Guy's and St Thomas' Hospitals).

However, for most people (about 80-90%) who currently access care at The Heart Hospital, St

Bartholomew's Hospital would be the nearest alternative. Because of this we have worked on the basis that cardiovascular services should be concentrated in north and east London. We have not tested in detail any options that would mean a lot more patients travelling to be treated in west or south London.



Conclusion

Clinicians and a wide range of stakeholders in north and east London have created a vision for integrated specialist cardiovascular services to rival the best in the world.

We need to seize this opportunity to improve patient outcomes by integrating specialist cardiovascular services into new state-of-the-art facilities at St Bartholomew's Hospital.

In the current economic climate two medium-sized specialist cardiovascular hospitals, 2.5 miles apart, are unlikely to be sustainable. Both need highly trained staff with specialist skills and increasingly depend on expensive technologies and innovations to provide improved outcomes for patients.

This vision is to provide the highest-quality and most innovative care for patients, and to be leaders in international cardiovascular medicine. Bringing together the best in cardiovascular medicine and research in a purpose-built facility would help us achieve this vision.

Parts of this vision relate to improving care along the cardiovascular pathway with more co-ordination between GP, hospital and community care. There is major unmet need for cardiovascular services in our growing population. Current services cannot meet recommended standards and are unsustainable in the future. Other parts of the vision focus on more specialist interventions and treatments, and the opportunities for bringing services together in a single integrated centre. Both these approaches are necessary if we are to identify unmet needs, ensure early diagnosis and provide access to the highest-quality services for acute events such as heart attacks.



Get involved

We are now seeking the views of local people – including staff, clinicians, patients, the public and other stakeholders – on this vision for change.

We are keen to hear your views and will use feedback to help us develop our preferred recommendations.

During November 2013, there will be workshops and meetings with clinicians who will explain why they want to change specialist cancer and cardiovascular services.

If you would like to attend an event, or if you would like to invite a speaker to attend a meeting of your local group, please contact us.

We also welcome comments on the case for change by email, letter or phone by 4 December 2013. However, if you do have comments after this date, do please send them to us.

To get involved or to request a summary of this document in another language, alternative format or large-print:

Email: **cancerandcardiovascular@nelcsu.nhs.uk**

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